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3RD INTERNATIONAL EBFMC ORDU /TÜRKİYE 2025

3RD INTERNATIONAL EASTERN BLACK SEA FAMILY MEDICINE CONGRESS

May 22–24, 2025 | Ordu, Türkiye

HONORARY PRESIDENT
Prof. İlhami Ünlüoğlu, MD

CONGRESS PRESIDENT
Prof. Özgür Enginyurt, MD

PROCEEDINGS

of the 3rd International Eastern Black Sea Family Medicine Congress

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Participants can follow the congress schedule, abstracts, speaker information, and announcements through our official mobile app and website.
You can search "KAHSED" in the *App Store* or *Google Play*
Or visit our official website: *www.kahsed.com*

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FOREWORD

Dear Guests,

We are delighted to invite you to the 3rd International Eastern Black Sea Family Medicine Congress, to be held on May 22–24, 2025. Our congress welcomes not only professionals in the field of Family Medicine but also all disciplines involved in disease management with a multidisciplinary approach. We especially value collaboration with specialists from Internal Medicine, Emergency Medicine, Pulmonology, Cardiology, Orthopedics and Traumatology, Neurology, Physical Therapy and Rehabilitation, Psychiatry, Otorhinolaryngology, Pediatrics, Obstetrics and Gynecology, Ophthalmology, Dermatology, General Surgery, Urology, Anesthesiology and Reanimation, Medical Biochemistry, Pathology, and Medical Genetics in order to foster knowledge exchange and shared insights with family physicians on the front lines of healthcare.

Our congress will host distinguished national and international speakers who will present the latest literature, combine it with practical applications, and offer a rich program of interactive panels, training sessions, oral presentations, and social events. We are especially excited to welcome participants from across the country, especially from the Black Sea region, as well as our international guests from various parts of the world.

We believe that by uniting our strengths, we will elevate the value and vision of Family Medicine to even greater heights. We look forward to meeting you at our congress.

Sincerely,

On behalf of the Organizing Committee,

Prof. Özgür ENGİNYURT, MD
Congress President

KAHSED CAQE

(KAHSED Continuous Academic Quality Enhancement)

2025

Publishing Principles

- ✓ The Proceedings Book is published exclusively in digital format; it is made available via open access on all KAHSED digital platforms, in publication systems that provide DOI access, and on the relevant platforms of indexes for which the application process has been completed. The content, supported by hyperlinks, is structured on an e-Book infrastructure within KAHSED's digital platforms.
- ✓ Each content is organized with consecutive page numbers. Every paper is identified with a unique article number and a DOI (Digital Object Identifier). The DOI information is provided below the title of the paper, while the article number is placed next to the title and presented as a hyperlink in the Table of Contents (ToC).
- ✓ In line with the "Green Congress" policy, no printed copies of the Proceedings Book are produced. The ISBN (scannable barcode), DOI in QR format, and the e-Book link are presented together on the front cover of the book.
- ✓ All necessary metadata fields related to the publication are defined in accordance with international technical standards during the DOI reservation process.
- ✓ All objections must be submitted exclusively through the "Revision Request" panel during the draft publication period. Objections not officially reported within this timeframe will not be considered during the final publication process and will not be recognized as a legitimate claim. Lack of awareness of the draft publication period is not accepted as a valid excuse.
- ✓ The Proceedings Book is published within the same year the congress is held, in order to maintain the relevance of the content and its connection to scientific discussions, as well as to align with the publication schedules of indexing services.
- ✓ As of 2025, all books and their contents are published in English, and author names along with their institutional affiliations are written using English characters.
- ✓ The contents are intended to be indexable by researchers, academic institutions, and indexing systems.
- ✓ All authors are identified with their full name, institutional affiliation, and ORCID number. This requirement is enforced to ensure the accuracy of author identities and to enable transparent tracking of institutional and geographical distribution.
- ✓ Papers are expected to possess scientific rigor and content depth sufficient to address advanced-level academic researchers.
- ✓ All papers undergo a double-blind peer review process following an initial editorial screening. Within this process, two separate forms are generated by the KAHSED digital platform: the first is an editorial archive form containing author information and the full content of the paper; the second is a review form that includes only the content of the paper, with author identities concealed, and is sent to the reviewers.
- ✓ The peer review process is based on four main criteria: scientific contribution, methodological adequacy, ethical compliance, and academic writing. Each criterion is evaluated using a Likert-type scale scored between 1 and 5. Papers receiving a total score of 15 or above are accepted without revision; those scoring between 10 and 14 require minor revision, while those scoring between 5 and 9 require major revision. Papers scoring below 5 are rejected.
- ✓ Although it may vary depending on the type of study, all content is generally expected to follow the IMRaD structure (Introduction, Methods, Results, Discussion).
- ✓ At least one reference is required in abstract papers. All references must be formatted according to APA guidelines. It is essential that academic claims within the content are supported by scientific sources and that methodological transparency is ensured.
- ✓ The publisher is Kotyora Family Medicine Health Management and Education Association, a legally recognized entity with a physical address. The Association's contact information is presented clearly and accessibly across all platforms.
- ✓ KAHSED digital platforms are structured with a user-friendly interface and consistent information architecture. Contents are presented in English in accordance with international standards, and accessibility is significantly enhanced through automatic translation support in 103 different languages.

- ✓ A special email account with “master” authorization has been designated for international index editors. Except for cases requiring approval from the KAHSED Presidency and data subject to personal data protection regulations, access to relevant content on KAHSED digital platforms is granted through this authorized account. The paper evaluation process is conducted in English, and related documents are automatically sent in PDF format to this authorized email account.
- ✓ Information about the editors and production coordinators is clearly presented across all platforms, ensuring a direct and effective collaboration environment with index editors. Book editors are published with their names, titles, and institutional affiliations.
- ✓ The academic composition of the committee is structured in proportion to the number, diversity, and scientific depth of the submitted papers. Committee members are clearly identified by their names and institutional affiliations.
- ✓ The congress is organized in a hybrid format, encompassing both physical and online participation. The designated main theme is structured with a clear purpose and is made openly accessible on all digital platforms. The congress title, scope, and content distribution are fully aligned with the defined scientific objectives. Papers are selected and published in direct relation to this theme. Papers that are not presented or discussed in scientific sessions are not included in the Proceedings Book.
- ✓ The congress and its papers are prepared in full compliance with international standards, adhering to principles of language, accessibility, data integrity, and transparency. Papers are structured in accordance with the terminological and methodological requirements of their respective scientific fields. Organism nomenclature, chemical definitions, measurement units, and citation styles are arranged according to widely accepted standards in the relevant disciplines. Each study is expected to offer an original and measurable contribution to the literature.
- ✓ All processes are carried out in accordance with international ethical standards and principles of transparency. Institutional, academic, and commercial sponsors of the congress are clearly disclosed, with scientific integrity upheld as a fundamental principle.

Policies

For the Review Process

Submitted papers will be evaluated based on topic-specific academic standards and scientific accuracy. Studies to be published within the scope of the congress are subject to detailed peer review to ensure relevance to the congress themes and original contribution to the literature. Submissions with insufficient scientific content or outside the congress scope will not be published. All papers selected for the Congress Proceedings are reviewed transparently and objectively.

Papers are evaluated through a double-blind peer review process. In this process:

• Reviewers, evaluate papers anonymously and do not have access to author identities.

• Authors are not informed of the reviewers' identities.

• Evaluation is based on the scientific contribution, methodological strength, ethical compliance, academic writing and language use.

The review process follows these steps:

1. Pre-Evaluation: The format and content are checked for compliance.
2. Reviewer Assignment: A reviewer with relevant subject expertise is appointed.
3. Peer Review: The paper is evaluated according to academic standarts.
4. Final Decision: The result (acceptance, revision request, or rejection) is sent to the corresponding author via automated email.

Editorial and Organizing Committee Policies

The editorial and organizing committee assumes the following responsibilities during the congress process:

• Ensuring the scientific and ethical compliance of submitted papers.

• Assigning peer reviewers to appropriate submissions.

• Reviewing the compliance of the papers with the Congress Proceedings format.

Author Guidelines

Authors must prepare their submissions in accordance with the following rules:

• Ethical Principles: Papers must comply with international ethical standards, be free of plagiarism, and be prepared within the framework of academic integrity.

• Copyrights: Submitted papers remain under the copyright of the authors; however, they are considered approved for publication in the Congress Proceedings once publication permission is granted.

• Reference Format: All submissions must include relevant and up-to-date literature, and citations must be formatted in accordance with APA style.

• Conflict of Interest Declaration: Authors without any conflicts of interest must include the following statement:

"There is no commercial, financial, or personal conflict of interest in this study."

Ethical Policies

The 3rd International Eastern Black Sea Family Medicine Congress is organized in accordance with academic standards and best practices recognized by relevant scientific communities. All submissions within the scope of the congress must fully comply with ethical publishing principles and academic integrity guidelines.

Responsibilities:

1. Authors' Responsibilities;

• Authors are solely responsible for the accuracy of the opinions, claims, and results presented in their papers. The congress organization does not guarantee the scientific accuracy or ethical compliance of the submitted work.

• Authors must declare that their studies conform to international academic standarts and are free from plagiarism.

• Authors are required to submit a conflict-of-interest statement. This statement should read as follows: *"There is no commercial, financial, or personal conflict of interest in this study."*

2. Responsibilities of the Editorial and Organizing Committee;
• To evaluate the academic and ethical compliance of submitted papers and initiate a review process when necessary.
• To reject content in the case of detected ethical violations and notify the author(s) accordingly.
• To initiate necessary procedures and inform the authors if any ethical breach is confirmed.

Ethical Review Process: In case any content submitted to the congress is suspected of violating ethical standards, the following process will be applied by the congress organization;
1. Initial review to check the paper's compliance with academic and ethical standarts.
2. If necessary, an independent ethics review board is formed to evaluate the academic integrity of the paper.
3. If an ethical violation is confirmed, the paper is withdrawn, or a revision is requested.
4. Open communication with the authors is maintained throughout the process.

Reference to Ethical Standarts: The ethical and publishing principles applied in this congress are based on the standarts of the Committee on Publication Ethics (COPE) or equivalent international ethical guidelines.

In Case of Ethical Violations: Content that is found to violate ethical rules will not be accepted or published by the organization. If necessary, publication may be suspended until the ethical review is completed. Confirmed violations may be reported to relevant academic bodies and institutions when deemed appropriate.

Transparency and Updates: To ensure that participants and authors fully understand their ethical responsibilities, the congress policies are regularly updated and published transparently on the congress website.

Aim and Scope

The **3rd International Eastern Black Sea Family Medicine Congress** aims to promote current and multidisciplinary approaches in family medicine and health management. The congress is not limited to the field of family medicine but also encourages interdisciplinary exchange of knowledge across a broad spectrum of specialties, including Emergency Medicine, Pulmonology, Cardiology, Orthopedics and Traumatology, Neurology, Physical Therapy and Rehabilitation, Psychiatry, Otorhinolaryngology, Pediatrics, Obstetrics and Gynecology, Ophthalmology, Dermatology, General Surgery, Urology, Anesthesiology and Reanimation, Medical Biochemistry, Pathology, and Medical Genetics. Our congress is organized in accordance with internationally accepted scientific and ethical standards within the scope of family medicine and related disciplines.

With the theme "**Projections from Past to Future**", the congress will feature sessions led by national and international experts, combining current literature with practical applications. Our aim is to contribute to both scientific richness and practical implementation, while supporting the professional development of family medicine specialists.

The program includes interactive panels, training sessions, oral presentations, and social events designed to enrich participants' professional perspectives. The congress also seeks to foster interdisciplinary collaboration and enhance the value of family medicine at national and international levels.

All papers to be published within the scope of our congress must present original contributions in line with the congress's scientific scope and designated themes. It is essential that the papers are presented during the congress, as open discussion and engagement with the presented material are of great importance for academic integrity and completeness.

SCIENTIFIC PROGRAM

Courses & Workshop

Date-Hour	Hall Yason	Hall A	Hall B	Hall C	Hall D
Thursday, May 22 09:00-17:00	Wound Care Training	Abdominal USG Training (2 days)	Nutrition School	Botox & Mesotherapy Training (2 days)	Vaccination School
Friday, May 23 09:00-17:00	-		-		-
Saturday, May 24 10:00-12:00				Anaphylaxis Workshop	

Scientific Program – Friday, May 23, 2025

HOUR	HALL BOZTEPE	HALL YASON	HALL B	HALL D
09:00 09:45	**LET'S PROTECT OUR SPINE** **Mod.: Yeltekin DEMİREL & Tolga KEÇECİ** *Çağatay ÖZTÜRK – Overview of Spinal Health* *A. Alper ŞAHİN – Spinal Health in Children* *Ali EREN – Spinal Health in Adults*	**CURRENT PRACTICES IN FAMILY MEDICINE** **Mod.: Hüseyin CAN & Gökçe İŞCAN** *Erika ZELKO - Family medicine: pillar of healthcare and path to a sustainable healthcare in the future?* *Rita ABECASIS - Social Prescribing: The Portuguese Experience and its Global Implications*	Oral Presentation-1	Online Oral Presentation -1
09:45 10:30	**BURNING THE CANDLE AT BOTH ENDS: BURNOUT AND SUICIDE IN MEDICINE** **Mod.: Serpil DEMİRAĞ & H. İbrahim TAŞ** *Nesrin DİLBAZ – Burnout in Physicians* *Deniz DENİZ ÖZTURAN – Suicidal Behavior in Physicians and Suggestions for Solutions*	**CANCER AND BEYOND** **Mod.: Mümtaz MAZICIOĞLU & Sanem Nemmezi KARACA** *Albiona POCI - Paraneoplastic Syndromes and Cancer: Detection and treatment perspectives.* *Goran DIMITROV – Cancer Screening*	Oral Presentation - 2	Online Oral Presentation -2
10:30 – 11:00	**COFFEE BREAK**			
11:00 12:00	**SATELLITE SYMPOSIUM: USE OF GLUCERNA ADVANCE 1.6 IN MALNUTRITION PATIENTS WITH DIABETES** With Abbott's Unconditional Support for Education **Mod.: Çetin Kürşad AKPINAR** *Hasan DOĞAN*		Oral Presentation - 3	Online Oral Presentation -3
12:00 – 13:15	**LUNCH**			
13:15 14:00	**CHRONIC DISEASES AND NUTRITION** **Mod.: Güzin ZEREN ÖZTÜRK & Pınar SOYSAL** *Duygu İlke YILDIRIM*	**INTERNATIONAL EXPERIENCES IN FAMILY MEDICINE** **Mod.: Dilek TOPRAK & Hüsna SARICA ÇEVİK** *Yanica VELLA- Dementia - A journey through the changing brain* *Marius ČIURLIONIS - Why all health professionals should know about palliative care*	Oral Presentation - 4	
14:00 15:00	**SATELLITE SYMPOSIUM: A NEW VOICE IN WOUND CARE** With Akdora's Unconditional Support for Education *Özgür ENGİNYURT*		Oral Presentation - 5	
15:00 – 15:30	**COFFEE BREAK**			
15:30 – 16:00	/// **OPENING CEREMONY** ///			
16.00 – 16.20	**OPENING SESSION: THE PLACE OF THE FAMILY PHYSICIAN IN THE FUTURE HEALTH SYSTEM** • *Shlomo VINKER* (WONCA Europe President Elect)			
16:20 17:55	**WITH UPDATED GUIDELINES HYPERTENSION MANAGEMENT IN PRIMARY CARE** **Mod.: Turan SET & Duygu İlke YILDIRIM** *Güzin Z. ÖZTÜRK* *Cüneyt ARDIÇ*	**CHALLENGES FACED IN HEALTH REPORTS AND SOLUTION SUGGESTIONS** **Mod.:Bahadır YAZICIOĞLU & Elif ALTUNBAŞ ATEŞ** *Volkan ATASOY* *Ceyhun YURTSEVER*	Oral Presentation - 6	
17:05 17:50	**THE ART OF STOPPING AND STARTING DRUGS IN THE GERIATRIC PATIENT** **Mod.: Mahcube ÇUBUKÇU & Beray GELMEZ TAŞ** *Pınar SOYSAL*	**LOVE THROUGH A DOCTOR'S EYES** **Mod.: Ayşen FENERCİOĞLU & Bahar ÜRÜN** *Yeltekin DEMİREL – The Neurobiology of Love* *Sanem NEMMEZİ KARACA – The Psychology of Love*		

Scientific Program – Saturday, May 24, 2025

HOUR	HALL BOZTEPE	HALL YASON	HALL A	HALL B
09:00 09:45	**PANEL: DOORS TO SLEEP** **Mod.: Ömer KARAMAN & Selen KARAOĞLANOĞLU** • *Ali Ramazan BENLİ – Sleep & Depression* • *Burcu ÖZDEMİR – Respiratory Disorders During Sleep* • *Mehmet Fatih KARAKUŞ – Obstructive Sleep Apnea from a Surgical Perspective*	**RATIONAL DRUG USE DURING PREGNANCY** **Mod.: Hakan TİMUR & Hüseyin CAN** • *Elif ALTUNBAŞ ATEŞ*	**EUROPEAN YOUNG FAMILY DOCTORS MOVEMENT (EYFDM) SESSION** • *Ekin DİKMEN* • *Hande BÜYÜKDAĞ* • *Mehmet KOCABAŞ*	Oral Presentation - 7
09:45 10:30	**THINKING SYSTEMATICS AND OXIDATIVE BALANCE IN FUNCTIONAL MEDICINE** **Mod.: Turan SET & Eksal KARGI** • *Bahadır YAZICIOĞLU – Functional Medicine and Oxidative Balance* • *Bahar ÜRÜN – Functional Medicine and Thinking Systematics*	**HOW SHOULD WE MANAGE ADULT URTICARIA PATIENTS IN FAMILY MEDICINE?** **Mod.:Duygu AYHAN BAŞER & Selen KARAOĞLANOĞLU** • *Fatma Esra GÜNAYDIN*	**EUROPEAN YOUNG FAMILY DOCTORS MOVEMENT (EYFDM) SESSION** • *Mehmet KOCABAŞ* *AI in Family Medicine: Negative Aspects and Challenges*	Oral Presentation -8
10:30 – 11:00	**COFFEE BREAK**			
11:00 12:00	**OBSTETRICS AND GYNECOLOGY: PRIMARY CARE APPROACHES SESSION** **Mod.: Melike DEMİR ÇALTEKİN** • *Hakan TİMUR – Pregnancy and Pelvic Floor Relationship, Preventive Medicine in the Pelvic Floor* • *Ozan DOĞAN – Approach to Urinary Incontinence in Primary Care* • *Çağrı GÜLÜMSER – Palpable Mass in the Genital Area, Primary Approach to Genital Prolapse* • *Eray ÇALIŞKAN - Cervical Screening Programs, HPV Tests, HPV Vaccines* • *Aşkı ELİBEŞ KAYA - Pregnancy and Sexuality*	**PATHOGENS WOKING UP FROM DEEP SLEEP** **Mod.: Serpil DEMİRAĞ & Ülkü KARAMAN** • *Nagihan YILDIZ ÇELTEK – Parasites That Wake Up From Deep Sleep* • *Bekir ÇELEBİ – Bacteria That Wake Up From Deep Sleep* • *Hüsna SARICA ÇEVİK – Viruses That Wake Up From Deep Sleep*	**EUROPEAN YOUNG FAMILY DOCTORS MOVEMENT (EYFDM) SESSION** • *Şeyma Handan AKYÖN* • *Fatih AKYÖN* *AI in Family Medicine: Solutions, Current Applications and Future Projections*	Oral Presentation - 9
12:00 12:45	**CANCER SCREENINGS: ARE NEW APPROACHES REQUIRED?** **Mod.: Nurver SİPAHİOĞLU & Ali AYYILDIZ** • *Okcan BASAT - Is the Role of Family Medicine Limited to Screenings?* • *Selen KARAOĞLANOĞLU - Lung Cancer Screening Strategies: Risk Factors, Early Diagnosis and Future Perspective* • *Müge SÖNMEZ - The Future Course of Scans*	**SHINING SUPPLEMENTS OF THE FUTURE: CITCOLINE, MELATONIN AND MAGNESIUM L-THREONATE** **Mod.:Yeltekin DEMİREL & Mahcube ÇUBUKÇU** • *Tuba GÜL*	**EUROPEAN YOUNG FAMILY DOCTORS MOVEMENT (EYFDM) SESSION** • *Rita ABECASİS - AI-Enhanced Preventive Care in Family Medicine: From Cancer Screening to Lifestyle Management* • *İkbal Hümay ARMAN- AI-Enhanced Triage and Clinical Decision Support Tools in Primary Care* • *Gülşah ONUR - AI-Driven Diagnostic Imaging in Primary Care*	Oral Presentation -10
12:45 – 14:00	**LUNCH**			
14:00 14:45	**DEONTOLOGY THROUGH GENERATIONS** **Mod.: Yasemin KILIÇ ÖZTÜRK & Bestegül ÇORUH AKYOL** • *Dilek TOPRAK – Is Deontology Becoming a Dream Like Furry Slippers?* • *Duygu AYHAN BAŞER – Don't Worry, We Own It!*	**DRUG DEVELOPMENT PROCESS AND COMPUTER ASSISTED DRUG DESIGN** **Mod.: Taşkın KILIÇ & Didem KAFADAR** • *Gülşah AYDIN*	**FROM A FAMILY MEDICINE PERSPECTIVE PLASTIC AND RECONSTRUCTIVE SURGERY** **Mod.: Nagihan YILDIZ ÇELTEK & Hüsna SARICA ÇEVİK** • *Eksal KARGI*	Oral Presentation -11
14:45 15:30	**WHERE ARE WE IN FAMILY MEDICINE, WHERE SHOULD WE BE?** **Mod.: Okcan BASAT & Sanem NEMMEZİ KARACA** • *İlhami ÜNLÜOĞLU*	**HOME HEALTH CARE APPLICATIONS AT ALL TIMES** **Mod.: Serpil DEMİRAĞ & Erdal ÖZER** • *Nurver SİPAHİOĞLU - Overview of home health services with country examples* • *Ayşen FENERCİOĞLU - Integration of telehealth applications into home healthcare services* • *Didem KAFADAR - Home Health Services in Turkey: Current Situation, Challenges and Future Perspectives*		Oral Presentation -12
15:30 16:15	**IS THERE A SUB-BRANCH IN FAMILY MEDICINE? (DEBATE)** **Mod.: Mehmet UNGAN** • *Mümtaz MAZICIOĞLU - Yasemin KILIÇ ÖZTÜRK*			
16:15 – 17:00	**CLOSING CEREMONY**			

ORAL PRESENTATION PROGRAM

3rd International Eastern Black Sea Family Medicine Congress

May 23-24, 2025

Presentation durations are limited to 6 minutes. Slide sharing will be available during the presentations. For any issues regarding the presentation schedule or content, you can send an email to kahsedbilimseldestek@gmail.com

23 MAY 2025 FRIDAY / 09:00 – 09:45

ORAL PRESENTATION-1 *(HALL-B)*
Chairs: Beray GELMEZ TAŞ, Bahar ÜRÜN

	Titles	Presenter
OP-1	Early Stage or Hidden Threat? Late Metastasis of Stage 1 Lung Cancer	**Selen KARAOĞLANOĞLU**
OP-2	A Rare Lung Tumor: Pleomorphic Carcinoma	**Müge SÖNMEZ**
OP-3	Adverse Childhood Experiences Are Associated with Depression and Insomnia in Older Adults	**İrem TANRIVERDİ**
OP-4	The Relationship Between Bone Mineral Density, Nutritional Habits, and Sun Exposure in Elderly	**Ersan GÜRSOY**
OP-5	Evaluation of the Relationship Between Nutrition and Sleep Status of Individuals Aged 65 and Over	**Arzu AYRALER**
OP-6	Evaluation of the Relationship Between Anemia and Polypharmacy in Individuals Aged 80 Years and Older	**Selma SARUHAN**
OP-7	Adaptation of the Gosnell Pressure Ulcer Risk Assessment Scale to Turkish: Validity and Reliability Study	**Murat ZENCİRKIRAN**

23 MAY 2025 FRIDAY / 09:45 – 10:30

ORAL PRESENTATION-2 *(HALL-B)*
Chairs: Nagihan YILDIZ ÇELTEK, Duygu İlke YILDIRIM

	Titles	Presenter
OP-8	Knowledge And Practice Levels of Family Physicians in Eye Screening, Diagnosis, and Treatment	**Ersan GÜRSOY**
OP-9	Retinal Toxicity in a Patient Using Hydroxychloroquine for Sjögren's Syndrome	**Orkun ÇETİN**
OP-10	Isolated Abducens Nerve Palsy Secondary to Diabetes in a Patient Presenting with Esotropia	**Seda UZUNOĞLU**
OP-11	Factors Affecting Test Anxiety Among High School Students	**Bögüalp Çağatay ÇAĞLAR**
OP-12	Herpes Zoster in a Young Adult: A Case Report	**Elif NEGİŞ**
OP-13	Thyroglossal Duct Cyst: A Case Report from the Perspective of Family Medicine	**Duygunur ÇİKOT AKIL**
OP-14	Tenosynovial Giant Cell Tumor of the Knee Joint: A Case Report	**Tolga KEÇECİ**

23 MAY 2025 FRIDAY / 11:00 – 12:00

ORAL PRESENTATION-3 *(HALL-B)*
Chairs: Elif ALTUNBAŞ ATEŞ, Ceyhun YURTSEVEN

	Titles	Presenter
OP-15	A Case of Anaphylaxis After Ibuprofen Use	**Şevval TASLI SALMAN**
OP-16	The Barking Girl: Psychogenic Cough Case	**Emine Yurdakul ERTÜRK**
OP-17	Infantile Marfan Syndrome in a Tertiary Referral Hospital in Turkey	**Emine Yurdakul ERTÜRK**
OP-18	Congenital Complete AV Block in Preterm Neonates: Two Cases Surviving with Multidisciplinary Management	**Şevval TASLI SALMAN**
OP-19	Infantile Hemangioma: A Case Report	**Merve IŞIK**
OP-20	Burn Treatment After 5 Years: Innovative Approaches and Results in Ordu	**Volkan ALTINOK**
OP-21	Efficacy of Non-Surgical Treatment Methods in Pectus Deformities: Pectus Excavatum and Pectus Carinatum Cases	**Volkan ALTINOK**
OP-22	Very Elderly Hearts and Geriatric Syndromes	**Handan DUMAN**
OP-23	The Relationship Between Caregiver Burden for Elderly Patients; Caregiver Muscle Strength, Nutrition and Sleep Status	**İrem TANRIVERDİ**

23 MAY 2025 FRIDAY / 13:15 – 14:00	**ORAL PRESENTATION-4** *(HALL-B)* ***Chairs:*** Mahcube ÇUBUKÇU, Abdullah Alper ŞAHİN		
		Titles	**Presenter**
	OP-24	Working Women's Health: Preliminary Findings on General Health, Service Use and Work-Life Balance	**Dilara CANBAY ÖZDEMİR**
	OP-25	Time to Start Rotations in Family Medicine Residency Program: A Training and Research Hospital Experience	**Volkan ATASOY**
	OP-26	Bibliometric Assessment of Global Academic Literature on Commercial Determinants of Health	**Rumeysa BEKAR**
	OP-27	Evaluation of the Relationship Between Cyberchondria Level and eHealth Literacy in Individuals Applying to Polyclinic	**Şeymanur ÖZDEMİR**
	OP-28	Medicolegal Evaluation of Forensic Reports from Community and Family Health Centers	**Melike TAŞKIRAN**
	OP-29	Digital Health and Family Medicine: Practical Reflections of e-Nabız Usage and Physicians' Perspectives	**Barış KANDEMİR**
	OP-30	Goiter and Pulmonary Nodule in a Patient Presenting with Persistent Throat Irritation: A Case Report	**Demet KELLECİ DEMİR**

23 MAY 2025 FRIDAY / 14:00 – 15:00

ORAL PRESENTATION-5 *(HALL-B)*
Chairs: Gökçe İŞCAN, Bahadır YAZICIOĞLU

	Titles	Presenter
OP-31	The Impact of Low Back Pain on Work Productivity: A Scale Development Study	**Egemen ÜNAL**
OP-32	A Case of Brucellosis with Low Back and Leg Pain	**Hıdır ÖZER**
OP-33	A Case of Splenic Artery Aneurysm Rupture with Delirium and Incisional Hernia	**Gökhan ZAİM**
OP-34	Calculation of Brain Volume Measurements by Magnetic Resonance Imaging (MRI) in Patients with Migraine	**Osman Kağan ÇAKIR**
OP-35	A Young Case with Stroke Secondary to Minor Trauma-Related Vertebral Artery Dissection	**Didem EROL**
OP-36	Clinical and Sociodemographic Characteristics of Patients with Subjective Cognitive Impairment	**Didem EROL**
OP-37	Acute Occipital Lobe Infarction in a Patient Presenting with Complaint of Decreased Vision	**Alara EKİNCİ**
OP-38	Myiasis Cases in Primary Care: Evaluation of Intact Skin and Wound Infections	**Ülkü KARAMAN**
OP-39	Study on the Validity and Reliability of the Spiritual Intelligence Scale in Physicians	**Nida AKKUŞ**
OP-40	Archievements of Transsimed Project in North Macedonia	**Ljubin SHUKRIEV**

23 MAY 2025 FRIDAY / 16:00 – 16:45

ORAL PRESENTATION-6 *(HALL-B)*
Chairs: Duygu AYHAN BAŞER, Melike MERCAN BAŞPINAR

	Titles	**Presenter**
OP-41	A Rare Coronary Anomaly; RCA Arising from LAD	**Mustafa Kamil SAĞLAM**
OP-42	Atypical ECG Finding in Kounis Syndrome	**Adem KÖKSAL**
OP-43	Acute Viral Myositis Developed During Influenza B Infection and Incidental Wolff-Parkinson-White (WPW) Syndrome: A Case Report	**Ülkü Hacer MADENÜS**
OP-44	Assessment of Attitudes Toward Hypertension Prevention Among Adults	**Mustafa Rifat ATALAY**
OP-45	Cardiac Tamponade in a Down Syndrome Infant with Congenital Hypothyroidism: A Rare Complication	**Merve IŞIK**
OP-46	Empowering Primary Care Physicians in Early Diagnose of Heterozygous Familial Hypercholesterolaemia	**Hristina LESKAROSKA**
OP-47	Case: Mylohyoid Muscle Defect and Herniation	**Muhammed Emin GÖKTEPE**

24 MAY 2025 SATURDAY / 09:00 – 09:45

ORAL PRESENTATION-7 *(HALL-B)*
Chairs: Handan DUMAN, Ersan GÜRSOY

	Titles	Presenter
OP-48	Laboratory Methods in Parasitic Infections of the Gastrointestinal System	**Türkan MUTLU YAR**
OP-49	Determination of Trichomonas vaginalis, Some Bacteria and Fungi Positivity and Risk Factors in Female Patients with Urogenital Complaints	**Türkan MUTLU YAR**
OP-50	Evaluation of Blood Parameters in Patients Diagnosed with Diabetes Mellitus	**Esma NAKİPOĞLU**
OP-51	Have Outpatient Visits and Hospital Admissions for COPD Remained Stable Over the Last 10 Years?	**Fatma Esra GÜNAYDIN**
OP-52	Emotional Manipulation in Married Individuals: Marital Attitudes and Family Belonging	**Arzu ÇİFCİ**
OP-53	Evaluation of Patients Receiving Nicotine Spray Treatment in a Smoking Cessation Clinic	**Ayça Nur YİĞİT**
OP-54	Examining the Effect of Virtual Family Formation on Assessing Family Adaptability and Unity	**Süeda İNAN**

24 MAY 2025 SATURDAY / 09:45 - 10:30

ORAL PRESENTATION-8 *(HALL-B)*
Chairs: Müge SÖNMEZ, Volkan ATASOY

	Titles	Presenter
OP-55	A Rare Cause of Hypokalemia: Gitelman Syndrome	**Merve GÜNAYDIN**
OP-56	Evaluation of Biochemical Parameters in Patients Diagnosed with Hepatosteatosis at the Family Medicine Clinic	**Begüm Sarıtaş KISALAR**
OP-57	A Rare Case of Vulvar Monophasic Synovial Sarcoma	**Melike DEMİR ÇALTEKİN**
OP-58	Immune-Related Hypothyroidism Following Nivolumab Therapy: A Case Report	**Aykut TURHAN**
OP-59	What is Allergic March and What should We Do?	**Mehmet Fatih KARAKUŞ**
OP-60	Müllerian Anomaly Diagnosed During Cesarean Section: Unicorn Uterus	**Melike DEMİR ÇALTEKİN**
OP-61	Management of Benign Anorectal Diseases in Primary Care	**Tuğba Yiğit ERSOY**

24 MAY 2025 SATURDAY / 11:00 – 12:00

ORAL PRESENTATION-9 *(HALLB)*
Chairs: Gonca GÜLBAY, Deniz ÖZKURT

	Titles	**Presenter**
OP-62	The Relationship Between Polypharmacy and Malnutrition Risk in Patients Receiving Home Health Care	**Ceyhun YURTSEVER**
OP-63	The Effects of Early Palliative Care on Quality of Life	**Elif NEGİŞ**
OP-64	Trends and Determinants of the Fatal Occupational Injury Rate in Turkey	**Aslıhan GÖZÜTOK**
OP-65	Bibliometric Analysis of Publications on Family Medicine in Turkey	**Gülsüm ÖZTÜRK EMİRAL**
OP-66	Estimation of Air Pollution-Attributable Mortality Rate in Iğdır Province	**Aslıhan GÖZÜTOK**
OP-67	Multidisciplinary Approach and Integrated Care for an Immobile Homeless Patient with Impaired Consciousness and Malnutrition	**Halime YAVUZ**
OP-68	An Unusual Clavicle Metastasis in a Patient with Colorectal Cancer	**Tolga KEÇECİ**
OP-69	Evaluation of General Attitudes of Assistant Physicians Towards Artificial Intelligence	**Demet KELLECİ DEMİR**
OP-70	Investigation of Treatment's Impact on Quality of Life and Psychosocial Effects in Patients with Psoriasis	**Fatih ÇAKICI**

24 MAY 2025 SATURDAY / 12:00 – 12:45

ORAL PRESENTATION-10 *(HALLB)*
Chairs: Yeliz Kaşko ARICI, Neslihan ERGİN

	Titles	Presenter
OP-71	Evaluation of the Impact of Education Provided in a Family Health Center on Attitudes Towards Early Diagnosis of Cervical Cancer	**Ayten KARTAL TAŞ**
OP-72	BRCA1 Mutation and Advanced Stage Ovarian Cancer Due to Prophylactic Surgery Refusal	**Neslihan ÖZYURT**
OP-73	Clinical and Laboratory Characteristics of Solitary Rectal Ulcer Syndrome	**Muhammed Emin GÖKTEPE**
OP-74	Evaluation of the Relationship Between the Leukocyte Glucose Index (LGI) and Disease Stage in Patients with Metabolic Dysfunction Associated Fatty Liver Disease (MASLD)	**Ömer AŞIR**
OP-75	Content and Quality Analysis of YouTube Videos on Gestational Hypertension	**Kıymet İclal AYAYDIN YILMAZ**
OP-76	Evaluation of Health Workers' Knowledge Levels and Attitudes About HPV Infection and HPV Vaccine	**Gadime YANMAZ**
OP-77	Evaluation of Applications to the University of Health Sciences Tepecik Training and Research Hospital Maternity School Following the Legislative Amendment	**Halime YAVUZ**

24 MAY 2025 SATURDAY / 14:00 - 14:45	**ORAL PRESENTATION-11** *(HALL-B)* ***Chairs:*** Demet KELLECİ, Nida AKKUŞ		
		Titles	**Presenter**
	OP-78	The Knowledge, Attitudes, and Practices of Family Physicians Regarding Adult Vaccination	**Mahcube ÇUBUKÇU**
	OP-79	Karyotype Results of Patients with a History of Habitual Abortion in Ordu Province	**Çağrı DOĞAN**
	OP-80	Genetic Analysis Results of Marfan Syndrome in Ordu Province	**Çağrı DOĞAN**
	OP-81	Diagnosis and Treatment Rates of Chronic Hepatitis C in Anti-HCV Positive Patients in Ordu	**Uğurcan ÇETİNER**
	OP-82	A Case of CMV Mononucleosis Presenting with Prolonged Fever in an Immunocompetent Patient	**Uğurcan ÇETİNER**
	OP-83	The Relationship Between Media and Awareness of an Infectious Disease	**Yasemin KILIÇ ÖZTÜRK**
	OP-84	Evaluation of the Relationship Between Reflux and Oral and Dental Health in Pregnant Women	**Melike Mercan BAŞPINAR**

24 MAY 2025 SATURDAY / 14:45 – 15:30	**ORAL PRESENTATION-12** *(HALL-B)* ***Chairs:*** Türkan Mutlu YAR, Elif NEGİŞ		
		Titles	**Presenter**
	OP-85	Burnout Levels and Associated Factors Among Physicians in Türkiye: A Questionnaire Based Study	**Mehmet YILDIZ**
	OP-86	One-Year Evaluation of Adult Immunization Unit: Patient Profiles and Vaccination Data	**Selame Ebru TÜRK**
	OP-87	Evaluation of Hepatitis B Vaccination Status and Post-Vaccination Anti-HBs Response in HIV Patients	**Gamze ASLAN**
	OP-88	Herpes Zoster Misdiagnosed as Irritant Contact Dermatitis and Treated with Steroids: A Case Report	**Nahide ERKAYA**
	OP-89	Approach to Patients with Dementia in Primary Care	**Beria Nur ERTUĞRUL**
	OP-90	Multidisciplinary Care Experience in Tracheotomized Palliative Patients with ENT-Origin Malignancy and Neurological Comorbidities	**Ali YILMAZ**
	OP-91	Palliative Support Approaches in Patients with Severe Head and Maxillofacial Trauma	**Ali YILMAZ**

ONLINE ORAL PRESENTATION PROGRAM

3rd International Eastern Black Sea Family Medicine Congress

23-24 May 2025

Presentation durations are limited to 6 minutes. Slides can be shared via Zoom during the presentation. Zoom session links will be shared with speakers before the conference. For any issues related to the presentation schedule and content, you can email kahsedbilimseldestek@gmail.com

23 MAY 2025 FRIDAY / 09:00 – 09:45

ONLINE ORAL PRESENTATION-1 *(HALL D)*
Chairs: İkbal Hümay ARMAN, Ersan GÜRSOY

	Titles	Presenter
OOP-1	Approach to Growth and Short Stature in Family Medicine Practice	**Elif EVİZ**
OOP-2	Rational Drug Use and Related Factors in Patients Applying to Chest Diseases Hospital	**Neslişah GÜREL**
OOP-3	Evaluation of University Students' Perspectives on Adult Immunization	**Kübra Uyar ZEKEY**
OOP-4	What Affects the Severity of Cyberchondria?	**Bilge Sena İÇÖZ**
OOP-5	A Current Public Health Issue: Vaccine Hesitancy	**Hüseyin ALDEMİR**
OOP-6	Smartphone Addiction: Does It Affect Life Satisfaction	**Burcu ERDOĞDU**
OOP-7	The Impact of Vaccination Status on Infectious Disease Clinics: The Case of COVID-19	**Muhammed Fatih BARAN**

23 MAY 2025 FRIDAY / 09:45 – 10:30

ONLINE ORAL PRESENTATION-2 *(HALL D)*
Chairs: Ülkü KARAMAN, Ersin ÖZER

	Titles	**Presenter**
OOP-8	An Adult Case of Posterior Urethral Valve: Symptoms, Diagnosis, Management and Literature Review	**Mevlüt KELEŞ**
OOP-9	The Importance of Urinalysis in the Diagnosis of Bladder Cancer	**Mevlüt KELEŞ**
OOP-10	Prognostic Value of ACEF Score in the Detection of Contrast-Induced Nephropathy After Carotid Artery Stenting	**Sencer ÇAMCI**
OOP-11	An Important Cause of Secondary Hypertension: Renal Artery Stenosis	**Barış AÇIKEL**
OOP-12	Investigation of the Effect of Bupivacaine and Dexmedetomidine on Wound Healing in Rat	**Barış AÇIKEL**
OOP-13	Evaluating the Predictive Value of Lumbar Puncture in Normal Pressure Hydrocephalus	**Mehdi HEKİMOĞLU**
OOP-14	Is There a Connection Between Asthma Control Level and Type D Personality?	**Tuba VURAL**

23 MAY 2025 FRIDAY / 11:00 – 12:45

ONLINE ORAL PRESENTATION-3 *(HALL D)*
Chairs: Tuba GÜL, Seyit KAÇMAZ

	Titles	**Presenter**
OOP-15	Herpes Zoster Ophthalmicus: A Rare Cause of Persistent Cutaneous Eruption	**Zeyneb İrem YÜKSEL SALDUZ**
OOP-16	Evaluation of Obesity and Vitamin D Research on Web of Science	**Zeyneb İrem YÜKSEL SALDUZ**
OOP-17	Seasonal Variations in Public Interest in Dermatological Conditions in Türkiye: Google Trends Analysis	**Huriye Aybüke KOÇ**
OOP-18	Changes in Thyroid Function Tests and Metabolic Parameters in Obese People Who Lose Weight	**Aynur YILDIRIM**
OOP-19	Knowledge and Attitudes Regarding Emergency Contraception Among Family Medicine Residents	**Fatma Nur ÇAKIR**
OOP-20	Neonatal Non-Conducted Premature Atrial Complexes: A Rare Cause of Severe Bradyarrhythmia and Hemodynamic Instability	**Ceren YAPAR GÜMÜŞ**
OOP-21	B12 Deficiency Underlying the Clinic of Hypotonic Infants	**Sevgi ÇIRAKLI**
OOP-22	One Cause of Gait Disorder: Peroneal Nerve Damage; Drop Foot	**Sevgi ÇIRAKLI**
OOP-23	Relationship Between Inflammatory Markers and Nutritional Status in Patients Admitted to the Palliative Care Center	**Leyla Ezgi ERSUNAR**

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The 3rd International Eastern Black Sea Family Medicine Congress hosted participants from 10 countries: Türkiye, Uzbekistan, Albania, Slovenia, Croatia, Lithuania, North Macedonia, Portugal, Malta, and Austria. Each country was represented by at least one author, speaker, or committee member. This geographic diversity highlights the congress's strong commitment to international academic collaboration.

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ORAL PRESENTATIONS

EBFMC25-OP-01 · Early Stage or Hidden Threat? Late Metastasis of Stage 1 Lung Cancer

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ABSTRACT

Introduction: Lung cancer remains the most commonly diagnosed cancer and the leading cause of cancer-related deaths worldwide and in our country. Despite advances in early detection and treatment, the disease can exhibit unpredictable behavior.

Case Presentation: In this report, we present a rare case of a patient diagnosed with Stage 1 lung cancer, who developed distant organ metastasis several years after initial treatment and presumed remission.

Discussion: The late recurrence of metastatic disease, in the absence of earlier clinical or radiologic signs, underscores the importance of long-term follow-up even in early-stage lung cancer cases. This case also raises questions regarding the underlying genetic and molecular mechanisms that may contribute to such delayed progression.

Conclusion: Our findings highlight the complexity of lung cancer biology and the potential limitations of current staging and surveillance protocols.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Lung cancer, early stage, screening program

INTRODUCTION

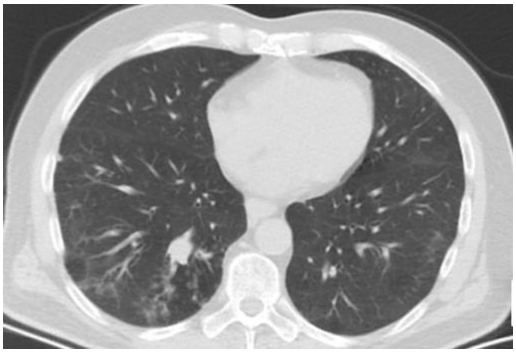
In our case, a lung cancer detected at an early stage presented with distant organ metastasis years later. This case once again demonstrates how lung cancer can be both genetically and a hidden threat. Lung cancer remains the most commonly diagnosed malignancy and the leading cause of cancer-related deaths worldwide and in our country (ESMO, 2025). It is broadly classified into two major histological subtypes: small cell lung cancer (SCLC) and non-small cell lung cancer (NSCLC), the latter accounting for approximately 85% of all cases. Among NSCLC subtypes, adenocarcinoma has become the most prevalent form, particularly among non-smokers and in regions such as ours (Cangır et al., 2022; Kızılırmak et al., 2023). Despite advances in early detection and treatment modalities, lung cancer continues to pose significant clinical challenges due to its potential for aggressive behavior, even when diagnosed at an early stage. While Stage 1 lung cancer is typically associated with a favorable prognosis following curative treatment, unpredictable clinical courses, such as late-onset distant metastasis, may still occur. In this case report, we present a patient initially diagnosed with Stage 1 lung adenocarcinoma who later developed distant organ metastasis after several years of apparent remission. This case underscores the need for a deeper understanding of tumor biology, including mechanisms of dormancy, micro-metastasis, and late recurrence. It highlights that lung cancer, even when seemingly localized, can harbor latent threats that necessitate long-term vigilance and individualized follow-up strategies.

CASE PRESENTATION

A 57-year-old male presented to the pulmonology outpatient clinic in February 2022 with complaints of cough and sputum production. On physical examination, diminished breath sounds were noted. A chest X-ray revealed a nodular lesion in the right lower lobe, and thoracic CT confirmed a 2 cm solid mass (Image 1).

Image 1

Thoracic CT, a 2 cm solid nodular lesion in the right lower lobe, Feb 2022



Initial Diagnosis and Treatment: For staging, PET-CT was performed, and no evidence of metastasis was found. The patient was referred to thoracic surgery with a preliminary diagnosis of Stage I non-small cell lung cancer. He underwent a right lower lobectomy and mediastinal lymph node dissection. Histopathological evaluation confirmed squamous cell carcinoma (SCC). No lymph node involvement or distant metastasis was observed. Due to the early stage (Stage I), adjuvant chemotherapy was not administered, and the patient was followed up regularly by the oncology department.

Medical History: The patient had a history of Polycythemia Vera, Hypertension, and had ceased smoking five years prior.

Follow-Up and Metastasis: Routine follow-ups with thoracic and abdominal CT scans showed no signs of recurrence for over a year. However, in November 2023, a suspicious lesion was detected in the left kidney on abdominal CT. A percutaneous biopsy confirmed metastatic SCC. Consequently, left nephrectomy was performed in May 2024, and histopathology confirmed metastatic disease of pulmonary origin.

Current Status: The patient was reclassified as Stage IV and received systemic chemotherapy. As of the latest follow-up, there are no signs of active disease or further metastasis.

DISCUSSION

Although national cancer screening programs exist for several cancer types such as breast, cervical, and colorectal cancers, a national screening program for lung cancer has yet to be implemented in many countries, including ours. However, lung cancer remains the leading cause of cancer-related deaths worldwide, primarily due to late-stage diagnosis. One of the unique challenges in detecting lung cancer early is the paucity of pain receptors in pulmonary tissue, which allows tumors to grow silently without causing significant discomfort. The most prevalent early symptom -persistent coughing- is often overlooked by patients, especially among smokers, who commonly experience chronic cough due to smoking-related airway irritation. As a result, lung cancer is frequently diagnosed at an advanced stage when curative treatment is less likely to be effective. Evidence from large clinical trials has shown that low-dose computed tomography (LDCT) screening significantly reduces mortality from lung cancer among high-risk populations. Notably, the National Lung Screening Trial (NLST) in the United States demonstrated a 20% reduction in lung cancer-specific mortality with annual LDCT screening compared to chest X-ray among individuals aged 55–74 years with a smoking history of ≥30 pack-years (Aberle et al., 2011). Similarly, the NELSON trial conducted in Europe confirmed that LDCT screening in high-risk men and women led to a significant reduction in lung cancer mortality (de Koning et al., 2020; Mazzone et al., 2021).

CONCLUSION

Given these findings, we strongly advocate for the implementation of a national lung cancer screening program targeting high-risk individuals in our country. Such an initiative would likely enable earlier detection, timely intervention, and a significant decrease in lung cancer-related morbidity and mortality. In addition, screening programs could facilitate earlier identification of other smoking-related conditions, including chronic obstructive pulmonary disease (COPD), further improving long-term outcomes.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-02 · A Rare Lung Tumor: Pleomorphic Carcinoma

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ABSTRACT

Introduction: Pleomorphic carcinoma of the lung is an uncommon and highly aggressive malignancy, classified under sarcomatoid carcinomas according to the World Health Organization. It comprises poorly differentiated non-small cell lung carcinoma (NSCLC) components, such as large cell carcinoma or spindle and/or giant cell elements. Due to its rarity, data regarding its clinical course, treatment response, and prognosis remain limited. This tumor type is strongly associated with tobacco exposure and is known for its rapid growth, resistance to conventional therapies, and early distant metastasis, particularly to the brain, bones, adrenal glands, and liver.

Case Presentation: With this case, we aim to highlight the clinical significance of pleomorphic carcinoma, a rare subtype of lung cancer, by emphasizing its potential for early and aggressive metastasis despite being diagnosed at an early stage.

Conclusion: Our objective is to raise awareness among family physicians and general practitioners regarding its presentation, prognosis, and the importance of vigilant follow-up.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Lung cancer, pleomorphic carcinoma, rare tumor

INTRODUCTION

Pleomorphic carcinoma is a rare and aggressive type of lung cancer associated with large cell carcinoma or sarcomatoid carcinoma subtypes. It belongs to the non-small cell lung cancer (NSCLC) group and accounts for approximately 0.1–0.4% of all lung cancers. It consists of two components: epithelial (adenocarcinoma, squamous cell carcinoma, or large cell carcinoma) and mesenchymal. This cancer progresses rapidly and has a poor prognosis. It is strongly associated with smoking and has a high tendency to metastasize, especially to the brain, bones, and liver. Pleomorphic carcinoma of the lung is a rare and highly aggressive subtype of non-small cell lung cancer (NSCLC), representing approximately 0.1–0.4% of all primary lung malignancies (Rossi et al., 2003; Travis et al., 2015; Zghal et al., 2024). It is histopathologically characterized by a combination of poorly differentiated epithelial components—such as adenocarcinoma, squamous cell carcinoma, or large cell carcinoma—and sarcomatoid (spindle or giant cell) elements (Fishback et al., 1994). Due to its biphasic nature, it is classified under sarcomatoid carcinomas by the World Health Organization (World Health Organization Classification of Tumours Editorial Board, 2021). This tumor is most commonly seen in elderly male patients with a history of heavy smoking, and its pathogenesis is strongly linked to tobacco exposure (Mochizuki et al., 2008). Pleomorphic carcinoma exhibits rapid tumor growth,

early hematogenous dissemination, and resistance to conventional chemoradiotherapy, contributing to its poor overall prognosis (Italiano et al., 2010). The most frequent sites of metastasis include the brain, bones, liver, and adrenal glands, often leading to advanced-stage detection even in initially resectable tumors (Kaira et al., 2011). Given its rarity and aggressive clinical course, pleomorphic carcinoma poses diagnostic and therapeutic challenges. Greater awareness among clinicians and pathologists is crucial for timely diagnosis and appropriate management.

CASE PRESENTATION

A 68-year-old male patient presented to the outpatient clinic with chronic cough and minor hemoptysis. A chest X-ray revealed a nodular lesion, and due to his heavy smoking history, he underwent a thoracic computed tomography (CT) scan. The CT showed an irregularly bordered 13x10 mm pulmonary nodule in the medial segment of the right lung's middle lobe (Image -1). A PET-CT scan demonstrated increased FDG accumulation (SUV max: 6.49), with no evidence of lymph node or distant organ metastasis. The patient was referred to thoracic surgery with a preliminary diagnosis of Stage I lung cancer. A right thoracotomy, middle lobectomy, upper lobe wedge resection, and lymph node resection were performed. The pathological diagnosis was reported as pleomorphic carcinoma. The patient, who underwent surgery and was diagnosed with Stage I lung cancer, was placed on a follow-up program every three months due to the absence of an indication for adjuvant chemotherapy. At the three-month follow-up, a PET-CT scan revealed a mass in the right adrenal gland, which was not present in the previous PET-CT and was assessed as compatible with metastasis. Consequently, chemotherapy with Gemcitabine + Cisplatin (DDP) + Paclitaxel was initiated. After two cycles, disease progression was observed. Next-generation sequencing revealed KRAS p.G12D and BRCA2 p.G2078fs mutations, with no approved targeted therapies. Immunohistochemical analysis showed 90% PD-L1 positivity in tumor cells, and treatment with the PD-1 inhibitor nivolumab was initiated.

DISCUSSION

With this case, we aimed to draw attention to pleomorphic carcinoma, a rare and aggressive subtype of non-small cell lung cancer, and its potential for rapid progression even when initially classified as Stage I. Despite being diagnosed at an early stage and treated surgically, the patient developed distant metastasis within a short period, underscoring the unpredictable course and high malignancy potential of this tumor type. Chemotherapy response rates remain low (Vieira et al., 2011). The high mutation burden in PPC suggests potential for targeted therapy, although effective strategies remain limited. High PD-L1 expression has been reported in PPC, supporting the role of immune checkpoint inhibitors in its management (Chang et al., 2011; Kim et al., 2015). Lung cancer remains the most commonly diagnosed and deadliest cancer both worldwide and in our country. However, it is largely preventable. Tobacco use is the leading cause, and public health strategies aimed at reducing smoking rates can significantly decrease incidence and mortality. In this regard, stronger enforcement of tobacco control laws, community-level smoking cessation support programs, and education on the risks of smoking are critical (Cangır et al., 2022). This case also highlights the need to develop and implement national lung cancer screening programs, particularly for high-risk groups such as long-term smokers over the age of 50. Low-dose CT scans have been shown to detect lung cancer at earlier, more treatable stages and reduce mortality (Kızılırmak et al., 2023). With this case, we aimed to draw attention to pleomorphic carcinoma, a rare and aggressive subtype of non-small cell lung cancer, and its potential for rapid progression even when initially classified as Stage I. Despite being diagnosed at an early stage and treated surgically, the patient developed distant metastasis within a short period, underscoring the unpredictable course and high malignancy potential of this tumor type. Chemotherapy response rates remain low (Vieira et al., 2011). The high mutation burden in PPC suggests potential for targeted therapy, although effective strategies remain limited. High PD-L1 expression has been reported in PPC, supporting the role of immune checkpoint inhibitors in its management (Chang et al., 2011; Kim et al., 2015). Lung cancer remains the most commonly diagnosed and deadliest cancer both worldwide and in our country. However, it is largely preventable. Tobacco use is the leading cause, and public health strategies aimed at reducing smoking rates can significantly decrease incidence and mortality. In this regard, stronger enforcement of tobacco control laws, community-level smoking cessation support programs, and education on the risks of smoking are critical (Cangır et al., 2022). This case also highlights the need to develop and implement national lung cancer screening programs, particularly for high-

risk groups such as long-term smokers over the age of 50. Low-dose CT scans have been shown to detect lung cancer at earlier, more treatable stages and reduce mortality (Kızılırmak et al., 2023).

CONCLUSION

For family physicians, who are often the first point of contact in the healthcare system, this case provides im portant messages:

• Early recognition of suspicious symptoms (persistent cough, hemoptysis, unexplained weight loss) even in patients withoutcurrent smoking history is essential.

• Encouraging and guiding patients through smoking cessationshould be an integral part of routine care.

• Identifying high-risk individuals (e.g., ex-smokers, those with occupational exposure) and considering referral for low-dose chest CT can be life-saving.

• Awareness of aggressive subtypes like pleomorphic carcinoma can enhance the vigilance required during follow-up of lung cancer survivors. Ultimately, family physicians play a key role not only in early detection but also in prevention and long-term follow-up. By integrating cancer awareness into daily practice, they can contribute significantly to reducing the burden of lung cancer community.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-03 ·Adverse Childhood Experiences Are Associated with Depression and Insomnia in Older Adults

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ABSTRACT

Introduction: Adverse childhood experiences (ACEs) are potentially traumatic events that occur up to the age of 18 years, and include physical, psychological, sexual abuse and neglect (Felitti et al., 1998; Gilbert et al., 2024). Such trauma often results in chronic stress which are linked to negative health outcomes across the lifespan (Dube et al., 2003). The aim of this study is to reveal the impact of ACE in older age.

Materials and Methods: This was as a cross-sectional study. Data were collected from patients attending one outpatient geriatric clinic. Socio-demographic information on the patients age, gender, marital status, living status, and education level was collected. Subsequently, a comprehensive geriatric assessment (CGA) and ACE scale were conducted. The ACE scale consisted of 10 questions that were categorised as psychological, physical, and sexual sexual abuse, as well as neglect. The relationship between detailed CGA parameters and ACE were analysed.

Results: 319 (the mean age of 76.6 ± 7.2 years, and 76.1% female) older patients were included. The prevalence of ACE was 41.4 %, with psychological ACE being the most common type of ACE. Female gender, number of medications, the presence of insomnia, depression and dysphagia were higher in older patients who experienced at least one ACE than those without ACE ($p<0.05$). The association between insomnia (OR 1.86, 95% CI 1.15-3.01; $p <0.05$) and depression (OR 1.71, 95% Cl 1.04-2.82; $p<0.05$) with ACE persisted in multivariate analyses.

Conclusions: ACE was detected in approximately one in every two older adults and was 1.8 times more likely to be associated with insomnia and 1.7 times more likely to be associated with depression. Therefore, when evaluating an older patient experiencing insomnia and depression, ACE should also be evaluated, or insomnia and depression should also be questioned in an older patient experiencing ACE (Daines et al., 2021; Huffman et al., 2023; Zhang et al., 2022).

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Adverse childhood experiences, older adults, insomnia, depression, geriatric assessment

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-04 · The Relationship Between Bone Mineral Density, Nutritional Habits, and Sun Exposure in Elderly

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ABSTRACT

Introduction: With the aging population, maintaining bone health has become a clinical priority due to the impact of metabolic bone diseases such as osteopenia and osteoporosis on morbidity and mortality (Xie et al., 2024; Yao et al., 2021). The decline in bone mineral density (BMD) increases the risk of fractures, reducing quality of life and imposing an additional burden on healthcare systems (de Jonge et al., 2018). This study aims to evaluate the relationship between daily dietary intake (milk, yogurt, cheese, coffee) and sun exposure duration with bone mineral density in individuals over 65 years of age.

Materials and Methods: This cross-sectional study was conducted between September 2023 and December 2024. A total of 215 individuals over 65 years of age who visited the family medicine outpatient clinic of a tertiary hospital for any reason were included in the study. Participants completed a questionnaire prepared by the researchers, which collected demographic data, clinical history, and nutritional habits, followed by a dual-energy X-ray absorptiometry (DEXA) scan. Data analysis included descriptive statistics, the Mann-Whitney U test, and Spearman correlation analysis. Statistical significance was set at $p<0.05$.

Results: The mean age of the participants was 72.27±5.81 years, with 38.6% (n=83) being male and 61.4% (n=132) female. The mean T-scores were -0.57±1.81 for the vertebrae and -1.22±1.24 for the femur. Based on these values, 34.4% (n=74) of the participants were classified as normal, 45.1% (n=97) as osteopenic, and 20.5% (n=44) as osteoporotic. No significant association was found between daily consumption of milk ($p=0.135$), yogurt ($p=0.073$), or coffee ($p=0.241$) and T-scores. However, a significant positive correlation was observed between daily cheese consumption and T-scores ($p=0.034$). Furthermore, a statistically significant positive correlation was found between daily sun exposure duration and T-scores ($r=0.293$, $p<0.001$).

Conclusion: Our study found a significant positive association between daily cheese consumption and bone mineral density in individuals over 65 years of age. However, no significant relationship was identified between the consumption of milk, yogurt, or coffee and BMD. Additionally, a positive correlation was

observed between daily sun exposure duration and BMD. These findings suggest that cheese consumption and adequate sun exposure may play a crucial role in the prevention of osteoporosis and osteopenia (Erkkilä et al., 2017; Kopiczko, 2020). Therefore, it is essential to enhance awareness programs targeting the nutritional and sun exposure habits of elderly individuals to maintain bone health.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Bone mineral density, osteoporosis, nutritional habits, sun exposure, DEXA

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-05 · Evaluation of the Relationship Between Nutrition and Sleep Status of Individuals Aged 65 and Over

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ABSTRACT

Introduction: This cross-sectional study examined the relationship between nutritional status and sleep quality in 65+ year-old patients receiving home healthcare services (HCS).
Methods: Nutritional status was assessed using the Mini Nutritional Assessment (MNA), and sleep quality was evaluated with the Pittsburgh Sleep Quality Index (PSQI).
Results: We found 31.5% malnourished, 16.7% at risk, and 51.9% with normal nutrition. PSQI revealed 38.9% had poor sleep quality. A significant association was observed between malnutrition and worse sleep scores ($p = 0.0001$).
Conclusion: Results suggest nutritional interventions may improve sleep in elderly HCS patients.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Elderly, nutrition, sleep quality, malnutrition, home healthcare services, PSQI

INTRODUCTION

Old age is a significant chapter of life. According to the World Health Organization (WHO), individuals aged 65 and above are defined as elderly (World Health Organization [WHO], 2021). Data from the Turkish Statistical Institute (TÜİK) indicate that the elderly population in Turkey increased from 6.89 million in 2017 to 8.45 million in 2022, accounting for 9.9% of the total population. Projections suggest this rate will rise to 12.9% by 2030 and 25.6% by 2080 (Turkish Statistical Institute [TÜİK], 2022).

Physiological and psychological changes accompany aging, leading to decreased body resistance and increased prevalence of chronic diseases. The growing elderly population, extended life expectancy, and chronic disease burden pose significant economic challenges. Accessible, high-quality, and sustainable health services are essential for managing chronic conditions (Kubat Bakir & Akin, 2019).

Technological advancements, social rights improvements, and rising healthcare costs have highlighted the importance of home health services globally and in Turkey. Implemented in Turkey since 2005, home health services provide nursing and long-term care by professionals (Aslan et al., 2018).

Sleep problems, prevalent in over 50% of the elderly, significantly impact quality of life. Common issues include insomnia, difficulty maintaining sleep, early awakenings, and non-restorative sleep. Factors such as retirement, loneliness, and physiological changes contribute to poor sleep quality (Palteki et al., 2021).

Nutrition and sleep disorders are critical yet understudied in the elderly. This study investigates the relationship between nutritional status and sleep quality in patients aged 65 and above registered in a Home Care Services.

Ethical Approval: Ethical approval was obtained from Giresun Training and Research Hospital (Decision No: 05.06.23/04). Written consent was secured from participants, and data were collected voluntarily.

MATERIALS AND METHODS

This cross-sectional, descriptive, and analytical study included 54 patients. Data were analyzed using SPSS 27.0, employing descriptive statistics, Chi-square tests, and Kruskal-Wallis tests ($p < 0.05$).

Statistical Analysis:

Data were analyzed using IBM SPSS Statistics software (Version 27.0). Descriptive statistics including frequencies (%), means, standard deviations, medians, and ranges (minimum-maximum) were calculated for all variables. Categorical variables were compared using the Chi-square test. The Shapiro-Wilk test assessed normality of continuous variables. For non-normally distributed variables, the Kruskal-Wallis test was employed. Statistical significance was set at $p < 0.05$.

Study Design and Participants:

This cross-sectional descriptive-analytical study enrolled voluntary participants. A face-to-face administered sociodemographic questionnaire comprising 18 items collected data on:

- Demographic characteristics (age, gender, education level, marital status)
- Socioeconomic factors (employment status, Social Security Institution [SSI] coverage, income level)
- Family structure (parenthood status, number of children)
- Caregiving arrangements
- Health status (chronic disease presence, disease categories, polypharmacy defined as concurrent use of ≥4 medications) Assessment Tools:

Mini Nutritional Assessment (MNA);

The MNA, developed in 1989, evaluates nutritional status in elderly populations through multidimensional assessment of:

- Health status
- Functional capacity (mobility, independence)
- Cognitive function
- Disease burden
- Dietary intake patterns (Bauer et al., 2008)

Pittsburgh Sleep Quality Index (PSQI);

The PSQI (Buysse et al., 1989) is a validated 24-item instrument assessing sleep quality over a 1month recall period. Eighteen items contribute to seven component scores (range: 0-3 each), with global scores calculated as follows: • Good sleep quality: Total score <5

- Poor sleep quality: Total score ≥5

RESULTS

Participants were predominantly female (75.9%), illiterate (25.9%), and unemployed (98.1%). Most (96.3%) had chronic diseases, and 81.5% reported polypharmacy. Malnutrition was significantly higher in neuropsychiatric and endocrine disease groups ($p = 0.027$, $p = 0.013$). Poor sleep quality (PSQI ≥5) was observed in 38.8%, with malnutrition linked to higher PSQI scores ($p = 0.0001$) (Tables 1–3).

DISCUSSION

This study evaluated the nutritional status and sleep quality of patients aged over 65 years receiving HCS. As the first investigation to assess both parameters in HCS patients, it provides novel insights into this vulnerable population. In the study by Birgül et al. (2022) conducted on the elderly in Nevşehir, 64.7% of the participants were women, whereas in the current study, this rate was 75.9%. Similarly, while 57.5% were married in Birgül et al.'s (2022) study, the current study found a lower rate (46.3%). The illiteracy rate was 23.2% in their research, compared to 25.9% in this study. Additionally, while the chronic disease rate was 56.5% in Birgül et al.'s (2022) study, it was significantly higher (96.3%) in the present study. When examining the Mini Nutritional Assessment (MNA) results, the prevalence of malnourished patients was 1.9% in Kaner's (2023) study, whereas 31.5% in the present study. Patients at risk of malnutrition constituted 38.5% of the sample in Kaner's (2023) study, compared to 16.7% in this study. Similarly, the proportion of patients with normal nutritional status was 59.6% in Kaner's (2023) study but 51.9% in the current findings. In Dolunay's (2023) study conducted in Edirne, where the nutrition of home health patients over 65 was evaluated, the frequency

of polypharmacy was 79.2%, whereas in this study, it was found to be 81.5%. When MNA results were evaluated, 14.2% were malnourished in Dolunay's (2023) study, compared to 31.5% in this study. While 49.4% were at risk of malnutrition in Dolunay's (2023) study, the current study found 16.7%. Additionally, 36.4%had normal nutritional status in Dolunay's (2023) study, whereas this study found 51.9%. Although the frequency of polypharmacy in this study was similar to Dolunay's (2023) findings, the rate of malnourished patients was higher. In the study conducted in Izmir in 2022, where the sleep of the elderly was evaluated, the frequency of polypharmacy was 57.2% (Şimşek Keskin et al., 2022), while in this study it was found to be 81.5%. The frequency of polypharmacy in our group was significantly higher than in the nursing home group. While the rate of impaired sleep quality (5 or more points on the Pittsburgh Sleep Quality Index [PSQI]) was 71.1% in Şimşek Keskin et al.'s (2022) study, it was 38.8% in this study, indicating better sleep quality among our participants. In the study conducted in Istanbul in 2022, which evaluated the nutritional levels and sleep of the elderly, 17.5% of the group were at risk of malnutrition (Uysal, 2022), compared to 16.7% in this study. While 82.5% had normal nutritional status in Uysal's (2022) study, this study found 51.9%. Additionally, impaired sleep quality (PSQI ≥ 5) was reported in 55.7% of participants in Uysal's (2022) study, whereas this study found 38.8%. The highest PSQI score in Uysal's (2022) study was 19, compared to 14 in this study, suggesting that sleep quality was significantly worse in their sample. A negative statistical association was found between MNA and PSQI results in Uysal's (2022) study, which supports our findings. Further supporting our results, Zhao et al. (2021) found that poor sleep quality was significantly associated with malnutrition risk in older adults. Similarly, Jiang et al. (2023) demonstrated that good nutritional status reduces the risk of sleep disorders in adults aged 65 and older, aligning with our study's conclusions. Again, nutrition alone is affected by many factors and situations, and a person's sleep quality is also affected by many different situations. The effects of these and similar situations should not be ignored in studies on the elderly. As seen in this study, both chronic diseases and a person's sleep quality affect nutritional status. The malnutrition rate in the neuropsychiatric disease group in this study also supports other studies. Therefore, the risk of malnutrition is high in the neuropsychiatric patient group and this group should be evaluated especially in terms of malnutrition risk. In the literature, the nutritional status of individuals aged 65 and over is investigated from various aspects. However, there is no study investigating the nutrition and sleep status of geriatric individuals.

Limitations: Small sample size and single-center design limit generalizability. Confounding factors (e.g., comorbidities) were not fully controlled.

CONCLUSION

Nutritional status significantly impacts sleep quality in elderly home health patients. Regular screening for malnutrition and sleep disorders is recommended to improve care outcomes.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-06 · Evaluation of the Relationship Between Anemia and Polypharmacy in Individuals Aged 80 Years and Older

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ABSTRACT

Introduction: Anemia and polypharmacy are common conditions in the geriatric population and are associated with decreased functional capacity and increased demand for healthcare services (Guralnik et al., 2004; Maher et al., 2014). The coexistence of these conditions may further complicate the health status of elderly individuals. This study aimed to evaluate the relationship between anemia and polypharmacy in individuals aged 80 years and older.

Materials and Methods: This cross-sectional study was conducted between March and April 2025 at the Healthy Aging Center of a tertiary care hospital. Data from 106 patients were retrospectively reviewed, including age, sex, comorbidities (diabetes mellitus, hypertension, chronic kidney disease, malignancy, Alzheimer's disease, chronic obstructive pulmonary disease), number of medications used, Katz Index of Independence in Activities of Daily Living, Lawton Instrumental Activities of Daily Living Scale, and Clinical Frailty Scale scores. Hemoglobin levels at the time of admission were obtained from laboratory records. Polypharmacy was defined as the use of five or more medications per day (Masnoon et al., 2017). Anemia was defined based on World Health Organization criteria: Hb <12 g/dL in women and <13 g/dL in men (World Health Organization [WHO], 2011).

Results: Anemia was present in 42.6% (n=45) and polypharmacy in 55.7% (n=59) of the participants. The prevalence of polypharmacy was significantly higher among anemic individuals (67.3%) compared to non-anemic ones (42.1%) (p=0.009). Anemic individuals were older and more likely to be male (87.5±3.9 vs. 85.8±3.4 years, p=0.016; 51.0% vs. 24.6%, p=0.005). There were no statistically significant differences in comorbidities, Katz, Lawton, and frailty scores between the two groups (p≥0.05). Logistic regression analysis identified polypharmacy (OR: 2.9 [1.2–6.9], p=0.017), older age (OR: 1.2 [1.1–1.4], p=0.005), and male sex (OR: 3.7 [1.5–9.2], p=0.005) as independent predictors of anemia.

Conclusion: Polypharmacy is an independent risk factor for anemia among individuals aged 80 years and older, regardless of age and sex. Medication management in older adults should be approached holistically, including an assessment of anemia risk (Onder et al., 2007).

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Polypharmacy, anemia, geriatrics

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-07 · Adaptation of the Gosnell Pressure Ulcer Risk Assessment Scale to Turkish: Validity and Reliability Study

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ABSTRACT

Objective: This study aimed to adapt the Gosnell Pressure Ulcer Risk Assessment Scale into Turkish and to evaluate its linguistic validity, content validity, inter-observer reliability, and construct validity through exploratory and confirmatory factor analyses (Celdran-Manas et al., 1999; Gosnell, 1989)

Materials and Methods: This methodological study was conducted with 150 patients treated in a palliative care unit over one year. The adaptation process consisted of two stages: linguistic validation and assessment of validity and reliability. Linguistic validity was assessed using the translation-back translation method and expert reviews (Hancer, 2003). Content validity was evaluated using the Lawshe technique with input from five experts from the Department of Family Medicine (Alpar, 2022). Reliability was assessed by measuring inter-observer agreement using the Kappa coefficient, Cramer's V coefficient, and Spearman correlation analysis.

To evaluate construct validity, Exploratory Factor Analysis (EFA) using Principal Component Analysis and Confirmatory Factor Analysis (CFA) using the Diagonally Weighted Least Squares (DWLS) estimation method were conducted (Yesilyurt & Capraz, 2018).

Results: A total of 150 participants were included, with a mean age of 74.74 years, and 58% were female. The Content Validity Ratio (CVR) for each item was calculated as 1. Regarding reliability, the Kappa coefficient for the Mental Status item was 0.903, and Cramer's V coefficient was 0.896; for the Continence, Mobility, and Activity items, both the Kappa and Cramer's V coefficients were 1. For the Nutrition item, the Kappa coefficient was 0.840, and Cramer's V coefficient was 0.862. A significant and positive correlation was found between the total scores of the two observers ($p < 0.001$). For construct validity, the EFA revealed a single-factor structure explaining 62.039% of the total variance, with a Kaiser-Meyer-Olkin (KMO) value of 0.783 and Bartlett's test of sphericity being significant ($\chi^2(10) = 383.266$, $p < 0.001$). The subsequent CFA showed a marginal model fit ($\chi^2/df = 5.627$), while all factor loadings were statistically significant ($p < 0.001$). The Nutrition item demonstrated a relatively lower loading (0.457), suggesting possible cultural or contextual differences in the Turkish sample.

Conclusion: The Turkish version of the Gosnell Pressure Ulcer Risk Assessment Scale was found to be a valid and reliable tool for use by healthcare professionals in Turkey. The scale showed acceptable content and

construct validity. However, the Nutrition item should be further examined in future studies to improve its cultural appropriateness and statistical consistency.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Pressure ulcer, risk assessment scale, validity, reliability

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-08 · Knowledge and Practice Levels of Family Physicians in Eye Screening, Diagnosis, and Treatment

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ABSTRACT

Objective: This study aims to evaluate the knowledge and practice levels of family physicians working in primary healthcare services regarding eye screenings, diagnosis, and treatment of eye diseases.

Materials and Methods: This descriptive and cross-sectional study was conducted with family physicians working in Erzincan, Trabzon, and Erzurum provinces. Data were collected between September and December 2024 through a 37-item questionnaire administered via Google Forms, which was developed based on a literature review and a pilot test. The questionnaire included demographic information and Likert-type questions assessing knowledge and practice levels regarding eye health screenings. In the data analysis, descriptive statistics, the Kolmogorov-Smirnov test, the Kruskal-Wallis test, and Spearman correlation analysis were used. A p-value of <0.05 was considered statistically significant.

Results: A total of 124 family physicians participated in the study. Among the participants, 40.3% reported performing the red reflex test only on infants aged 0–3 months, while 29.8% stated that they did not perform it at all. Additionally, 21.8% of the respondents reported that a direct ophthalmoscope was not available in their centers or that they were unsure of its presence. The average knowledge score was 58.15 out of 100, with male physicians scoring significantly higher than female physicians ($p=0.023$). While no significant relationship was found between knowledge level and age, total duration of medical practice, or professional title, a positive and significant correlation was observed between the total duration of family medicine practice and knowledge level ($r=0.240$, $p=0.007$).

Conclusion: Significant deficiencies were identified in the knowledge and practice levels of family physicians regarding eye health screenings and early diagnosis methods. To enhance eye health services in primary care, the development of regular training programs, improved accessibility of ophthalmological examination equipment, and the establishment of national screening protocols are crucial (Rowe et al., 2004; Solomon et al., 2022). This study provides essential data to strengthen the role of family physicians in eye health services and to address existing gaps in knowledge and practice.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Family medicine, eye screenings, primary healthcare services, knowledge level, ophthalmological assessment

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-09 · Retinal Toxicity in a Patient Using Hydroxychloroquine for Sjögren's Syndrome

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ABSTRACT

Introduction: Hydroxychloroquine is an antimalarial and anti-inflammatory drug widely used in the general population, particularly in the treatment of autoimmune diseases.
Case Presentation: Despite its therapeutic benefits, high doses and prolonged use can lead to serious adverse effects, including gastrointestinal disturbances, cardiovascular disorders, dermatological reactions, and retinopathy.
Discussion: Among these, hydroxychloroquine-induced retinopathy is particularly concerning due to its insidious onset and the potential for irreversible vision loss if not detected early.
Conclusion: In this study, we present a case report to evaluate the clinical features of hydroxychloroquine retinopathy, emphasizing the importance of early recognition and regular ophthalmologic screening during long-term therapy.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Hydroxychloroquine, retinopathy, ophthalmology

INTRODUCTION

Hydroxychloroquine (HCQ) is an antimalarial agent widely used in the treatment of autoimmune diseases such as rheumatoid arthritis, systemic lupus erythematosus, and Sjögren's syndrome due to its potent anti-inflammatory and immunomodulatory effects (Nirk, Reggiori, & Mauthe, 2020). Patients often present in the early stages with normal vision or even without any visual symptoms. In advanced stages of the disease, complete vision loss may occur (Modi & Singh, 2019).

Hydroxychloroquine has a toxic effect on the retina depending on the daily dose and duration of use, leading to characteristic 'Bull's-eye maculopathy,' which is characterized by photoreceptor loss and retinal pigment epithelium (RPE) changes in the macula (Mavrikakis et al., 2003; Melles & Marmor, 2014).

In this study, we present a case of retinal toxicity in a patient who had been using hydroxychloroquine long-term for the treatment of Sjögren's syndrome. Informed consent was obtained from the patient.

CASE PRESENTATION

A 62-year-old female patient diagnosed with Sjögren's syndrome presented to our clinic with complaints of blurred vision in both eyes for the past year. She had no history of any ophthalmologic disease, and her best-corrected visual acuity (BCVA) was 1.0 bilaterally in an examination conducted four years prior. Upon reviewing her medical history, it was determined that she had been taking 200 mg of oral hydroxychloroquine daily for 14 years for the treatment of Sjögren's syndrome. She had no history of using any other medication. Her BCVA was 0.3 in both the right and left eyes. Intraocular pressure (IOP) was measured as 11.0 mmHg in the right eye and 12.0 mmHg in the left eye. The pupil diameters were normal in both eyes, and both direct and indirect pupillary light reflexes were normal.

Fundoscopic examination revealed a bilateral ring of retinal pigment epithelium (RPE) atrophy surrounding the foveal region, characteristic of "bull's-eye maculopathy."

Fundus autofluorescence (FAF) imaging showed a parafoveal ring with increased fundus hyperautofluorescence and hypoautofluorescence areas corresponding to RPE atrophy in both eyes (Figure 1A, 1B).

Figure 1A

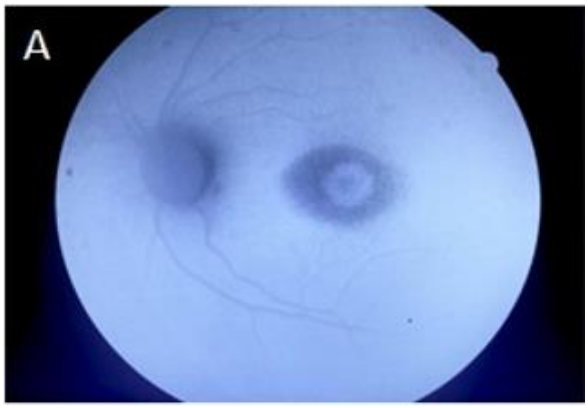
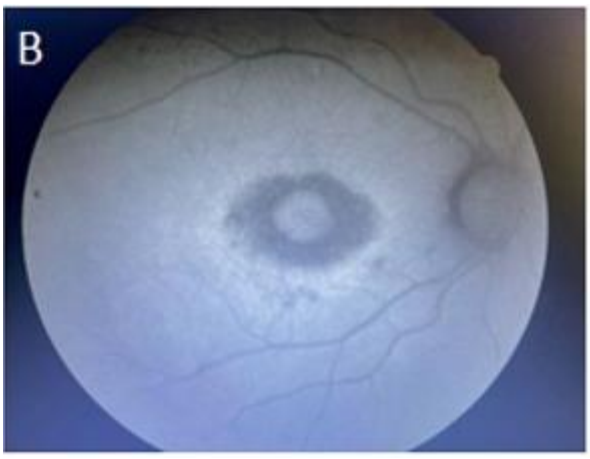


Figure 1B



Optical coherence tomography (OCT) demonstrated parafoveal loss of the ellipsoid zone, along with significant thinning of the external limiting membrane and outer nuclear layer (Figure 2A, 2B).

Figure 2A

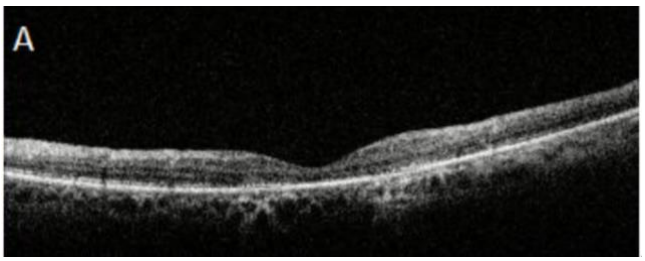
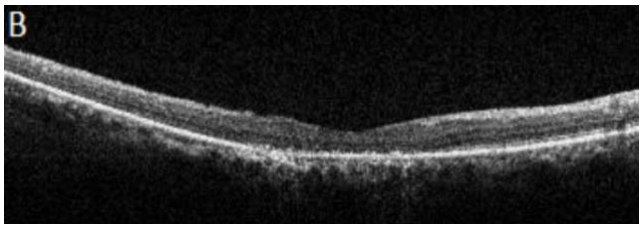


Figure 2B



Automated 10-2 visual field tests revealed paracentral scotomas in both eyes (Figure 3A, 3B).

Figure 3A

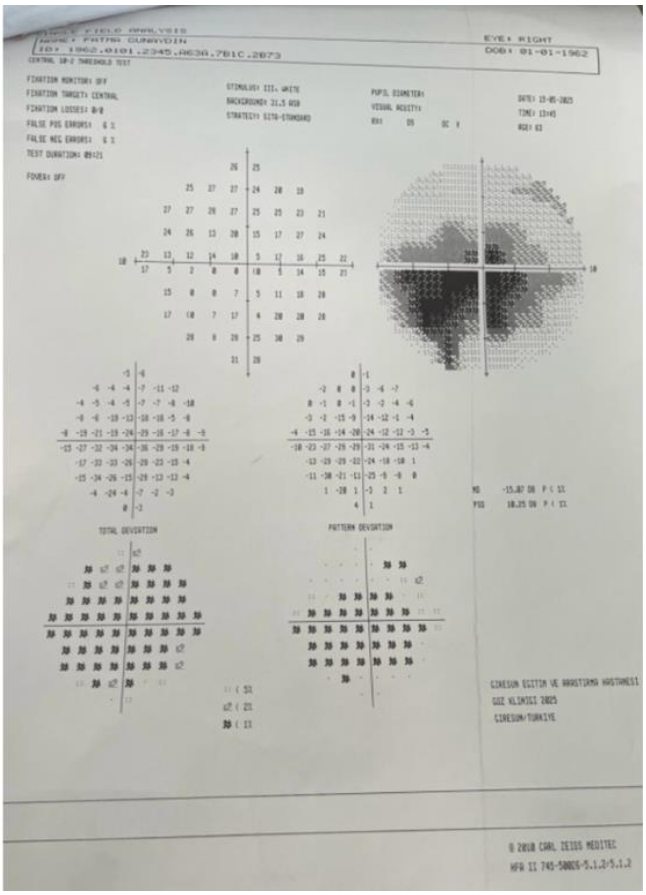
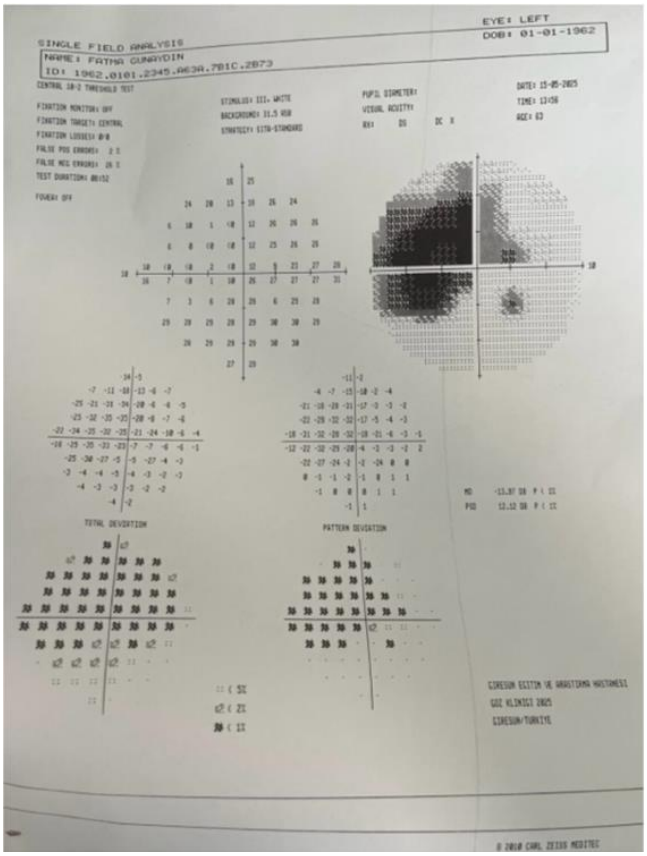


Figure 3B



Considering the suggestive features of hydroxychloroquine toxicity, the rheumatologist was informed about discontinuing hydroxychloroquine treatment and initiating an alternative medication.

DISCUSSION

The incidence of HCQ retinopathy is approximately 7.5%. The incidence is less than 1% at 5 years and less than 2% at 10 years of use (Melles & Marmor, 2014). Although HCQ retinopathy is often asymptomatic, patients may present with complaints such as blurred vision, central vision loss, photopsias, and metamorphopsia (Gbinigie & Frie, 2020; Marmor et al., 2016; Yam & Kwok, 2006). On clinical examination, abnormalities in the retinal pigment epithelium (RPE) develop. In the early stages, bull's-eye maculopathy may occur due to macular edema and/or bilateral granular depigmentation of the RPE in the macula. In the late stages, retinal arteriolar attenuation and optic disc pallor may become more pronounced (Gbinigie & Frie, 2020; Kellner et al., 2014).

According to the latest guidelines from the American Academy of Ophthalmology (AAO), the major risk factors for HCQ retinopathy include an HCQ dose exceeding 5 mg/kg adjusted body weight (ABW) or a chloroquine dose exceeding 2.3 mg/kg ABW, a treatment duration of more than 5 years, renal impairment indicated by reduced glomerular filtration rate (GFR), concomitant tamoxifen use, and pre-existing macular disease (Marmor et al., 2011; Melles & Marmor, 2014).

According to the AAO's latest guidelines, routine screening for HCQ retinopathy involves both visual field testing and spectral-domain optical coherence tomography (SD-OCT). Fundus autofluorescence (FAF) and multifocal electroretinography (mfERG) are also considered useful screening tests. When HCQ is used at an appropriate dosage, the risk of retinopathy remains low within the first 10 years of treatment. Annual screening should commence after 5 years of use if no major risk factors are present. However, in the presence of risk factors, annual screening is recommended regardless of treatment duration (Marmor, Kellner, & Lai, 2016).

CONCLUSION

Hydroxychloroquine-induced retinal toxicity is a serious and irreversible ophthalmic condition. All patients initiating hydroxychloroquine therapy should undergo a baseline ophthalmologic evaluation, followed by

annual examinations after five years of treatment. Patients using hydroxychloroquine without regular follow-up should be referred to an ophthalmology clinic for comprehensive ocular assessment.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-10 · Isolated Abducens Nerve Palsy Secondary to Diabetes in a Patient Presenting with Esotropia

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ABSTRACT

Introduction: Microvascular causes such as diabetes, hypertension, hypercholesterolemia, and hyperlipidemia are the most common etiological factors encountered in abducens nerve palsy.
Case Presentation: Although ophthalmoplegia is a rare but well-recognized complication of diabetes, studies have shown that the risk is higher in individuals with diabetes compared to non-diabetics.
Discussion: Acute ocular cranial neuropathies associated with microvascular ischemia are generally believed to resolve spontaneously within an average of 3 to 5 months.
Conclusion: However, investigating and managing microvascular risk factors is essential to prevent subsequent attacks, which may be more severe or even life-threatening.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Abducens nerve, esotropia, diabetes

INTRODUCTION

The abducens nerve (sixth cranial nerve, CN VI) innervates the lateral rectus muscle. The nucleus of the abducens nerve is located in the dorsal pons, and the nerve exits at the pontomedullary junction, passing at an angle from the petrous portion of the temporal bone. It then enters the cavernous sinus via the Dorello canal, courses beneath the internal carotid artery within the sinus, and finally enters the orbit through the superior orbital fissure to innervate the lateral rectus muscle (Ambekar et al., 2012; Geçirilmesi, 2008). Among all cranial nerves, the abducens nerve has the longest intracranial course. Dysfunction of the sixth cranial nerve can result from lesions occurring anywhere along its pathway, from the abducens nucleus in the dorsal pons to the lateral rectus muscle within the orbit. Abducens nerve palsy has an incidence of 11.3 per 100.000 individuals. It is the most common cranial neuropathy in adults, with the highest prevalence observed in individuals aged 60–70 years (Patel et al., 2004). In addition to diplopia, it may also be accompanied by headache or periorbital pain. The most common etiology of abducens nerve palsy is microvascular causes, which are particularly prevalent in older adults (Elder et al., 2016). In one study, hypertension was identified as the most frequent microvascular risk factor, present in 71% of cases, followed by diabetes (54%), hypercholesterolemia (48%), and hyperlipidemia (53%) (Sanders, Kawasaki, & Purvin, 2002). Another study reported diabetes as the most common underlying cause (Erdal, Gunes, & Emre, 2022). Other significant causes of abducens nerve palsy include trauma, demyelinating or inflammatory diseases (such as Tolosa-Hunt syndrome), infections, tumors, aneurysms, and increased intracranial pressure (Elder et al., 2016; Patel et al., 2004). Abducens nerve dysfunction results in unilateral abduction deficiency and binocular horizontal diplopia (Patel et al., 2004). Patients typically present to an ophthalmologist with new onset esotropia and diplopia. In this study, we present a case of isolated abducens nerve palsy resulting from microvascular damage secondary to diabetes.

CASE PRESENTATION

A 54-year-old female patient presented to our clinic with complaints of esotropia and diplopia in her left eye, persisting for two months. She did not report any accompanying headache or periorbital pain. There was no history of trauma, systemic malignancy, surgery, or oral/genital ulcers. Her medical history included amblyopia in the left eye and diabetes mellitus. Best-corrected visual acuity (BCVA) was 0.8 in the right eye and "2 meters per second" (mps) in the left eye. Both eyes exhibited normal direct and indirect pupillary light reflexes, and pupil size was normal. The right eye was orthotropic, while the left eye exhibited esotropia (Figure 1). Ocular motility examination revealed -2 limitation in abduction of the left eye, while upward, downward, and inward movements were normal (Figure 2). The range of eye movements were free in all directions.

Figure 1

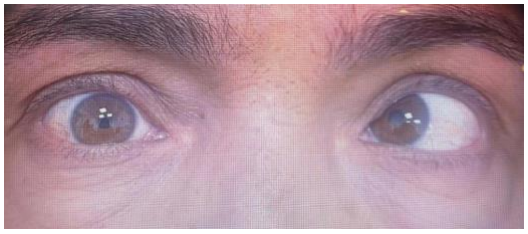
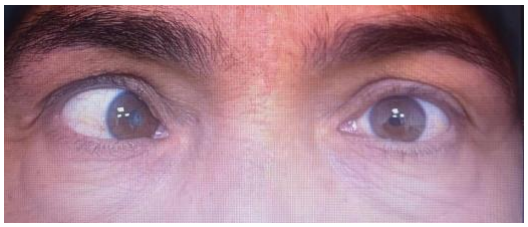


Figure 2



Upon evaluating the presence of binocular and monocular diplopia, diplopia was observed in left gaze. Slit-lamp examination revealed a normal anterior segment bilaterally. Dilated fundus examination showed microhemorrhages and exudates in the retina bilaterally, while the optic disc appeared normal (Figure 3a, 3b). The retinal findings were consistent with non-proliferative diabetic retinopathy (NPDR). Fundus fluorescein angiography (FFA) demonstrated bilateral hyperfluorescence due to microaneurysms, with no evidence of ischemia or neovascularization.

Figure 3a

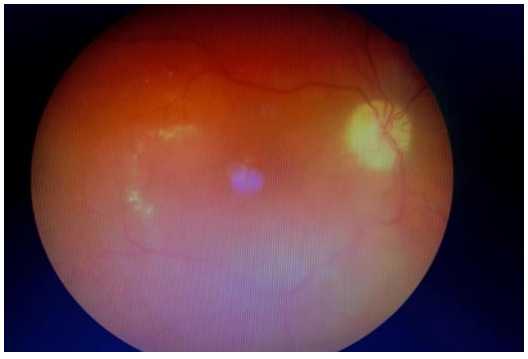
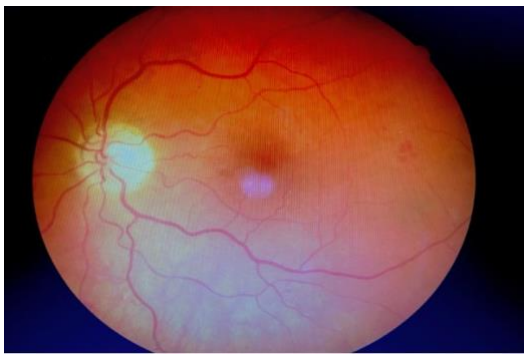


Figure 3b



The patient was diagnosed with isolated left abducens nerve palsy and was referred to the neurology clinic for further etiological evaluation.Additional laboratory tests were planned to investigate the underlying cause, including complete blood count (CBC), biochemistry panel, HbA1c, cholesterol and lipid panel, erythrocyte sedimentation rate (ESR), C-reactive protein (CRP), and serologic tests for HSV-II IgG/IgM, HSV-I IgG/IgM, and VZV IgG/IgM. Neurological examination and cranial imaging performed by the neurology clinic were evaluated as normal, and no neurological etiology was identified. Laboratory results revealed an HbA1c level of 7.50. Other laboratory results were normal.

Given the presence of uncontrolled diabetes and findings consistent with non-proliferative diabetic retinopathy (NPDR), along with the exclusion of other potential etiologies, we concluded that the isolated left abducens nerve palsy was a result of microvascular damage secondary to diabetes.Based on the fundus examination, optical coherence tomography (OCT), and fundus fluorescein angiography (FFA) findings, the patient was diagnosed with non-proliferative diabetic retinopathy, and blood glucose regulation was recommended. Close follow-up was advised for both diabetic retinopathy and left abducens nerve palsy. At the two-month follow-up examination, the previous esotropia in the left eye had regressed, and ocular movements were normal in all nine gaze positions (Figure 4). The abducens nerve palsy had resolved (Figure 5).

Figure 4

Figure 5

DISCUSSION

Although abducens nerve palsy is a common condition in neurological practice, considering its anatomical course and etiological factors, diagnosis may initially appear straightforward in isolated cases without other neurological findings. However, the presence of multiple potential etiologies with similar clinical manifestations can pose challenges in differential diagnosis. As demonstrated in various studies, the sixth cranial nerve palsy is the most frequently observed cranial nerve palsy in ophthalmoplegia (Al Kahtani et al.,

2016). The high incidence of CN VI palsy is most likely attributed to its long intracranial course, which makes it more susceptible to ischemia due to angiopathic changes (Azarmina & Azarmina, 2013). A 15-year retrospective study investigating the underlying causes of abducens nerve palsy found that 35% of cases were associated with hypertension, with diabetes being a less frequent cause. Additionally, 26% of cases were idiopathic, 7% were due to multiple sclerosis, 5% were attributed to neoplasms, and 2% were linked to aneurysms (Patel et al., 2004). Studies conducted in the United States, France, and the United Kingdom have supported the finding that the sixth cranial nerve is the most commonly affected nerve in diabetic patients (Tiffin et al., 1996; Trigler et al., 2003). Although ophthalmoplegia is a well-recognized but rare complication of diabetes, it has been reported to occur 10 times more frequently in diabetic individuals compared to non-diabetic individuals (Watanabe et al., 1990). Both NPDR and PDR with macular edema (ME) have been identified as significant risk factors for ophthalmoplegia (Al Kahtani et al., 2016; Oštrić et al., 2011). With advancements in magnetic resonance imaging (MRI), the identification of treatable etiologies such as intracranial neoplasms, aneurysms, inflammation, infections, and brainstem infarctions has become more feasible, allowing for more timely treatment of acute ocular cranial neuropathies (Lee et al., 2002). On the other hand, some researchers argue that early neuroimaging may not be necessary in cases of isolated sixth nerve palsy accompanied by vascular risk factors, suggesting that imaging should only be performed if the patient's clinical condition does not improve within three months (Chan & Albretson, 2015; Murchison et al., 2011).

Although acute ocular cranial neuropathies associated with microvascular ischemia are generally thought to resolve spontaneously within an average of 3–5 months, it is crucial to investigate and manage microvascular risk factors to prevent more severe or even life-threatening events. It should be kept in mind that abducens nerve palsy, although rare, can occur as a complication in diabetic patients.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-11 · Factors Affecting Test Anxiety Among High School Students

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ABSTRACT

Introduction: Exam anxiety is a common issue that negatively affects the mental health and academic performance of young individuals, especially in education systems that emphasize academic success. High school students are under intense academic and psychological pressure due to future-determining exams such as university entrance exams. Therefore, understanding the causes of exam anxiety is of great importance for developing psychosocial interventions that support student success. This study addresses the individual, environmental, and academic factors causing exam anxiety in high school students, in light of the literature.
Materials and Methods: Relevant literature was reviewed and analyzed.
Results: Exam anxiety is a type of anxiety characterized by intense worry, fear, tension, and physical discomfort experienced before or during an exam (Spielberger, 1980). This condition often prevents individuals from realizing their true potential and decreases academic performance.
Conclusion: Exam anxiety is a significant factor that affects students' educational life. It is observed at all educational levels and is increasingly common among today's students. Many variables affect exam anxiety, including parental attitudes, perfectionistic tendencies, doubts about one's actions, fear of making mistakes, planning, and personal standards. Perfectionism, which is thought to contribute to exam anxiety, has also been found to be associated with the student's chosen field of study and school type. Exam anxiety is a multidimensional issue that significantly impacts high school students' quality of life and academic success. As highlighted in this review, individual characteristics, family structure, the education system, and psychosocial factors determine the level of this anxiety. To reduce exam anxiety:

- Psychological counseling and guidance services should be expanded,
- Awareness and informational programs for families should be implemented,
- Exam preparation processes in schools should be better planned and supportive of students,
- Students should receive training in time management, coping with stress, and exam strategies.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

High school, exam anxiety, academic success

INTRODUCTION

Test anxiety is a prevalent issue that adversely affects the mental health and academic performance of young individuals, especially within education systems that emphasize academic success. High school students face significant academic and psychological pressure due to pivotal examinations like university entrance tests.

Understanding the causes of test anxiety is crucial for developing psychosocial interventions that support student achievement. Test anxiety is typically examined through two primary dimensions:

- Cognitive Dimension: Fear of failure, negative thoughts, and difficulty concentrating.
- Emotional/Physiological Dimension: Physical symptoms such as heart palpitations, sweating, nausea, and muscle tension.

This study explores the individual, environmental, and academic factors contributing to test anxiety among high school students, informed by existing literature.

MATERIALS AND METHODS

A retrospective research method was employed to systematically evaluate studies on test anxiety. National and international research published over the past decade were reviewed and comparatively analyzed to identify current trends, influencing factors, and intervention approaches related to test anxiety. A retrospective research method was employed to systematically evaluate studies on test anxiety. National and international research published over the past decade were reviewed and comparatively analyzed to identify current trends, influencing factors, and intervention approaches related to test anxiety.

RESULTS

Test anxiety is characterized by intense worry, fear, tension, and physical discomfort experienced before or during examinations (Spielberger, 1980). This condition often hinders students from demonstrating their true potential, leading to decreased academic performance. The two main dimensions of test anxiety are:

- Cognitive Dimension: Fear of failure, negative thoughts, and difficulty concentrating.
- Emotional/Physiological Dimension: Physical symptoms such as heart palpitations, sweating, nausea, and muscle tension.

Factors Influencing Test Anxiety

1. Individual Factors:
   - Self-Esteem and Confidence: Students with low self-esteem are more prone to experiencing test anxiety (Erözkan, 2004).
   - Perfectionism: Students who set unrealistic expectations for their performance tend to have higher anxiety levels.
   - Fear of Failure: Viewing exams as life-defining events increases pressure and triggers anxiety.
2. Family Factors:
   - Parental Pressure and Expectations: High expectations from parents are associated with increased test anxiety in children (Öner & Le Compte, 1985).
   - Family Communication: Emotional support from family members correlates with lower anxiety levels in students.
   - Socioeconomic Status: Limited resources and uncertainty about the future in low-income families can heighten test anxiety.
3. School and Teacher Factors:
   - Exam-Centric Education System: The significant impact of university entrance exams on future prospects creates substantial pressure on students.
   - Teacher Attitudes: Overly authoritarian or failure-focused teaching approaches can instill feelings of inadequacy in students.
   - Competitive Environment: Intense competition within the classroom may lead to self-worth concerns among students.
4. Psychological and Social Factors:
   - Peer Relationships: Lack of social support or peer pressure can exacerbate anxiety in students.
   - Depression and Anxiety: Existing psychological issues can intensify during exam periods, reinforcing test anxiety (Baltaş & Baltaş, 2008).
   - Time Management and Exam Preparation: Inadequate study plans and preparation can undermine self-confidence and increase anxiety.

CONCLUSION

The findings indicate that test anxiety is not attributed to a single cause but results from a combination of individual, familial, and environmental factors. Variables such as parental attitudes, attachment styles, self-efficacy beliefs, perceived social support, study habits, and gender significantly influence test anxiety levels. Notably, parental attitudes and the level of support perceived from the family play a crucial role in shaping students' anxiety levels. These insights underscore the necessity of addressing test anxiety through a multidimensional approach that considers both internal processes and interactions with the immediate environment.

Test anxiety is a significant concern affecting students' educational experiences across all levels. Multiple factors, including parental attitudes, perfectionist tendencies, self-doubt, fear of making mistakes, study habits, and personal standards, influence the prevalence of test anxiety. Additionally, perfectionist attitudes are linked to the chosen academic track and typeof school attended.

Given the multifaceted nature of test anxiety and its impact on high school students' quality of life and academic success, the following measures are recommended:

- Expand access to psychological counseling and guidance services.
- Conduct informational and awareness programs for parents.
- Implement structured and supportive exam preparation processes within schools.
- Provide students with training on time management, stress coping mechanisms, and exam strategies.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-12 · Herpes Zoster in a Young Adult: A Case Report

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ABSTRACT

Introduction: Varicella-zoster virus (VZV) is a neurotropic alpha-herpesvirus responsible for varicella (chickenpox) as a primary infection. Following this, the virus remains latent in dorsal root ganglia and can reactivate later in life, particularly with advancing age or immunosuppression, leading to herpes zoster (shingles). Herpes zoster typically presents as painful, vesicular eruptions following a dermatomal distribution. While the rash resolves within 1–2 weeks, pain may persist longer. This case report describes herpes zoster in a healthy 22-year-old female.

Case Presentation: The patient presented with a 3-day history of burning pain and erythematous, fluid-filled vesicles on the right chest. She reported mild fever (37.8°C), fatigue, and significant emotional stress in the previous month. She had a history of childhood varicella but no chronic illness or immunosuppressive treatment. Physical examination revealed grouped vesicles along the T5–T6 dermatomes and mild right axillary lymphadenopathy. Neurological examination was normal. Laboratory findings included mild leukocytosis and elevated CRP. Positive VZV IgM confirmed active infection, and VZV IgG supported past varicella exposure. Clinical presentation and dermatomal distribution helped exclude alternative diagnoses such as herpes simplex or contact dermatitis. The patient was treated with valacyclovir 1000 mg three times daily for 7 days. NSAIDs and topical lidocaine were prescribed for pain. By the third day, vesicles had begun to crust, and pain had significantly improved. By day 7, lesions had fully resolved without postherpetic neuralgia. Discussion: This case emphasizes that herpes zoster can occur in young, immunocompetent individuals. Psychological stress likely contributed to VZV reactivation. Prompt antiviral therapy helped prevent complications.

Conclusion: Herpes zoster should be considered even in healthy young adults. Stress may play a significant role in triggering reactivation. Early diagnosis and antiviral treatment are essential for improving outcomes and preventing complications.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Herpes zoster, young adult, stress, antiviral therapy, dermatomal rash

INTRODUCTION

Varicella-zoster virus (VZV) is a neurotropic alpha-herpesvirus specific to humans. Primary infection causes varicella (chickenpox), after which the virus remains latent in dorsal root ganglia. With advancing age and immunosuppression, cell-mediated immunity against VZV declines, leading to viral reactivation causing herpes zoster (shingles). Herpes zoster is characterized by painful, dermatomal-distributed vesicular eruptions on an erythematous base affecting one to three dermatomes. While the rash typically resolves within 1-2 weeks, complete pain relief usually takes 4-6 weeks (Centers for Disease Control and Prevention [CDC], n.d.; Gilden, Nagel, & Cohrs, 2014). This case report presents herpes zoster in a 22-year-old young female patient.

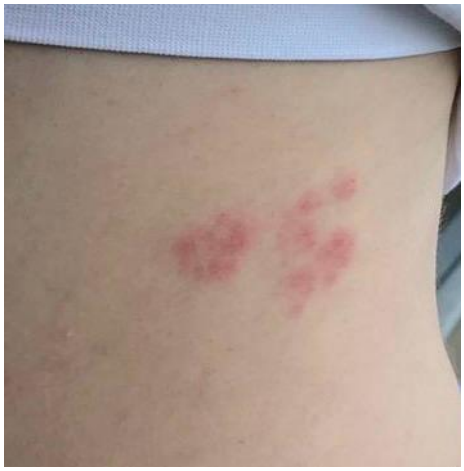
MATERIALS AND METHODS

The patient was evaluated through detailed medical history, physical examination, and relevant laboratory investigations. Dermatological assessment focused on lesion morphology and dermatomal distribution. Routine blood tests including complete blood count (CBC) and Creactive protein (CRP) were performed. Serological testing for varicella-zoster virus (VZV IgM and IgG) was conducted to confirm viral reactivation. A clinical diagnosis of herpes zoster was made based on typical cutaneous findings and supported by laboratory data. Antiviral and symptomatic treatments were initiated, and follow-up was conducted to monitor clinical progression and response to therapy.

RESULTS

A 22-year-old female presented with a 3-day history of burning pain in the right chest region, followed by the appearance of erythema and fluid-filled vesicles in the same area (Figure 1).

Figure 1



She reported mild fever (37.8°C) and fatigue. Her medical history revealed childhood varicella infection. She had no chronic diseases or immunosuppressive therapy. The patient reported exposure to intense stress during the past month.

Physical examination revealed grouped vesicles on an erythematous base distributed along the T5-T6 dermatomes in the right axillary region. Lesions showed typical dermatomal distribution. Mildly tender 1 cm lymphadenopathy was palpable in the right axillary region. Neurological examination was normal. Laboratory tests showed mild leukocytosis (WBC: $10.8\times10^3/\mu L$) with lymphocytic predominance. CRP was slightly elevated (12 mg/L). Positive VZV IgM indicated active infection, while positive VZV IgG supported prior varicella infection. The dermatomal distribution and characteristic clinical presentation helped exclude other vesicular rash etiologies like herpes simplex, contact dermatitis, and bullous impetigo. The patient was treated with valacyclovir 1000 mg three times daily for 7 days. NSAIDs were prescribed for pain control, along with topical 2% lidocaine gel. The patient was educated about lesion contagiousness. By day 3 of treatment, significant pain reduction and vesicle drying were observed. Complete crusting and healing occurred by day 7, with no postherpetic neuralgia developing.

DISCUSSION

This case demonstrates that stress may be a significant risk factor for herpes zoster development in young adults. Despite no evidence of immunodeficiency, intense stress likely triggered VZV reactivation. Early antiviral treatment prevented complications.

CONCLUSION

Herpes zoster can occur in young adults and significantly impacts quality of life. Stress management and early antiviral therapy play crucial roles in disease management. This case highlights the importance of diagnostic and therapeutic approaches for zoster in young patients.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial or personal conflict of interest in this study.

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EBFMC25-OP-13 · Thyroglossal Duct Cyst: A Case Report from the Perspective of Family Medicine

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ABSTRACT

Introduction: Thyroglossal duct cyst (TGDC) is a common congenital cervical anomaly in children, resulting from the incomplete involution of the thyroglossal duct during embryological development. It typically presents as a painless, midline neck mass that moves with swallowing or tongue protrusion. Although often asymptomatic, secondary infection may lead to tenderness, erythema, and purulent discharge.

Case Presentation: We report a case of a 5.5-year-old male who presented to a family medicine clinic with a two-week history of anterior neck swelling. The physical examination revealed a mobile, non-tender, 1×0.4 cm midline mass that moved with swallowing and tongue movement. Thyroid function tests and inflammatory markers were within normal limits. Ultrasonographic evaluation confirmed a thyroglossal duct cyst along with small cervical lymph nodes. Initially, the patient was managed conservatively and referred to otolaryngology.

Discussion: One month later, the patient developed local discharge, and examination revealed spontaneous fistulization of the cyst. Antibiotics were initiated, and surgical excision was planned by pediatric surgery.

Conclusion: TGDC is a benign but potentially complicated anomaly if left untreated. Family physicians play a key role in early detection, differentiation from other neck masses, and timely referral to surgical care. This case highlights the importance of a structured clinical approach in managing pediatric neck swellings in primary care settings.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Family medicine, thyroglossal duct cyst, congenital neck mass, ultrasonography in neck masses

INTRODUCTION

Thyroglossal duct cyst (TGDC) is the most common congenital anomaly of the neck, accounting for approximately 70% of all congenital cervical masses. It arises from the incomplete involution of the embryonic thyroglossal duct. Clinically, TGDC typically presents as a painless, midline neck mass that moves with swallowing or tongue protrusion. While often asymptomatic, infection may lead to swelling, redness, tenderness, and, in some cases, fistula formation. Early diagnosis and proper management are essential to prevent complications such as recurrent infections or the rare potential for malignant transformation. Family medicine physicians, who frequently serve as the first point of contact in the healthcare system, must be

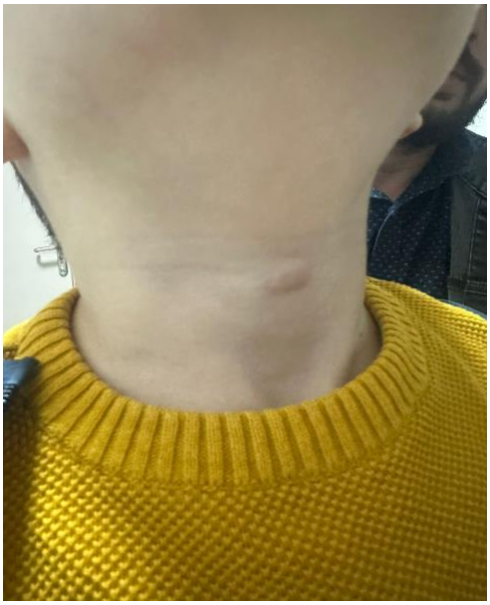
vigilant in evaluating such presentations to ensure timely diagnosis and referral. This case report presents a pediatric patient diagnosed with a thyroglossal duct cyst and underscores the role of family physicians in the early recognition and management of congenital neck masses.

CASE PRESENTATION

A 5.5-year-old male child was brought to the family medicine clinic with a two-week history of a painless anterior neck swelling, noticed by his parents. The patient had no recent upper respiratory tract infection, fever, difficulty in breathing, or systemic symptoms. There was no history of radiation exposure or significant familial medical conditions.

On physical examination, a soft, mobile, non-tender 1 × 0.4 cm mass was palpated slightly left of the midline in the anterior neck region (Figure 1). The mass moved with both swallowing and tongue protrusion. No overlying skin changes were observed.

Figure 1



Laboratory investigations revealed normal thyroid function tests (TSH, T4) and negative infection markers. Cervical ultrasonography confirmed the presence of a thyroglossal duct cyst and demonstrated small bilateral cervical lymph nodes (<3 cm).

The patient was referred to the otolaryngology clinic, where empirical oral antibiotic therapy was initiated, and a follow-up neck ultrasound was scheduled.

At the one-month follow-up, no significant changes were observed in the size of the cyst or lymph nodes. However, two days after the follow-up, the patient presented to the pediatric outpatient clinic with discharge from the cyst site. Clinical examination showed abscess formation with spontaneous fistulization and drainage.

Oral antibiotic therapy was continued, and surgical excision was subsequently recommended by the pediatric surgery department.

DISCUSSION

Thyroglossal duct cysts (TGDCs) are frequently encountered congenital anomalies of the neck, particularly in the pediatric population. They typically present as painless midline neck masses that move with swallowing or tongue protrusion. While often asymptomatic, infection is a well-recognized complication that can alter the clinical course, leading to abscess formation, fistulization, or airway compromise in more severe presentations.

In our case, the initial presentation was consistent with a non-infected, uncomplicated cyst. However, despite early conservative management, the lesion progressed to infection and spontaneous fistulization. This progression illustrates the unpredictable nature of TGDCs and highlights the need for close clinical follow-

up, especially in children. Ultrasonography remains the imaging modality of choice, not only for confirming the diagnosis but also for differentiating TGDC from other midline neck masses such as dermoid cysts, ectopic thyroid tissue, and cervical lymphadenopathy.

Our case is consistent with data from recent literature. In a 2022 systematic review involving 47 TGDC cases, it was reported that the majority (approximately 64%) of patients were under 10 years of age. While most presented with typical asymptomatic masses, around 15% developed secondary infections, some of which progressed to fistula formation — findings which mirror the clinical course observed in our patient (Taha et al., 2022). This supports the assertion that TGDCs can have variable clinical trajectories even with timely primary care management. For family physicians, maintaining a high index of suspicion for TGDC in any child presenting with a midline neck mass is crucial. Prompt recognition of infection, initiation of empirical antibiotics, and timely referral for surgical evaluation are key to avoiding complications and ensuring optimal outcomes. This case underscores the value of a structured, collaborative approach between primary care and specialty services in managing pediatric neck masses.

CONCLUSION

Thyroglossal duct cysts, while often benign and asymptomatic, can exhibit an unpredictable clinical course, particularly when secondary infection occurs. This case highlights the essential role of family physicians in the initial recognition and evaluation of midline neck masses in children. A careful physical examination, supported by appropriate imaging, is key to differentiating TGDC from other cervical pathologies. Prompt initiation of empirical therapy in cases with signs of infection and timely referral for surgical consultation are critical steps in preventing complications such as fistulization or recurrence.

Collaboration between primary care and specialist services not only ensures accurate diagnosis and definitive treatment but also contributes to improved patient outcomes. This case exemplifies the importance of vigilance, early intervention, and interdisciplinary coordination in the management of congenital neck masses in pediatric patients.

ACKNOWLEDGMENTS

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CONFLICT OF INTEREST DECLARATION

The authors declare no commercial, financial, or personal conflicts of interest related to this study.

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EBFMC25-OP-14 · Tenosynovial Giant Cell Tumor of the Knee Joint: A Case Report

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ABSTRACT

Introduction: Joint pain is a common complaint among patients presenting to hospitals. Knee pain, in particular, may arise from various etiologies, including degenerative joint diseases, infections, rheumatologic, and hematologic disorders. This case report discusses a rare cause of joint pain: Tenosynovial Giant Cell Tumor (TGCT).

Case Presentation: A 43-year-old male patient diagnosed with TGCT, a condition with an incidence of 9.2 per million in the United States, presented to the hospital for the first time due to complaints that had persisted for approximately three years (Heijden et al., 2012). As the initial magnetic resonance imaging (MRI) could not establish a definitive diagnosis despite symptoms of swelling and pain, the patient sought repeated consultations from different specialties.

Discussion: Finally, upon presenting to our clinic, a thorough clinical evaluation and imaging assessment suggested a preliminary diagnosis of TGCT, prompting the decision for surgical intervention. During arthroscopic surgery, characteristic findings of TGCT were identified, and the biopsy results confirmed the preliminary diagnosis (Fang & Zhang, 2020). Following the debridement procedure, a significant improvement in the patient's symptoms was observed.

Conclusion: Through meticulous physical examination, detailed medical history assessment, and comprehensive imaging studies, an accurate diagnosis was established at the patient's initial visit to our clinic, allowing for timely treatment. Consequently, even in the context of a rare disease, unnecessary diagnostic tests and repeated consultations were avoided, ensuring an efficient allocation of resources and a cost-effective treatment process.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Tenosynovial, knee, knee pain, tenosynovial giant cell tumor

INTRODUCTION

Tenosynovial Giant Cell Tumor (TGCT) is a locally aggressive neoplastic synovial disease that occurs in the synovium, tendon sheath, and bursal structures. Although the exact etiology is not fully understood, it is believed to be caused by reactive inflammatory processes (Arkun, 2014). Extra-articular involvement of the tendon sheath is pathologically equivalent to giant cell tumor. The disease is characterized by synovitis, joint effusions, synovial hypertrophy, and bone erosions (Triplet & O'Donnell, 2025). It typically begins as a small focal mass in the synovium and can grow to involve the entire joint. It is most commonly observed in individuals aged 30-40 years and occurs equally in both men and women. Although rare, the incidence in the United States is 9.2 per million (Heijden et al., 2012). The knee is the most frequently affected joint, but the hip, ankle, shoulder, and elbow may also be involved. The disease usually affects a single joint. Initially presenting with swelling, it may progress to include pain, functional loss, and other symptoms over time (Ottaviani et al., 2011). In addition to clinical findings, diagnostic arthroscopy and pathological evaluation are crucial for diagnosis. Treatment options include both surgical and non-surgical methods. Asymptomatic patients may be monitored. Non-surgical treatment options include CSF-1 receptor antagonists (Aurégan et al., 2014). Surgical intervention may involve partial or total synovectomy (Fang & Zhang, 2020). Additionally, adjuvant radiotherapy may reduce recurrence rates (Aurégan et al., 2014). However, the disease may recur even after complete synovectomy (Heijden et al., 2012). A complication of the disease may be joint destruction, which could require arthroplasty or arthrodesis. In this article, we present a case of a patient who had symptoms for approximately three years and sought care from multiple specialists (Figures 1-4).

Figure 1
2022 Axial

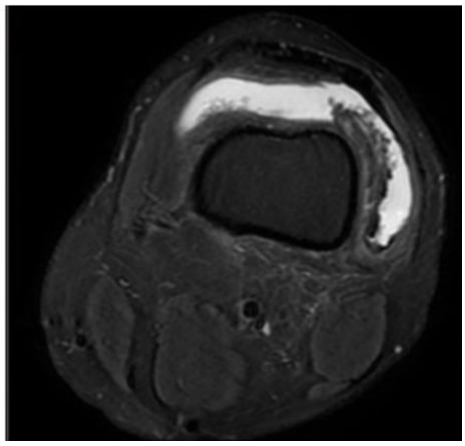


Figure 2
2025 Axial

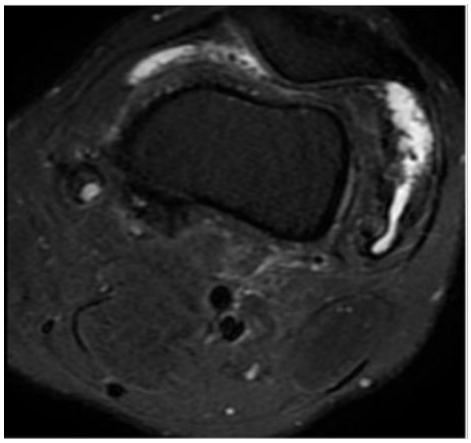


Figure 3
2022 Sagittal

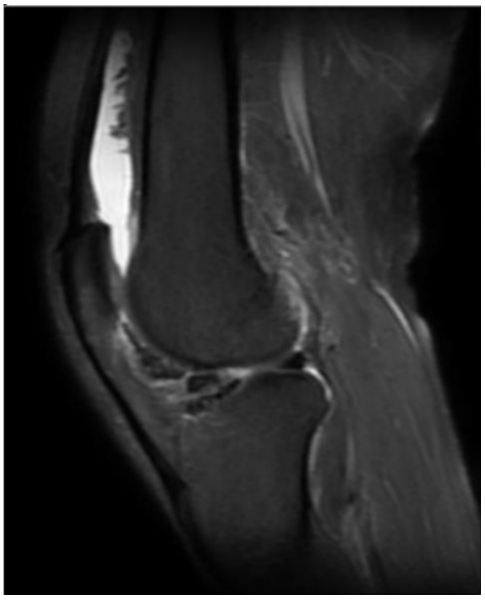
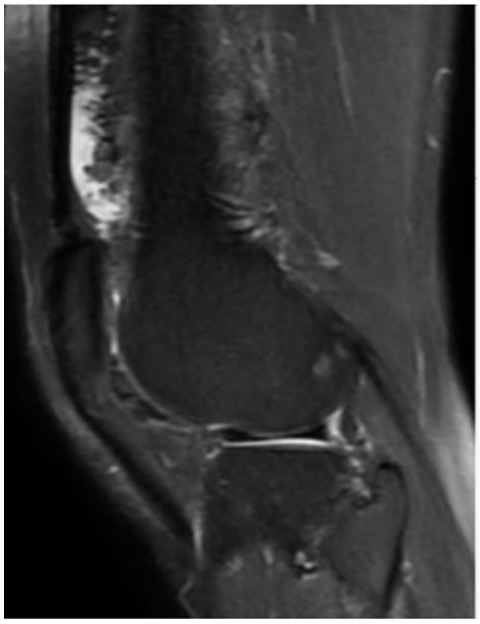


Figure 4
2025 Sagittal



CASE PRESENTATION

A patient presented to our clinic with recurrent swelling and pain in the left knee. The patient's history revealed that the knee had undergone several aspirations due to similar symptoms and intra-articular hyaluronic acid injections were administered at two different time points. Three years ago, the patient had presented with similar symptoms but was not diagnosed and had also consulted physical therapy and rheumatology clinics. Upon presentation to our clinic, the patient not only had swelling and pain but also experienced functional loss. The range of motion in the knee joint was restricted to 30 degrees in flexion and 15 degrees in extension. MRI imaging was evaluated as suggestive of Tenosynovial Giant Cell Tumor (PVNS) (Triplet & O'Donnell, 2025). The intraoperative findings obtained through arthroscopic debridement and excision supported the diagnosis, and pathological examination confirmed it (Fang & Zhang, 2020) (Figures 5 and 6). After total synovectomy, the patient's pain and swelling symptoms disappeared, functional recovery was achieved, and the range of motion returned to normal. During the three-month follow-up period, the patient's overall

condition remained good, and the patient is being monitored due to the possibility of recurrence, as seen in late-stage cases (Fang & Zhang, 2020).

Figure 5
Intraoperative imaging

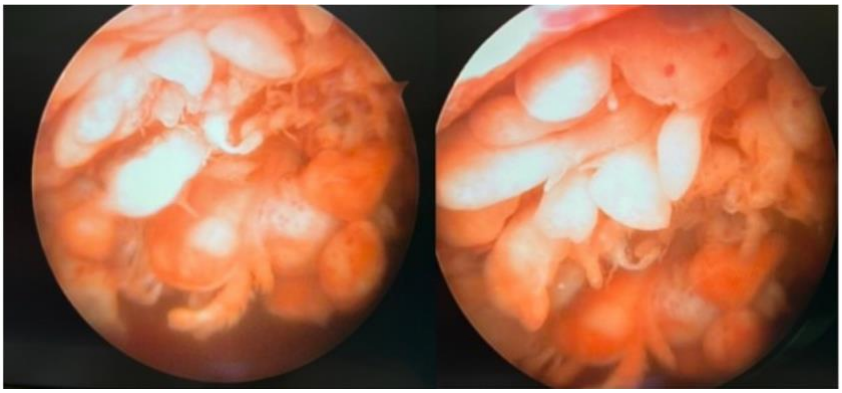
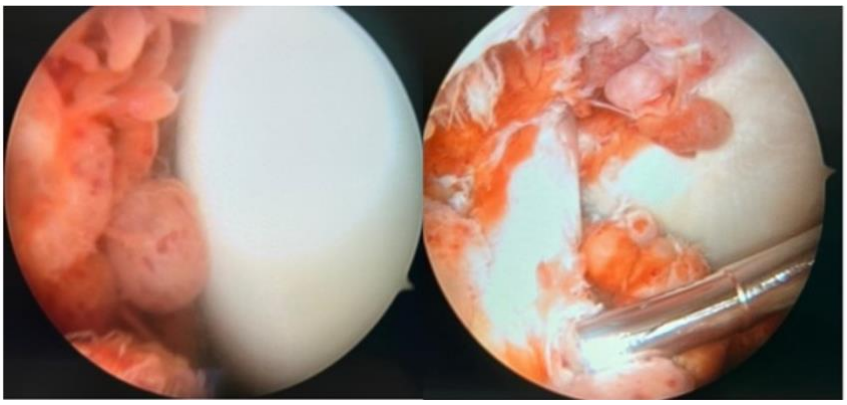


Figure 6
Intraoperative imaging



DISCUSSION

At the patient's initial presentation to our clinic, a preliminary diagnosis of Tenosynovial Giant Cell Tumor (TGCT) was established. The patient, who was found to have the diffuse form of TGCT, underwent a total synovectomy via arthroscopic surgery. According to Fang and Zhang, although the outcomes of arthroscopic and open surgical techniques are similar, the recurrence rate in the diffuse form is higher compared to the localized form (Fang & Zhang, 2020). Poutoglidou et al. reported that the diagnosis of the disease is often delayed by an average of five years (Poutogliodu et al., 2020). In the present case, the diagnosis could be established three years after the onset of symptoms. Fang and Zhang also stated that histopathological examination is the gold standard for definitive diagnosis. In our patient, the diagnosis of Tenosynovial Giant Cell Tumor was confirmed by a biopsy sample obtained intraoperatively.

Tenosynovial Giant Cell Tumor must be considered in the differential diagnosis of patients with chronic joint swelling and pain. Increasing awareness of Tenosynovial Giant Cell Tumor can facilitate the diagnosis and treatment process; early diagnosis can help avoid unnecessary imaging techniques and specialist consultations, leading to a cost-effective treatment approach (Fang & Zhang, 2020).

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial or personal conflict of interest in this matter.

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EBFMC25-OP-15 · A Case of Anaphylaxis After Ibuprofen Use

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ABSTRACT

Introduction: Anaphylaxis is a potentially life-threatening hypersensitivity reaction that may be triggered by immunoglobulin E (IgE) or non-IgE mediated mechanisms. Non-steroidal anti-inflammatory drugs (NSAIDs) are known to provoke anaphylaxis via direct mast cell activation, even in previously undiagnosed patients.
Case Presentation: We report a case of a 17-year-old adolescent male who developed anaphylaxis following ibuprofen ingestion. The clinical diagnosis was supported despite a normal serum tryptase level, and the patient was treated successfully with intramuscular adrenaline.
Conclusion: This case emphasizes the importance of early recognition, prompt treatment, and long-term individualized management in adolescents.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Adolescent, anaphylaxis, epinephrine, ibuprofen, NSAIDs

INTRODUCTION

Anaphylaxis is an acute, life-threatening systemic hypersensitivity reaction caused by the sudden release of mediators from mast cells and basophils (Turner et al., 2019). The majority of anaphylactic reactions are mediated by immunoglobulin E (IgE), with the most frequent triggers being foods, medications, and insect stings (Simons et al., 2015). However, some cases of anaphylaxis may occur via non-IgE-mediated mechanisms. Notably, non-steroidal anti-inflammatory drugs (NSAIDs) can induce angioedema and anaphylaxis through direct activation of mast cells (Kemp et al., 2023).

The diagnosis of anaphylaxis is primarily clinical, based on the acute onset of skin and/or mucosal symptoms (such as urticaria or angioedema), along with at least one systemic involvement.

These systemic findings may include:

- Gastrointestinal system (GI): crampy abdominal pain, nausea, vomiting, diarrhea
- Respiratory system: dyspnea, wheezing, laryngeal edema, stridor, hypoxia
- Cardiovascular system: end-organ damage, tachycardia, hypotension, syncope

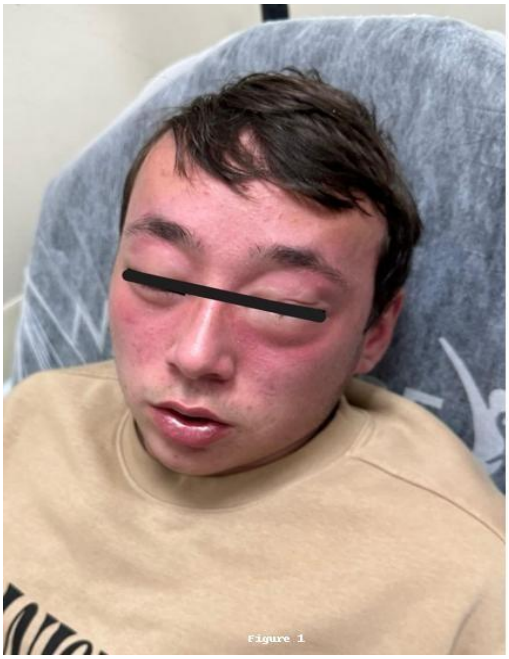
In patients with previously identified allergies, the presence of systemic signs such as hypotension, bronchospasm, or laryngeal edema -even in the absence of cutaneous findings- is sufficient to support the diagnosis of anaphylaxis (Muraro et al., 2014). The first and most critical step in anaphylaxis treatment is intramuscular epinephrine administration, and early intervention significantly affects patient outcomes. Long-term management of anaphylaxis includes allergen avoidance, specialist follow-up, and the prescription of an epinephrine auto-injector (Kemp et al., 2023).
This case report presents a 17-year-old adolescent who developed anaphylaxis following ibuprofen intake and had a previous history of similar reactions.

CASE PRESENTATION

A 17-year-old male presented to the emergency department (ED) with symptoms of upper respiratory tract infection and was prescribed an over-the-counter cold remedy containing ibuprofen. Approximately 30 minutes after ingesting the medication, the patient developed facial and lip angioedema and returned to the ED (Figure 1).

Figure 1

Facial and lip angioedema observed at initial emergency department presentation



Upon presentation, his vital signs were stable: blood pressure 120/70 mmHg and heart rate 110 bpm. Physical examination revealed no uvular edema, and breath sounds were normal. Initial treatment included 40 mg of intravenous pheniramine and 60 mg of prednisolone. However, within 10 minutes, the patient reported a sensation of throat tightness. Given the clinical presentation, the diagnostic criteria for anaphylaxis were met, and 0.5 mg of intramuscular adrenaline was promptly administered into the anterolateral thigh. Symptoms improved markedly following adrenaline administration (Figures 2 and 3).

Figure 2

Clinical appearance at the 10th minute following intramuscular adrenaline administration

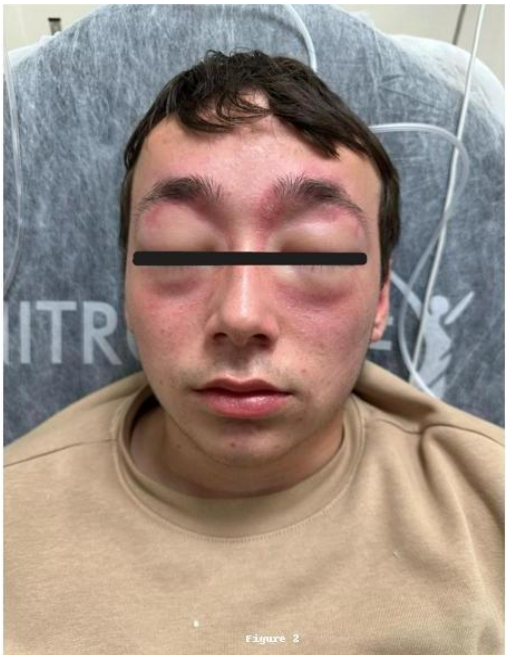


Figure 3

Patient's condition at the fifth hour of clinical observation

In light of the risk of biphasic anaphylaxis, the patient was admitted to the pediatric unit for close observation with continuous cardiac monitoring. During follow-up, vital signs remained stable, and laboratory analysis revealed a serum tryptase level of 6.60 ng/mL. Further history revealed a prior occurrence of similar symptoms after NSAID intake. Following full resolution of symptoms, the patient was discharged after 24 hours with a referral to the pediatric allergy and immunology clinic.

Written informed consent was obtained from the patient's legal guardian.

DISCUSSION

This case highlights that NSAIDs can trigger anaphylaxis through non-IgE-mediated pathways. These drugs are widely used and often accessible without a prescription, particularly among adolescents. While NSAIDs inhibit cyclooxygenase (COX) enzymes to reduce inflammation, they can also destabilize mast cells and promote degranulation, leading to potentially life-threatening reactions in sensitized individuals (Kemp et al., 2023).

Although laboratory tests such as serum tryptase may support the diagnosis, anaphylaxis remains a clinical diagnosis. Tryptase is typically elevated in IgE-mediated reactions but may remain normal in non-IgE-mediated cases. Thus, a normal tryptase level does not rule out the diagnosis. In this case, despite normal tryptase, the clinical findings warranted urgent intervention.

Timely administration of intramuscular adrenaline is critical for effective anaphylaxis management. Patients should be monitored for at least 4–6 hours due to the risk of biphasic reactions; in high-risk cases, observation up to 24 hours is recommended (Tole & Lieberman, 2007).

Awareness of anaphylaxis tends to be limited among adolescents, who may underestimate the clinical significance of previous mild reactions or drug exposures. Comprehensive history-taking and education on the proper use of epinephrine auto-injectors are essential for both patients and caregivers to prevent recurrence (Simons et al., 2015).

NSAID-induced anaphylaxis is not uncommon and must be considered in pediatric and adolescent patients presenting with acute allergic reactions. The diagnosis of anaphylaxis is primarily clinical, and immediate administration of epinephrine is lifesaving. This case underscores the importance of early recognition, rapid intervention, and individualized long-term management. In individuals with a documented history of hypersensitivity reactions, repeated exposure may lead to severe consequences; therefore, management plans should be carefully tailored to mitigate future risk and prevent recurrence.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial or personal conflict of interest in this study.

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EBFMC25-OP-16 · The Barking Girl: Psychogenic Cough Case

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Oral Presentation #16 *was presented at the 3rd International Eastern Black Sea Family Medicine Congress, held in Ordu, Türkiye, on May 22–24, 2025, and is part of the proceedings titled: Proceedings of the 3rd International Eastern Black Sea Family Medicine Congress.*

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ABSTRACT

Introduction: A 7-year-old girl presented with 2-month history of continuous coughing; despite detailed anamnesis and physical examination, no organic cause was found. The cough was barking, explosive, unproductive, and was reported not to be during sleep. As a result of detailed anamnesis, physical examination and auxiliary laboratory tests, no organic pathology was detected.

Case Presentation: Considering the provisional diagnosis of a psychogenic cough, she was advised for psychiatry consultation. After psychiatric evaluation, selective mutism and anxiety disorder were detected. She was initially treated with behavioral therapy. Fluoxetine was added to her treatment because she did not show the expected progress with treatment.

Discussion: There was a significant improvement in her symptoms at 1-month follow-up. Improvement continued at subsequent follow-ups.

Conclusion: This case emphasizes the importance of considering psychogenic cough in patients with chronic cough. It also demonstrates the necessity of identifying and treating comorbid psychiatric problems in the management of psychogenic cough.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Chronic cough, Diagnosis of exclusion, Psychogenic cough

INTRODUCTION

Psychogenic cough, a type of chronic cough, is a diagnosis of exclusion that must be determined after careful and comprehensive evaluation (Irwin, Glomb, & Chang, 2006). In psychogenic cough, no organic cause can be determined, the cough is barking and non-productive. It is not seen during sleep or when the person's attention is elsewhere. The cough increases in intensity in the presence of other people or when the patient realizes being observed. The cough is not suppressed by any medication and does not worsen with laughing, crying, exertion, etc (Pierce & Watson, 1998).

CASE PRESENTATION

A seven-year-old girl was admitted with a cough that had been ongoing for 2 months. It was learned that the cough was dry and usually did not occur while sleeping. There was no other complaint such as fever, sore throat, etc. in her history. Her occasional coughs in the outpatient clinic were barking. When talking to the patient, it was observed that her cough had stopped, and her eyes remained open during coughing. Her percentiles were within the age-appropriate range. Her physical examination was normal. Infection parameters were negative in blood tests, and her chest X-ray was normal. A child psychiatry evaluation was requested with a preliminary diagnosis of psychogenic cough in the patient. After psychiatric evaluation, selective mutism and anxiety disorder were detected. Initially, behavioral therapy was applied. Since she did not show the expected progress with the treatment, fluoxetine was added to her treatment. There was a significant improvement in her symptoms at 1-month follow-up. Improvement continued in subsequent follow-ups and her complaint resolved within 2.5 months.

DISCUSSION

The prevalence of psychogenic cough is a matter of debate in the literature, and it is reported to be seen in 3-10% of children with chronic cough (Irwin, Glomb, & Chang, 2006). The diagnosis of psychogenic cough, which is more common in girls, is a diagnosis of exclusion (Irwin et al., 1998). Psychogenic cough has its own characteristics; it is noisy, explosive and does not produce phlegm. It increases when attention is directed to the person, is unresponsive to multiple drug therapy, occurs only when awake and disappears in the absence of the parent or doctor (Braman, 2006). In our case, the cough of our seven-year old girl was harsh, hard and dry and was absent during sleep.

It has been reported in the literature that children with psychogenic cough may have an underlying psychiatric disorder, the most common being conversion disorder (21.9%) and mixed anxiety and depressive disorder (12.2%) (Bhatia, Chandra, & Vaid, 2002). Our case was also diagnosed with selective mutism and anxiety disorder after child psychiatry evaluation. There is no approved medication for the treatment of psychogenic cough. The most commonly recommended treatment methods in these cases are suggestion therapy, hypnosis, reassurance and counseling. Studies have shown that selective serotonin reuptake inhibitors are effective in the presence of comorbid anxiety disorders (Jakati, Naskar, & Khanna, 2017). In our case, a combined treatment approach with suggestion and SSRI was applied and a response was obtained.

In children presenting with chronic cough, a good analysis of the cough character, detailed anamnesis and physical examination are extremely helpful in the diagnosis of psychogenic cough. In addition, child psychiatry evaluation is necessary for common psychosocial problems such as anxiety, depression and family problems in these patients.

CONCLUSION

In conclusion, in psychogenic cough, a good understanding of the cough characteristics, detailed physical examination and follow-up are essential for diagnosis. In addition, child psychiatry evaluation is required to determine the psychiatric problems that may accompany psychogenic cough and to provide an appropriate treatment approach.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-17 · Infantile Marfan Syndrome in a Tertiary Referral Hospital in Turkey

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ABSTRACT

Introduction: Infantile Marfan syndrome (MS) is a rare hereditary connective tissue disease with a poor prognosis. In this study, the clinical features and general prognosis of infantile MS cases were evaluated.

Materials and Methods: Four patients diagnosed with infantile MS between 2014 and 2024 were retrospectively analyzed. Two of the patients were male and two were female, and the median age at diagnosis was 6.5 months (range: 1-12 months). Presenting symptoms included murmur, chest deformity, and developmental delay.

Results: Skeletal findings were detected in all patients. Lens dislocation was detected in three patients. None of the cases had a family history. Cardiovascular examination revealed significant aortic root dilatation in all patients. In addition, mitral valve prolapse (MVP), mitral regurgitation (MR), and aortic regurgitation (AR) were observed in patients with aortic root dilatation. The median follow-up period of the cases was calculated as 33 months (range: 0-60 months). Valve-sparing aortic root replacement surgery was performed in one patient with significant aortic root dilatation, and permanent pacemaker implantation was performed due to complete atrioventricular block in the postoperative period. Valve-sparing surgery was indicated for another patient but was not accepted by the family. Another patient underwent valve-sparing surgery and mitral valve repair at the age of 18 months due to severe aortic root dilatation and MR, but the patient died in the postoperative period. Another patient was taken under clinical follow-up with the decision of the multidisciplinary council because of his young age. All cases were followed up with beta-blockers and angiotensin converting enzyme inhibitors.

Conclusion: Infantile MS is a serious disease with high morbidity and mortality rates. Therefore, early diagnosis and timely intervention are critical to prevent possible complications.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Marfan syndrome, mitral valve prolapse, mitral regurgitation

INTRODUCTION

Marfan syndrome (MS) is a multisystemic connective tissue disorder with autosomal dominant inheritance. It is caused by mutations in the extracellular matrix protein fibrillin. Diagnostic findings include skeletal, ocular, cardiovascular, pulmonary, cutaneous and central nervous system abnormalities and family history (Judge & Dietz, 2005; Morse et al., 1990). The morphological features of the syndrome are age-related and phenotypic variability is remarkable. Most patients show de novo mutations (Morse et al., 1990). The term infantile Marfan syndrome is used to describe children with distinct phenotypic features at birth but with significant cardiovascular involvement in early infancy. Cardiovascular abnormalities are the primary cause of death in infantile MS and the most common findings are mitral and/or tricuspid valve insufficiency, which are less

common in classical MS (Hennekam, 2005). The aim of this study is to evaluate the signs, symptoms, and general prognosis of infantile MS cases diagnosed in a tertiary health institution in Turkey. It is also important since no such study was found in our country in the literature review.

MATERIALS AND METHODS

Among 15 patients followed up with MS diagnosis between 2014-2024, four patients were diagnosed with infantile MS. MS diagnosis was based on the revised Gent criteria (Loeys et al., 2010). Gender, birth weight and height, age at diagnosis, follow-up period, other systemic involvements, family history, echocardiographic findings, gene testing, treatments, mortality information were recorded by retrospectively reviewing medical records. Data were presented with mean and standard deviation or median (minimum-maximum) according to the distribution of variables. The study was registered by Ordu University Clinical Research Ethics Committee (KAEK-339).

RESULTS

Two of the patients were male and two were female, and the median age at diagnosis was 6.5 months (range: 1-12 months). The median height at birth was 50 cm (range: 48-52 cm); however, during the growth process, the increase in height became apparent and exceeded the 75th percentile. The presenting symptoms included murmur, chest deformity, and developmental delay. The median follow-up period of the cases was calculated as 62.5 months (range: 6-120 months). The clinical characteristics of the patients are shown in Table 1.

Table 1

Clinical findings of the patients with infantile Marfan Syndrome

Case	Sex	At diagnosis age (mo)	Presenting symptom	Family history	Follow-up period (mo)
1	F	12	Murmur, chest deformity	Negative	120
2	M	12	Developmental delay, chest deformity	Negative	108
3	M	1	Murmur	Negative	18
4	F	1	Prenatal US (congenital knee dislocation)	Negative	6

US, ultrasonography

All cases had skeletal system findings (pectus carinatum, scoliosis, hyperelasticity, long extremities, arachnodactyly, tall stature). Lens dislocation was detected in three patients. None of the cases had a family history. Cardiovascular examination revealed significant aortic root dilatation in all patients. In addition, mitral valve prolapse (MVP), mitral regurgitation (MR), and aortic insufficiency (AR) were observed in patients with aortic root dilatation. Valve-sparing aortic root replacement surgery was performed in one patient with significant aortic root dilatation, and permanent pacemaker implantation was performed due to the development of complete atrioventricular block in the postoperative period. Valve-sparing surgery was indicated for another patient, but the family did not accept it. Another patient underwent valve-sparing surgery and mitral valve repair at the age of 18 months due to severe aortic root dilatation and MR, but the patient died in the postoperative period. Another patient was taken under clinical follow-up with the decision of the multidisciplinary council due to his young age (Table 2). All cases were followed up with beta-blockers and angiotensin converting enzyme inhibitors.

Table 2

Cardiovascular and another system findings in patients with infantile Marfan Syndrome

Case	Aortic root z≥3	Echocardiogram findings	Skeletal findings	Ectopia lentis	FBN1 gene mutation	Mortality
1	84 mm (8)	MVP, MR	Pectus carinatum, scoliosis	+	+	Alive
2	42 mm (6.1)	MVP, MR	Pectus carinatum, scoliosis, hyperelasticity	+	+	Alive
3	35 mm (8)	MVP, MR, AR	Pectus carinatum, arachnodactyly, long limbs, tall stature	+	+	Dead
4	19 mm (4.6)	AR	Arachnodactyly	NA	+	Alive

MVP, mitral valve prolapse; MR, mitral regurgitation; AR, aortic regurgitation; NA, not available

DISCUSSION

MS, a systemic disease of the connective tissue, is seen in approximately 1-2 out of 10,000 people. However, it is difficult to determine the true incidence because the symptoms of the disease become more pronounced with age (Judge & Dietz, 2005). The first diagnostic criteria were determined in 1988, and today the diagnosis is based on skeletal, ocular, cardiovascular, skin, central nervous system and pulmonary system features in addition to family history and FBN1 mutations (Loeys et al., 2010). Infantile MS is a rarely diagnosed MS type with atypical and severe effects on the cardiovascular system (Das et al., 2015). In classical MS, the cardiovascular events leading to death are mostly aortic dissection or rupture; however, deaths in infantile MS patients are related to CHF due to MR or TR (Pyeritz & Wappel, 1983). Three of our patients had MR detected in their ECHO, accompanied by MVP and AR.

It is known that the prognosis of infantile MS diagnosed in the first year of life is poor. It is reported that the life expectancy of infantile MS patients is less than 2 years due to the severity of cardiovascular problems (Shih, Liu, & Chen, 2004). One of our four patients died at the age of 18 months. Infantile MS is generally thought to be caused by a new mutation rather than a positive family history (Shih, Liu, & Chen, 2004). None of our patients had a family history, and all were FBN1 mutation positive. The majority of patients require both medical and surgical treatment to prevent cardiovascular complications. In pediatric MS patients, the use of beta blockers is recommended because it delays cardiac interventions (Keane & Pyeritz, 2008). However, the benefits of beta blocker use in infantile MS are not fully known (Buchhorn et al., 2014; Morse et al., 1990). All of our patients were also using beta blockers. Despite multiple drug use, valve surgery is usually necessary because MR triggers congestive heart failure and can lead to sudden cardiac death (Keane & Pyeritz, 2008). However, conditions such as complete heart block, thrombosis, and stroke may occur after valve surgery (Kim et al., 2015). In our patients who underwent valve-sparing aortic root replacement surgery, one developed complete block after the operation, and the other died after surgery.

CONCLUSION

In conclusion, it is very important to recognize infantile MS immediately after birth to perform diagnostic studies and initiate appropriate treatment in time.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-18 · Congenital Complete AV Block in Preterm Neonates: Two Cases Surviving with Multidisciplinary Management

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ABSTRACT

Introduction: Congenital complete atrioventricular block (CCAVB) is a rare but potentially life-threatening condition frequently associated with maternal autoantibodies, particularly anti-SSA and anti-SSB. The management of CCAVB in premature neonates presents considerable challenges due to their physiological immaturity.

Case Presentation: This report details two cases of preterm infants diagnosed with CCAVB linked to maternal anti-SSA and anti-SSB antibodies, both of whom were successfully managed through a comprehensive, multidisciplinary approach in an intensive care setting.

Discussion: During follow-up, both patients demonstrated stable cardiac function without evidence of significant ventricular dilation. Critical to the favorable outcomes were early diagnosis, appropriate hemodynamic and respiratory support, and meticulously tailored nutritional strategies.

Conclusion: These cases emphasize the essential role of individualized, multidisciplinary management in optimizing outcomes for premature neonates with CCAVB.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Autoantibodies, congenital complete AV block, multidisciplinary management, preterm neonates

INTRODUCTION

Congenital complete atrioventricular block (CCAVB) represents a rare yet potentially fatal disturbance of cardiac conduction, defined by the complete absence of atrioventricular impulse transmission. It is most frequently attributed to the transplacental passage of maternal anti-SSA/Ro and anti-SSB/La autoantibodies, which mediate immune-mediated injury and subsequent fibrotic replacement of the fetal atrioventricular conduction tissue (Scott et al., 1983).

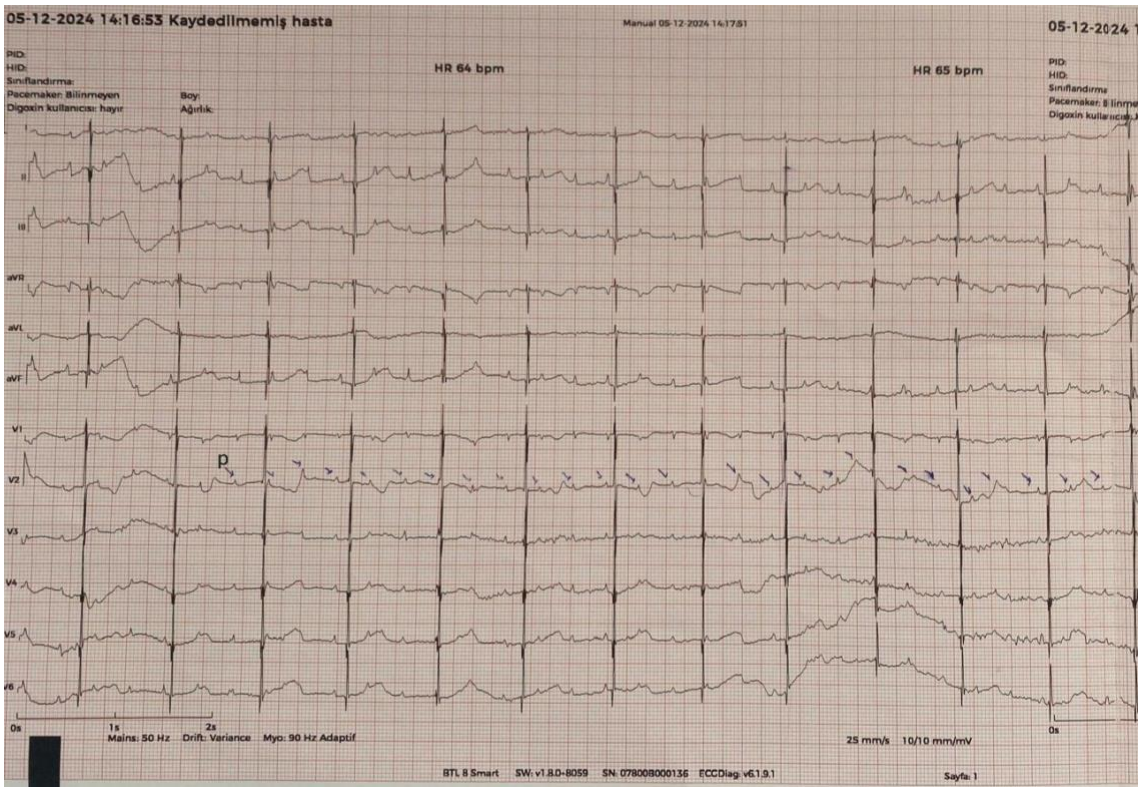
While CCAVB is often suspected antenatally in the context of persistent fetal bradycardia, a subset of cases may remain undiagnosed until the postnatal period. In preterm neonates, the condition is associated with considerable clinical complexity, as it frequently coexists with profound hemodynamic instability, respiratory insufficiency, nutritional intolerance, and heightened vulnerability to infectious morbidity (Inoue et al., 2005). Herein, we report two cases of premature infants diagnosed with CCAVB, with a focus on the critical importance of prompt recognition, individualized supportive interventions, and a coordinated multidisciplinary care strategy in improving neonatal outcomes. Patient approvals were obtained for the inclusion of clinical findings and relevant diagnostic images in these case reports.

CASE PRESENTATION

Case 1: A female infant was delivered by emergency cesarean section at 26 weeks of gestation due to placental abruption and fetal distress. Birth weight was 1040 g. At birth, her heart rate was 50–55 beats per minute. Initial electrocardiogram (ECG) showed second-degree AV block, which progressed to complete AV block within two hours postnatally (Figure 1). Echocardiography revealed normal cardiac structure. Maternal screening revealed positive anti-SSA and anti-SSB antibodies, although the mother was asymptomatic.

Figure 1

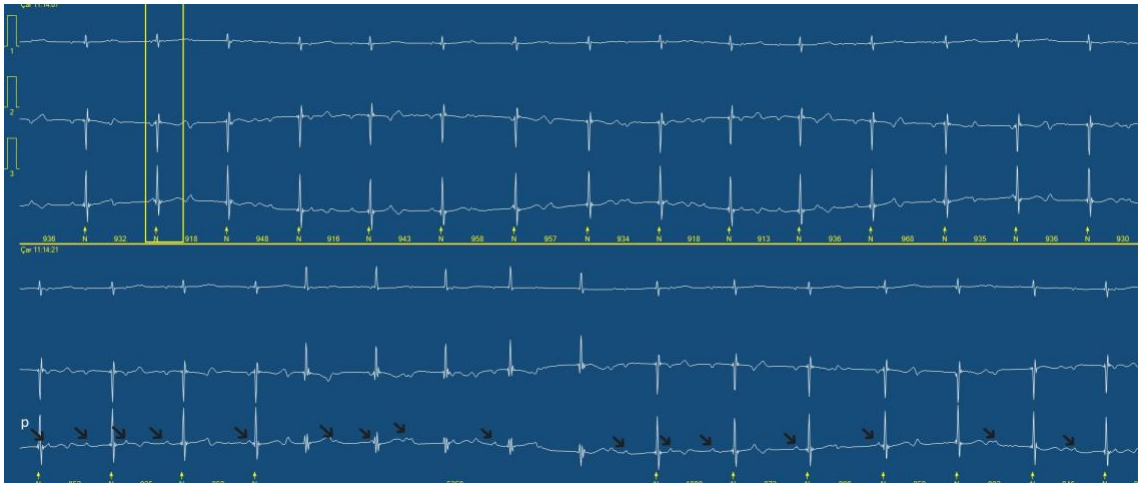
Initial electrocardiogram of Case 1 demonstrating complete atrioventricular (AV) block



Case 2: A male infant was born at 32 weeks of gestation with a birth weight of 1600 g. During prenatal monitoring, he was diagnosed with a 2:1 AV block, and intrauterine treatment with IVIG and corticosteroids was administered. Postnatal ECG confirmed complete AV block (Figure 2). Maternal antibody testing was positive for anti-SSA and anti-SSB, without clinical signs of autoimmune disease.

Figure 2

Initial electrocardiogram of Case 2 demonstrating complete atrioventricular (AV) block



Postnatal Management

Both infants were admitted to the neonatal intensive care unit and managed through a multidisciplinary approach:

- Cardiac support: Intermittent epinephrine infusion and milrinone were administered to maintain heart rate and cardiac output. Serial echocardiography was performed to monitor left ventricular function.
- Respiratory support: Non-invasive ventilation with nasal CPAP was initiated, and surfactant therapy was provided to the firstinfant for respiratory distress syndrome.
- Nutritional support: Early parenteral nutrition followed by gradual transition to enteral feeding was implemented, with careful monitoring to prevent gastroesophageal reflux and aspiration.
- Infection control: Strict aseptic techniques and routine laboratory monitoring were applied.

Both infants achieved weight gain exceeding 3 kg, maintained stable cardiac function, and showed no progression of left heart dilation during follow-up. Decisions regarding permanent pacemaker implantation remain under ongoing evaluation.

DISCUSSION

Congenital complete atrioventricular block (CCAVB) is a rare but potentially life-threatening cardiac conduction disorder, most commonly resulting from the transplacental passage of maternal autoantibodies that mediate immune injury to the fetal atrioventricular node (Scott et al., 1983). In many cases, particularly when maternal autoimmune disease is subclinical or undiagnosed, the condition may remain unrecognized during gestation, with diagnosis first considered upon identification of fetal bradycardia or postnatal arrhythmias.

The presence of prematurity further complicates the clinical course of CCAVB, as the limited physiologic reserve and immaturity of vital organ systems render these infants particularly susceptible to hemodynamic compromise, respiratory insufficiency, and metabolic instability (Inoue et al., 2005). As such, optimal management requires a coordinated, multidisciplinary approach involving neonatology, pediatric cardiology, and nutritional support services.

The cases described herein demonstrate that, with rigorous echocardiographic surveillance, individualized hemodynamic management, judicious respiratory support, and carefully structured nutritional plans, favorable outcomes are attainable even in extremely preterm neonates with CCAVB. Despite the severity of prematurity, neither patient exhibited significant ventricular dysfunction during the course of follow-up.

Successful stabilization through supportive measures may defer or, in select cases, obviate the need for early permanent pacemaker implantation, thereby allowing for procedural intervention at a more clinically advantageous time point. According to the 2021 PACES expert consensus, indications for pacemaker implantation in pediatric patients include symptomatic bradycardia, a ventricular rate ≤50 bpm, left ventricular dysfunction, or ventricular dilation (Shah et al., 2021). Temporary pacing may be used to bridge critically ill premature infants until they reach appropriate weight and clinical stability. Reports in the

literature have documented successful permanent pacemaker implantation even in neonates weighing as little as 1.3 kg (Chimoriya et al., 2021; von Schnakenburg et al., 2002), demonstrating that low birth weight is not an absolute contraindication but requires experienced centers and careful timing.

Premature neonates with congenital complete atrioventricular block (CCAVB) present substantial clinical challenges, requiring early and precise diagnosis, intensive multidisciplinary management, and individualized long-term follow-up. With prompt identification and a comprehensive, coordinated approach to care, significant improvements in both survival and long-term quality of life can be achieved in these high-risk infants.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial or personal conflict of interest in this study.

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EBFMC25-OP-19 · Infantile Hemangioma: A Case Report

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ABSTRACT

Introduction: Infantile hemangiomas (IHs) are common benign vascular tumors of infancy that typically follow a self-limiting course. However, treatment may be required when lesion size, location, or associated complications pose functional or cosmetic concerns. Propranolol, a non-selective beta-blocker, has emerged as the first-line therapy for complicated IHs due to its high efficacy and favorable safety profile.

Case Presentation: This case report describes a 5-month-old female infant presenting with a scalp-localized hemangioma successfully managed with oral propranolol.

Discussion: Following the initiation of treatment and close cardiovascular monitoring, a significant reduction in lesion size and discoloration was observed, with no adverse events reported. This case underscores the importance of early diagnosis, individualized treatment planning, and multidisciplinary follow-up in the management of IHs.

Conclusion: Our findings contribute to the growing body of evidence supporting propranolol as an effective and safe therapeutic option for infantile hemangiomas.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Infantile hemangioma, propranolol

INTRODUCTION

Infantile hemangioma (IH) is the most common benign vascular tumor of infancy, typically appearing shortly after birth or within the first few weeks of life. Epidemiological studies report that the incidence of visible lesions at birth is approximately 4–5%, increasing up to 20% in premature infants (Leung, Lam, Leong, & Hon, 2021). Clinically, typical IHs exhibit a rapid proliferation phase, followed by gradual regression during the involution stage. This natural course typically spans several years; however, residual sequelae may persist in some cases (Jung, 2021).

Female sex, prematurity, low birth weight, twin pregnancies, and Caucasian ethnicity are recognized risk factors for the development of IH (Krowchuk et al., 2019). IHs are most commonly localized to the head and neck region, where they may cause both aesthetic and functional complications. Lesions situated in the periorbital, perinasal, perioral, or anogenital areas, or those associated with ulceration, bleeding, infection, or risk of airway obstruction, may necessitate medical intervention (Drolet, Swanson, & Frieden, 2013).

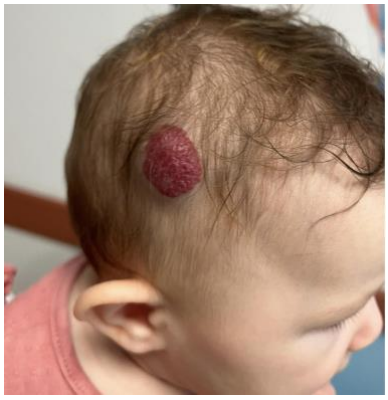
In 2008, Léauté-Labrèze and colleagues demonstrated the efficacy of oral propranolol in the treatment of IH, leading to its establishment as the first-line systemic therapy. Propranolol inhibits lesion growth and accelerates regression through mechanisms such as vasoconstriction, suppression of cellular proliferation, and inhibition of angiogenesis (Léauté-Labrèze et al., 2015). This case report presents the successful management of a scalp-localized infantile hemangioma with propranolol therapy.

CASE PRESENTATION

A 5-month-old female infant presented with redness and swelling on the scalp, first noticed shortly after birth. The family history was unremarkable for similar vascular conditions or systemic illnesses. Physical examination revealed a raised, irregularly bordered, red-pink infantile hemangioma measuring approximately 2×3 cm in the right parietal region (Figure 1).

Figure 1

Initial clinical appearance of the scalp-localized infantile hemangioma in a 5-month-old female infant prior to propranolol treatment.

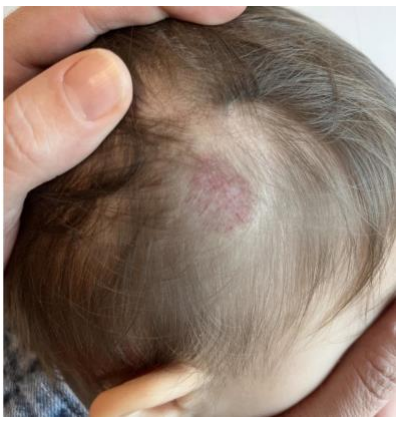


Laboratory investigations were within normal limits. Transfontanel and abdominal ultrasonography findings were unremarkable. Before initiating treatment, the patient was referred to pediatric cardiology, and both electrocardiography and echocardiography results were normal.

Oral propranolol therapy was initiated at a starting dose of 0.5 mg/kg/day. The patient was monitored for 24 hours for potential cardiovascular adverse effects. Vital signs remained stable during the observation period, and the dose was gradually increased to 2 mg/kg/day. In the following weeks, significant regression in lesion dimensions and fading of coloration were observed (Figure 2). Propranolol therapy was continued for 12 months, with no serious adverse events recorded throughout the treatment course.

Figure 2

Marked regression and discoloration of the lesion after 12 months of oral propranolol therapy. Written informed consent was obtained from the patient.



DISCUSSION

Although most infantile hemangiomas follow a benign and self-limiting course, certain lesions may cause functional or life-threatening complications beyond cosmetic concerns. Current clinical guidelines recommend that treatment decisions be based on lesion size, location, complication potential, and growth dynamics (Krowchuk et al., 2019).

Oral propranolol has become the first-line systemic treatment for IH. Its efficacy was initially reported in 2008 and has since been confirmed through multicenter studies (Hogeling, Adams, & Wargon, 2011; Léauté-Labrèze et al., 2015). Propranolol typically elicits a rapid clinical response, marked by a reduction in lesion size and fading of coloration. Its mechanism of action is multifactorial, beginning with vasoconstriction and followed by the suppression of angiogenic factors such as VEGF and bFGF, thereby accelerating hemangioma involution (Cohen, Friedman, & Drolet, 2017). However, careful patient selection and close monitoring are essential due to the potential side effects, including hypoglycemia, bradycardia, hypotension, and bronchospasm (Baumann, Metzler, & Schmid, 2016). In our case, a prompt and favorable response to propranolol was observed, with a notable reduction in lesion size and color intensity. No systemic adverse events were encountered, and the treatment was well tolerated. Dose titration was performed as needed, and clinical response was monitored throughout the treatment, consistent with current practice guidelines. The duration of therapy typically ranges from 6 to 12 months but may be extended up to 18 months in selected cases (Jung, 2021).

CONCLUSION

Although infantile hemangiomas are generally benign, some cases may pose significant risks depending on the lesion's location and growth behavior. Propranolol is a safe and effective agent in managing these lesions, achieving high success rates through appropriate patient selection and careful monitoring. This case adds to the growing body of evidence supporting the efficacy and safety of propranolol in the treatment of IH. A multidisciplinary approach and individualized patient assessment are essential throughout the management process.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-20 · Burn Treatment After 5 Years: Innovative Approaches and Results in Ordu

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ABSTRACT

Introduction: Burns are a significant health problem that can lead to disability and death, causing severe financial and psychological issues. In children, the mortality and morbidity rates of burns are higher compared to adults due to the underdeveloped ability to detect hazards in advance. The purpose of this study is to discuss the epidemiology of burns in children and the effectiveness of new and existing treatment methods at our hospital, which is a tertiary pediatric surgery center in Ordu province.

Materials and Methods: This retrospective clinical study includes 520 patients aged 0-18 years. Cases treated at the Pediatric Surgery outpatient clinic and Burn Unit of Ordu University Training and Research Hospital between January 2021 and February 2025 were reviewed. Patients were classified into age groups: 0-6 years, 7-12 years, and 13-18 years. Burns were grouped by etiology into hot water/food burns, contact burns, flame burns, and electrical burns. The burn surface area was calculated using the Lund-Browder method.

Results: The age distribution of the cases was as follows: 65% in the 0-6 years group, 20% in the 7-12 years group, and 15% in the 13-18 years group. Of the patients, 57.8% were male and 42.2% were female. Of the burns, 76.2% were hot water/food burns, 18.9% were contact burns, 2.9% were flame burns, and 2% were electrical burns. Burn surface areas were 1-10% in 338 patients (65%) and 11-20% in 182 patients (35%). Forty-three percent of the patients were hospitalized and followed in the burn unit, while 57% were followed as outpatients in the clinic. The average hospital stay was 6.1 days. Standard dressing, medical treatment, and, if necessary, debridement, escharotomy, and escarectomy were applied. For wound care, antiseptic solutions containing active chlorine, hydrophobic hydrogen-containing dressings, silver-containing dressings, antiseptic Tulle Gras bandages, hyaluronic acid-containing creams, and enzymatic alginogel were preferred. The number of patients who underwent skin grafting was 1%, and the incidence of local keloid formation was 5%. Contractures developed in two patients, and no fatalities were reported.

Conclusion: Early intervention, effective dressing methods, and appropriate medical treatment resulted in successful outcomes in the treatment of burns in children. Conservative treatment methods led to healing in patients with a small burn surface area. This study emphasizes the importance of early diagnosis and treatment approaches in pediatric burn management. Preventive measures for burns may reduce treatment costs and morbidity.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Pediatric burns, burn treatment methods, epidemiology of burns

INTRODUCTION

Burn injuries are a significant public health issue, particularly in pediatric populations, where they are among the leading causes of accidental injury and death worldwide. According to the World Health Organization (WHO), over 180,000 deaths occur each year due to burns, with children under the age of five being most affected (World Health Organization, 2022). In children, the lack of mature hazard perception significantly increases the risk of burn injuries (Yates et al., 2019).

Beyond mortality, burn injuries in children often lead to long-term physical disabilities, psychological trauma, and substantial financial burdens (Ahuja & Bhattacharya, 2004). In many low- and middle-income countries, where resources and burn care infrastructure are limited, these outcomes are even more severe (Peck, 2011).

With advancements in wound care materials and medical therapies, non-surgical and conservative approaches have gained prominence in pediatric burn management (Günaydın et al., 2022). This study aims to evaluate the epidemiology of pediatric burns and the effectiveness of updated treatment approaches at a tertiary pediatric surgery center in Ordu, Türkiye.

MATERIALS AND METHODS

This retrospective clinical study includes 520 pediatric patients (0–18 years) treated between January 2021 and February 2025 at the Pediatric Surgery outpatient clinic and Burn Unit of Ordu University Training and Research Hospital. Patients were categorized by age (0–6, 7–12, and 13–18 years) and burn etiology: hot water/food, contact, flame, and electrical burns. Burn surface area was calculated using the Lund-Browder method. Treatment included standard wound care with modern dressings, and surgical interventions when required. An application has been submitted to the Ethics Committee of Ordu University, which is scheduled to convene on May 9.

RESULTS

A total of 520 pediatric patients aged 0 to 18 years were included in the study. The majority of the patients (65%) were in the 0–6 age group, followed by 20% in the 7–12 age group and 15% in the 13–18 age group. Of the total patients, 301 (57.8%) were male and 219 (42.2%) were female, with a male-to-female ratio of approximately 1.4:1 (Table 1).

Table 1

Demographic and Clinical Characteristics of Pediatric Burn Patients (n=520)

Variable	Frequency (n)	Percentage (%)
Age Groups		
0–6 years	338	65.0
7–12 years	104	20.0
13–18 years	78	15.0
Gender		
Male	301	57.8
Female	219	42.2
Burn Etiology		
Hot water/food	396	76.2
Contact	98	18.9
Flame	15	2.9
Electrical	11	2.0
Burn Surface Area		
1–10%	338	65.0
11–20%	182	35.0
Hospitalization		
Inpatient (Burn Unit)	224	43.0
Outpatient	296	57.0
Mean Hospital Stay	–	6.1 days
Skin Grafting Required	5	1.0
Local Keloid Formation	26	5.0
Contractures	2	0.4
Mortality	0	0.0

Burn etiology was predominantly due to hot water and food spills, which accounted for 396 cases (76.2%). Contact burns were the second most common cause with 98 cases (18.9%), followed by flame burns in 15 cases (2.9%) and electrical burns in 11 cases (2%). These findings indicate that domestic scald injuries are the leading cause of pediatric burns in the studied population (Figures 1 and 2).

Figure 1

18-Month-Old Male Patient with Hot Water Burn – Photographs Taken on Day 3 and Day 15

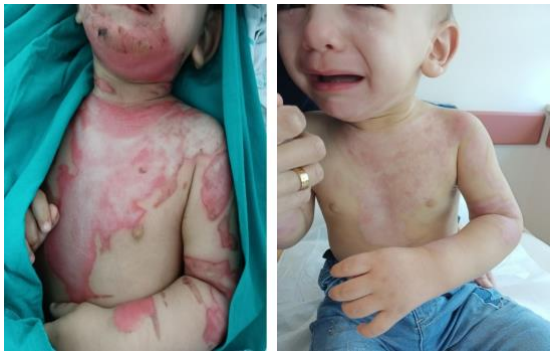
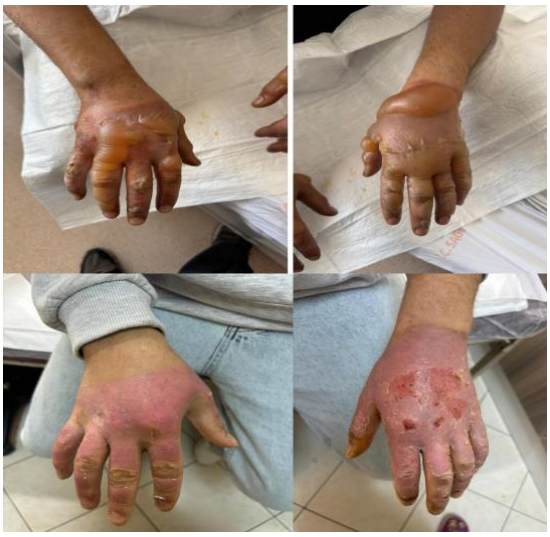


Figure 2

Before and After Photographs of Hot Water Burns on Both Hands



The burn surface area (TBSA) was 1–10% in 338 patients (65%) and 11–20% in 182 patients (35%), with no cases exceeding 20%. The majority of burns were superficial or partial-thickness, allowing for conservative management.

In terms of treatment settings, 224 patients (43%) were hospitalized and monitored in the burn unit, while 296 patients (57%) were managed as outpatients through regular follow-up in the pediatric surgery clinic. The average hospital stay for inpatients was 6.1 days.

Various wound care methods were utilized based on burn depth and severity. Standard treatments included antiseptic solutions containing active chlorine, hydrophobic dressings with hydrogen, silver-containing dressings, Tulle Gras bandages with antiseptic properties, hyaluronic acid-based creams, and enzymatic alginogel. These modern dressings supported rapid wound healing and reduced the risk of infection.

Surgical intervention was required in only 5 patients (1%), who underwent split-thickness skin grafting. The incidence of local keloid formation was low, observed in 26 patients (5%). Only two patients (0.4%) developed functional contractures that required further intervention or physical therapy. Importantly, no mortality was recorded during the study period.

The low complication rate and absence of fatal outcomes underscore the effectiveness of early diagnosis, appropriate wound care, and conservative management in pediatric burn patients. These results also reflect the value of preventive education and early referral to specialized burn care units.

DISCUSSION

The majority of burn patients in our study were under the age of six, consistent with the global literature emphasizing that young children are particularly vulnerable due to their limited understanding of danger

(Dissanaike & Rahimi, 2009). Scalds from hot water and food were the most common cause of burns, highlighting the importance of home safety education, as reported in prior studies (Klein, M. B., & Hermans, M. H. (2005).

In line with recent publications, we found that non-surgical wound care methods, including antiseptic dressings (e.g., silver-based, hyaluronic acid, and enzymatic alginogel), led to favorable healing outcomes with minimal complications (De Francisco et al., 2023; Liu et al., 2023). Only 1% of patients required skin grafting, suggesting that conservative management is highly effective for burns with ≤20% total body surface area (TBSA).

The incidence of contractures and keloids was low, which may be attributed to early intervention and proper follow-up—key components emphasized in international guidelines for pediatric burn care (Greenhalgh, 2017).

Despite limitations such as retrospective design and lack of long-term psychosocial follow-up, our study supports the efficacy of conservative treatment methods. Additionally, it emphasizes the need for preventive community-based strategies to reduce the incidence of pediatric burns and their associated healthcare burden (Pediatric Surgery International, 2023).

CONCLUSION

Pediatric burns remain a preventable yet critical healthcare concern. In this study, early diagnosis, effective topical therapies, and conservative management resulted in positive treatment outcomes. Ongoing education and environmental safety initiatives are essential for reducing burn incidence in children. Further prospective studies including quality-of-life assessments are warranted.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-21 · Efficacy of Non-Surgical Treatment Methods in Pectus Deformities: Pectus Excavatum and Pectus Carinatum Cases

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ABSTRACT

Introduction: Pectus deformities are conditions characterized by abnormal development of the ribs, cartilage, and sternum that form the chest wall. The most common types, pectus excavatum and pectus carinatum, can lead to functional, orthopedic, and psychological problems. Pectus excavatum, which constitutes 88% of congenital chest wall deformities, is a disease that often manifests with symptoms such as shortness of breath and poor body image. Pectus carinatum is a deformity where the chest wall protrudes outward. The aim of this study is to examine the effectiveness of non-surgical treatment methods for these two deformities.

Materials and Methods: This study is a single-center retrospective review evaluating the treatment processes of patients diagnosed with pectus carinatum and pectus excavatum who presented between June 2021 and February 2025. The treatment methods included vacuum therapy and the use of braces. The treatment durations and clinical outcomes of the patients were analyzed in comparison with the literature.

Results: A total of 112 patients, 40 (35.7%) females and 72 (64.3%) males, were included in the study. The patients were followed for an average of 9-12 months. Of these, 65 (58%) had pectus excavatum, 42 (37.5%) had pectus carinatum, and 5 patients (4.5%) had mixed-type pathology. The most common presenting complaints were cosmetic and psychosocial issues, cardiac problems, and recurrent lung infections. In patients treated with vacuum therapy, 89.2% showed a decrease in the anterior-posterior depth of the sternum to below 1.5 cm. In patients treated with braces, 76.2% showed positive changes in their clinical indices.

Conclusion: This study demonstrates the efficacy of non-surgical treatment methods in patients with pectus excavatum and pectus carinatum. Particularly, the use of vacuum therapy and braces, when initiated early in the treatment process, can lead to successful outcomes. The effectiveness of non-surgical treatment methods offers an important alternative for patients seeking less invasive and more comfortable options. Further studies are needed in our country on this subject.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Pectus excavatum, pectus carinatum, non-surgical treatment methods

INTRODUCTION

Pectus deformities are congenital anomalies caused by abnormal development of the sternum, costal cartilages, and ribs, resulting in deformities of the anterior chest wall. The most common types are pectus

excavatum (PE) and pectus carinatum (PC), together accounting for over 90% of congenital chest wall deformities (Kelly, 2008). PE, also known as “funnel chest,” makes up approximately 88% of these cases and is characterized by inward displacement of the sternum. Patients often report symptoms such as dyspnea, fatigue during exertion, and psychosocial distress due to poor body image (Martinez-Ferro et al., 2008). In contrast, PC involves an outward protrusion of the chest wall and is often less symptomatic but still causes significant aesthetic and psychological issues (Haje &Haje, 2000).

In recent years, non-surgical treatment methods, particularly vacuum bell therapy for PE and custom-fitted bracing for PC, have gained popularity as less invasive alternatives to surgery, showing promising clinical outcomes (Lopez & Torre, 2016; Muntean, Toganel, & Benedek, 2018; Obermeyer & Goretsky, 2012). These methods are particularly effective when applied during early adolescence, a period of greater chest wall pliability. However, there is a relative lack of comprehensive data on their efficacy in certain regions, including our country.

This study aims to evaluate the effectiveness of non-surgical treatment methods applied to patients with pectus excavatum and pectus carinatum in a single tertiary center, and to compare clinical outcomes with current literature.

MATERIALS AND METHODS

This retrospective, single-center study included patients diagnosed with PE, PC, or mixed-type deformities who presented to a tertiary care facility between June 2021 and February 2025. The study was approved by the Ethics Committee of Ordu University with the decision number 2024/54 at the meeting held on June 7, 2024.Diagnosis was established based on physical examination, imaging modalities (chest X-ray, CT, or MRI), and clinical scoring systems. Patients were treated with non-surgical methods and followed up for 9 to 12 months.

- PE Treatment Protocol: Vacuum bell therapy was initiated at 30 minutes per day and gradually increased to 1–2 hours depending on tolerance.
- PC Treatment Protocol: Custom-designed compressive braces were applied and adjusted periodically during follow-up. Daily use was recommended for 14–20 hours.
- Mixed Cases: A combination of both therapies was used.

Outcomes included improvements in sternal depth (for PE), anterior chest symmetry (for PC), symptom relief, treatment duration, and complications. These were compared with similar reports in the literature.

RESULTS

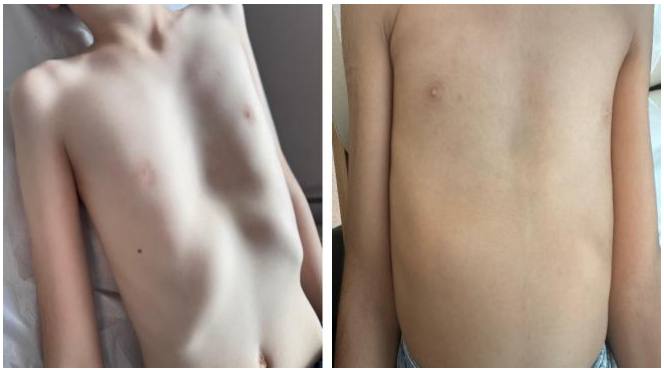
A total of 112 patients were included in this study. Among them, 40 (35.7%) were female and 72 (64.3%) were male, with a mean age of 14.3 years. The average follow-up period was 10.1 months. Of the total participants, 65 patients (58%) were diagnosed with pectus excavatum (PE), 42 (37.5%) with pectus carinatum (PC), and 5 (4.5%) had mixed-type deformities.

When the presenting complaints were evaluated, the most common reasons for consultation were cosmetic and psychosocial concerns (74%), followed by exertional dyspnea (22%) and recurrent respiratory infections (16%).

In patients with PE, vacuum therapy was applied, and 89.2% showed a reduction in the anterior-posterior sternal depth to less than 1.5 cm (Figure 1). Symptomatic improvement was observed in 76.9% of these patients. The complication rate was 12.3%, with the most frequently reported side effect being temporary skin marks. More prominent anatomical correction and greater patient satisfaction were observed in those who started treatment at a younger age.

Figure 1

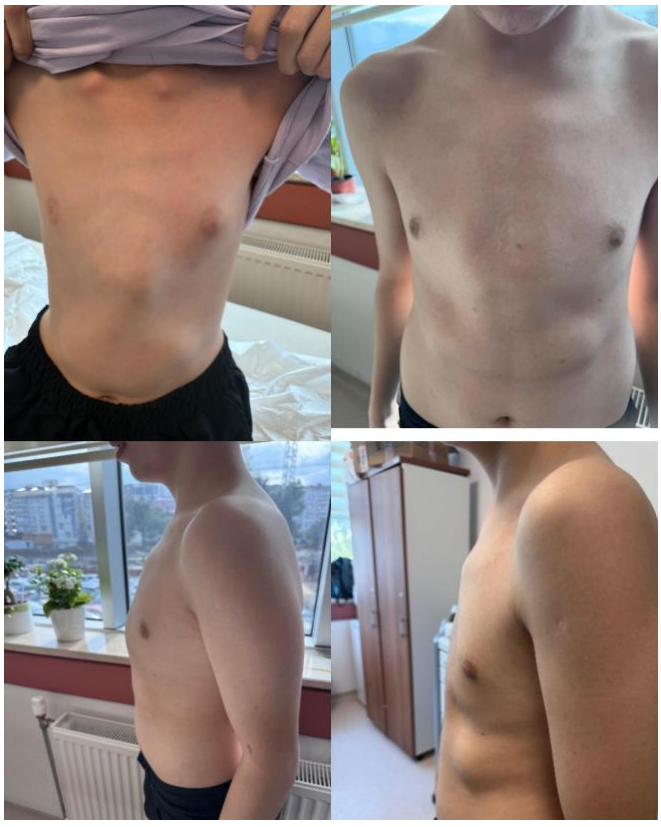
Pre- and Post-Vacuum Bell Therapy in a Patient with Pectus Excavatum



In PC patients, custom-designed compressive bracing led to a significant improvement in chest wall symmetry in 76.2% of cases, while 61.9% experienced symptomatic relief (Figure 2). The complication rate was 16.7%, with the most common issue being discomfort caused by the brace. During follow-ups, the pressure level of the brace was adjusted according to each patient's individual tolerance to improve compliance and outcomes.

Figure 2

Pre- and Post- Custom-Designed Compressive Bracing Therapy in a Patient with Pectus Carinatum



In the group with mixed-type deformities (n=5), a combination of both vacuum therapy and bracing was used. Due to the small number of patients, no separate statistical analysis was performed, but varying degrees of clinical improvement were observed. As in the other groups, early initiation of treatment was associated with better outcomes.

Overall, non-surgical treatment methods showed high rates of success in both cosmetic and functional aspects across all patient groups (Table 1). Regular follow-up and good patient compliance were identified as key factors contributing to treatment success.

Table 1

Demographic and Clinical Characteristics of the Study Group

Parameter	PE (n = 65)	PC (n = 42)	Mixed (n = 5)	Total (n = 112)
Gender (F/M)	20 / 45	17 / 25	3 / 2	40 / 72
Mean Age (years)	14.5	13.9	15.1	14.3
Follow-up Duration (months)	10.1	9.8	10.4	10.1
Treatment Method	Vacuum Therapy	Bracing	Combined	-
Positive Clinical Response (%)	89.2%	76.2%	Variable	-
Reduction in AP Sternal Depth (%)	89.2%	-	-	-
Improvement in Chest Symmetry (%)	-	76.2%	-	-
Symptomatic Improvement (%)	76.9%	61.9%	Variable	-
Complications (%)	12.3% (skin marks)	16.7% (discomfort)	-	-

DISCUSSION

Our findings demonstrate that non-surgical treatment methods, particularly vacuum therapy for PE and bracing for PC, are effective in managing pectus deformities when initiated during early adolescence. These results are consistent with previous studies reporting success rates ranging from 80% to 90% for vacuum therapy in appropriately selected PE patients (Kelly, 2008). Recent long-term studies have provided further insights into vacuum bell therapy. A 15-year retrospective study reported a success rate of up to 52.1% in patients undergoing vacuum therapy, with minor complications in 22.8% of cases and a low recurrence rate of 2.3% (Zheng et al., 2023). Notably, 26.7% of patients initially slated for surgical intervention no longer required surgery after vacuum therapy, highlighting its potential as a primary treatment modality. However, challenges such as treatment discontinuation during breast development in female patients underscore the need for individualized treatment planning.

In PC patients, bracing has shown significant cosmetic improvements. A recent study utilizing a novel custom-made bivalve brace demonstrated promising outcomes in 140 patients, emphasizing the importance of personalized brace design (Colovic et al., 2023). Additionally, a 10-year study concluded that brace treatment should be the therapy of choice for PC, given its effectiveness and non-invasive nature (Braceworks, 2023). Despite the predominance of aesthetic motivations among patients, nearly a quarter reported symptoms such as dyspnea or fatigue, underscoring the need for multidisciplinary evaluation in these cases.

Limitations of this study include its retrospective nature, absence of a control group, and reliance on subjective outcomes in some cases. However, it adds valuable local data to the limited existing literature and supports the broader use of non-surgical approaches.

CONCLUSION

Our findings reinforce the effectiveness of non-surgical treatment options, particularly vacuum therapy for pectus excavatum (PE) and bracing for pectus carinatum (PC), as viable alternatives to surgery when applied early in the treatment process. These methods have shown significant success rates in improving cosmetic outcomes and alleviating functional symptoms. The integration of vacuum therapy and bracing as primary treatment modalities can reduce the need for invasive surgical procedures, especially when initiated during the early stages of adolescence. While the study's retrospective nature and lack of control groups present limitations, the data provides a valuable contribution to the growing body of evidence supporting non-surgical management of pectus deformities. Future prospective studies with larger sample sizes and longer follow-up periods are warranted to further validate these findings and optimize treatment protocols.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-22 · Very Elderly Hearts and Geriatric Syndromes

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ABSTRACT

Introduction: In this study, the frequency of geriatric syndromes was investigated in the increasingly growing population of geriatric individuals aged 80 years and over, who have cardiovascular disease (CVD), for whom health management is difficult and distinctive (Erol, 2016; TURKSTAT, 2021).

Materials and Methods: In this study, 305 patients were retrospectively examined in the Healthy Aging Central Unit at Rize Recep Tayyip Erdoğan University Training and Research Hospital, various tests for geriatric syndromes were evaluated. The definition of CVD included hypertension, coronary artery disease, hyperlipidemia, rhythm disturbances, heart failure and valvular heart diseases. The data were analyzed using the SPSS 26.0 program and the results were evaluated with a 95% confidence interval and a significance level of $p<0.05$.

Results: The study was conducted on 305 patients, with 96.4% diagnosed with CVD. The mean age was 85.78 years and there was no significant age difference between patients with and without CVD (p=0.382). Among the participants, 73.8% were female, with no significant gender difference observed (p=0.140). The body mass index (BMI) was 30.49 kg/m² in patients with CVD and 26.54 kg/m² in those without CVD, showing a statistically significant difference (p=0.025). The frailty rate was 56.8% in patients with CVD and 27.3% in those without CVD. Dependence in activities of daily living was observed in 31.8% of patients, while instrumental dependence was 45.9%. The risks of dementia, malnutrition, falls, and depression were 88.2%, 22%, 46.9%, and 71.1%, respectively, with no statistically significant differences among these parameters. However, the risk of depression was 72.4% in patients with CVD and 36.4% in those without CVD, showing a statistically significant difference (p=0.010) (Table 1).

Conclusion: The study found that geriatric syndromes are common in individuals aged 80 and over and that cardiovascular diseases may be associated with certain syndromes. Frailty, dependence in daily living, malnutrition risk, and depression risk were higher in patients with CVD, with depression risk being significantly increased. These findings highlight the importance of evaluating geriatric individuals using a biopsychosocial approach and the early detection and management of geriatric syndromes.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Very old, cardiovascular disease, geriatric syndromes

CONFLICT OF INTEREST DECLARATION

No conflict of interest in this study.

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EBFMC25-OP-23 · The Relationship Between Caregiver Burden for Elderly Patients; Caregiver Muscle Strength, Nutrition and Sleep Status

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ABSTRACT

Introduction: The elderly population, defined as individuals aged 65 and over, is growing rapidly worldwide. This demographic shift is leading to an increased burden on caregivers, who are essential in assisting elderly patients (Bag Soytas et al., 2023; Soysal & Smith, 2024). In our study, we aim to determine the burden of caregivers providing care for elderly patients.

Materials and Methods: Our study was conducted from March 2023 at Bezmialem Vakıf University Faculty of Medicine Hospital, focusing on caregivers of hospitalized patients aged 65 and over. After collecting personal information, we used the Caregiver Burden Scale (CBS) for caregiver burden, the Mini Nutritional Assessment Test (MNAT) and Healthy Eating Attitude Scale for nutritional status, and the Epworth Sleepiness Scale (ESS) and Insomnia Severity Index (ISI) for sleep status. For muscle strength, a handgrip dynamometer was applied to the arm three times, and the maximum result was evaluated (Loi et al., 2014).

Results: To date, the study has enrolled 100 volunteer caregivers, comprising 79 females and 21 males, with a mean age of 50.5 years. According to the MNAT, the prevalence of undernutrition among participants is 48%. The ESS indicates a daytime excessive sleepiness prevalence of 12%, while the ISI reveals a moderate insomnia rate of 10%. Additionally, the handgrip test shows muscle weakness rates of 5% in females and 4% in males. When comparing total scores among participants, after adjustment for all confounders, a negative correlation was still observed between CBS and the MNAT, and a positive correlation was found between CBS and the ISI ($p<0.05$) (Kulkarni et al., 2025; Perez et al., 2022).

Conclusion: Caregiver burden is linked to poor nutrition and sleep disturbances. Therefore, the sleep and nutrition status of caregivers should be regularly monitored, and necessary measures should be taken (Bag Soytas et al., 2023; Kulkarni et al., 2025).

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Caregiver burden, elderly patients, nutrition, sleep status, muscle strength

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-24 · Working Women's Health: Preliminary Findings on General Health, Service Use, and Work-Life Balance

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ABSTRACT

Introduction: This study aims to investigate the associations between general health status, utilisation of preventive health services, and work-life balance among working women.

Materials and Methods: A descriptive epidemiological study was conducted with women aged 25–55 years who had been employed for at least one year. Data were collected through a structured online questionnaire including sociodemographic variables, general health status, preventive health service utilisation, and the New Work-Life Balance Scale. The scale comprises three subscales -private life, work life, and improvement- and is scored using a 5-point Likert-type system, with higher scores indicating better balance.

Results: A total of 180 employed women participated in the study. The mean age was 36.1 ± 8.6 years. Of the participants, 70.6% were married and 54.4% had at least one child. While 41.1% of participants reported using preventive health services at least once a year, 35% stated they never used such services. The mean total score on the Work-Life Balance Scale was 3.10 ± 0.68. Subscale scores were: private life (2.77 ± 1.06), work life (3.84 ± 0.82), and improvement (2.94 ± 0.88). These results suggest that although women tend to have a more balanced work life, they face more challenges in the domain of private life.

Conclusion: The findings indicate that a substantial portion of working women underutilise preventive healthcare services and face difficulties in maintaining work-life balance, particularly in their private lives (Budak et al., 1991; Hacettepe University HISAM, 2024; International Labour Organization [ILO], 2024). Consistent with our results, studies observe that employed women generally utilize fewer health services (Alizadeh et al., 2023; Esin & Öztürk, 2005). For instance, a U.S. study noted that many working women struggle to attend routine preventive screenings because full-time work hours and inflexible clinic schedules conflict with healthcare access (Bonner, 2024). These results highlight the need for workplace health promotion initiatives, increased access to preventive care, and supportive policies to improve the health and well-being of working women.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Women’s health, work-life balance, preventive healthcare

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-25 · Time to Start Rotations in Family Medicine Residency Program: A Training and Research Hospital Experience

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ABSTRACT

Introduction: In Turkey, the duration of family medicine residency training, as approved by the Board of Medical Specialization, is 36 months. Of this period, 18 months are allocated to clinical rotations in designated medical disciplines, with the specific branches and durations clearly defined. However, the precise sequence in which these rotations are to be undertaken has not been explicitly established.

This study aimed to evaluate the timing of the initiation of clinical rotations within the family medicine residency training program conducted at a training and research hospital.

Material and Methods: For this study, the start dates of residency training and the mandatory rotation start dates between January 2018 and the end of February 2025 for residents who have completed or are currently undergoing their residency training at Trabzon Kanuni Training and Research Hospital were obtained from institutional records. For those who started their residency training within the first 15 days of the month, that month was considered as the 1st month; for those who started within the second half of the month, the following month was accepted as the 1st month. The nine rotations and their durations specified in version 2.4 of the Family Medicine Residency Core Curriculum (T.C. Sağlık Bakanlığı, 2018) were taken as the basis.

Results: The number of residents whose data were evaluated in the study was 64. Accordingly, 364 out of a total of 576 rotations (%69.2) were accessed. The start times of the rotations were as follows: Emergency Medicine at the 9.52nd month (n=51), Internal Medicine at the 11.2nd month (n=45), Cardiology at the 12.42nd month (n=52), General Surgery at the 12.48th month (n=41), Obstetrics and Gynecology at the 15th month (n=37), Pediatrics at the 16.2nd month (n=47), Pulmonology at the 20.9th month (n=33), Psychiatry at the 22.5th month (n=30), and Dermatology and Venereal Diseases at the 23.8th month (n=28). The rotations started within the first year were as follows: Emergency Medicine 80.3% (n=41), General Surgery 61% (n=25), Internal Medicine 60% (n=27), Cardiology 53.8% (n=28), Obstetrics and Gynecology 40.5% (n=15), Pediatrics 34% (n=16), Pulmonology 18.1% (n=6), Psychiatry 10% (n=3), and Dermatology and Venereal Diseases 3.5% (n=1).

Conclusion: This study reveals that the start times of rotations in family medicine residency training show significant variability, with rotations such as Internal Medicine and Emergency Medicine concentrated in the early years of the residency, while specialties like Dermatology and Venereal Diseases are postponed to the later stages of the training.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Family medicine residency, clinical rotation, time factors.

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-26 · Bibliometric Assessment of Global Academic Literature on Commercial Determinants of Health

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ABSTRACT

Introduction: Health-damaging commodity industries pose a significant global threat to public health. In particular, the commercial activities of sectors such as tobacco, ultra-processed foods, fossil fuels, and alcohol contribute to the rise in non-communicable diseases, environmental degradation, and health inequalities. The globalization of neoliberal policies has weakened public regulatory mechanisms over commercial actors, resulting in conflicts between public health policies and commercial interests. This study aims to evaluate academic productivity, research trends, and scientific collaborations in the field of Commercial Determinants of Health (CDOH) through a bibliometric methodology.

Materials and Methods: Publications from the years 1961 to 2025 were retrieved from PubMed, Web of Science (WoS), and Scopus databases. Key search terms included "Commercial Determinants of Health," "corporate influence," "industry lobbying," "conflicts of interest," "public health policy," "tobacco industry," and "food industry." Only peer-reviewed journal articles, review studies, and conference proceedings were included. Bibliometric analysis was conducted using the Bibliometrix 4.3.2 package in R.

Results: The number of academic publications in the field of CDOH has increased significantly since 2010, showing a steady upward trend until 2023. Top journals contributing to this field include *Sustainability*, *International Journal of Environmental Research and Public Health*, and *BMC Public Health*. The most prolific authors identified were Mialon M., Petticrew M., and Maani N. The United States, the United Kingdom, and Australia emerged as the countries with the greatest academic impact. Frequently used keywords included "public health," "corporate social responsibility," "food industry," "tobacco industry," and "marketing."

Conclusion: This study offers a comprehensive analysis of global research trends in the field of CDOH, highlighting the growing academic interest, particularly in the evolution of scientific output and international collaborations. It concludes that future efforts should focus on policy analyses targeting the regulation of sectoral impacts on public health and promoting research in developing countries to address existing knowledge gaps.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

CDOH, food industry, industry lobbying, health inequities, marketing strategies, NCDs, public health policy, tobacco industry, unhealthy commodities

INTRODUCTION

Health-damaging commodity industries pose a significant global threat to public health. In particular, the commercial activities of sectors such as tobacco, ultra-processed foods, fossil fuels, and alcohol contribute to the rise in non-communicable diseases, environmental degradation, and health inequalities. The globalization of neoliberal policies has weakened public regulatory mechanisms over commercial actors, resulting in conflicts between public health policies and commercial interests. These industries are estimated to account for at least one-third of global deaths annually (Gilmore et al., 2023). Their activities not only impact individual health but also contribute to environmental degradation and widening health inequalities. There is increasing scientific evidence that the policies of large multinational corporations exacerbate the prevalence of noncommunicable diseases, environmental harm, and socioeconomic disparities (Lacy-Nichols et al.,2023). In this context, the concept of Commercial Determinants of Health (CDOH) has gained prominence in the academic literature. Notably, the impacts of climate change, the rising burden of non-communicable diseases, and the spread of neoliberal globalization have intensified the adverse effects of commercial sectors on public health. Since the 1970s, the expansion of the neoliberal economic system has progressively weakened public oversight and regulatory policies aimed at mitigating corporate health harms (Friel et al., 2023). As a result, public health policies are increasingly vulnerable to conflicts with commercial interests. In order to enhance the effectiveness of global health strategies, it is critical to strengthen regulatory mechanisms that mitigate the harmful impacts of commercial sectors and to implement comprehensive policy frameworks aligned with the CDOH perspective. This study aims to examine research trends and academic collaborations in the field of CDOH through bibliometric analysis. This bibliometric evaluation provides empirical evidence and serves as a guiding framework for the development of public health policies and regulatory strategies. In analyzing the impact of commercial sectors on public health, this study evaluates the distribution of publications over time, identifies the most influential authors and journals, highlights main research themes, and tracks citation trends.Through this approach, it aims to contribute to a deeper understanding of the interaction between commercial sectors and public health policies, and to guide future research in this evolving field.

MATERIALS AND METHODS

In this study, a bibliometric analysis was conducted to systematically review scientific research on the Commercial Determinants of Health (CDOH). The literature search was conducted across three major databases: PubMed, Web of Science (WoS), and Scopus. The search strategy included the following keywords and phrases: "Commercial determinants of health," "CDOH," "corporate influence," "industry lobbying," "conflicts of interest," "regulatory capture," "unhealthy commodities,""health inequalities,""health disparities,""public health policy,""noncommunicable diseases," "NCDs," "food industry," "tobacco industry," "alcohol industry,""pharmaceutical industry," "marketing strategies," "corporate social responsibility," "supply chains and health," and "environmental determinants of health." These terms were searched in the title, abstract, and keyword fields. The inclusion criteria comprised peer-reviewed articles, review papers, and conference proceedings published in English or Turkish between 1961 and 2025. Studies published in languages other than English or Turkish were excluded, as well as publications falling outside the defined timeframe or not meeting peer-review standards.The bibliometric analysis was conducted using the R package Bibliometrix (version 4.3.2).The analysis examined trends in the number of publications over time (1961–2025), identified the most frequently cited articles, authors, and journals, and determined the journals and publishing houses with the highest publication output. Additionally, it included network visualization and interpretation of international research collaborations, as well as the identification of prominent thematic areas in the literature. Since this study relied exclusively on publicly accessible bibliometric data, ethics committee approval was not required.

RESULTS

Following the comprehensive literature screening, a total of 3,119 academic documents published between 1961 and 2025 were identified. Specifically, 2,348 records were retrieved from the Web of Science database, 777 from Scopus, and 135 from PubMed. Duplicate records originating from multiple databases were identified and excluded, resulting in 141 duplicates being removed. The analyzed documents involved contributions from 12,611 authors and were published across 783 different academic sources. The international collaboration rate was calculated as 21.99%, while the average number of co-authors per

publication was 4.74. When examining publication trends over time, it was observed that scholarly output remained limited until the early 2000s. However, a marked increase in academic production began after 2010, with an upward trajectory that persisted through 2023. The journals Sustainability (151 articles), International Journal of Environmental Research and Public Health (142 articles), and BMC Public Health ranked among the most prolific in this domain. The most active contributing authors were identified as Mialon M., Petticrew M., and Maani N. In terms of citation impact, the United States (46,710 citations) and the United Kingdom (22,038 citations) led the field, followed by Germany, Australia, and Canada.Frequently recurring keywords in the literature included "public health," "corporate social responsibility," and "tobacco industry." Thematic analysis revealed that during the 1970–1990 period, dominant research topics included chemical exposure and the pharmaceutical industry. Between 1990 and 2010, scholarly attention shifted toward tobacco use, the tobacco industry, and public health policy. After 2010, focus expanded to encompass corporate social responsibility, marketing strategies, and socioeconomic inequalities. Thematic mapping identified"health policies" and "industrial impacts" as motor themes, while "corporate social responsibility"and "sustainability" emerged as niche areas. Education, tobacco consumption, and nutrition also emerged as central thematic areas within the field.

DISCUSSION

This study investigates academic collaborations and evolving patterns of research production on Commercial Determinants of Health (CDOH), with a particular emphasis on how the topic is framed within public health scholarship. Recent years have witnessed a marked increase in academic interest, especially concerning the intersection of commercial factors and public health policy (Friel et al., 2023). critically examine the ways in which direct commercial actors acquire structural power through marketing practices and policy influence. Analysis of the most cited authors and journals reveals that CDOH research is predominantly concentrated around specific academic institutions, revealing the formation of a robust yet institutionally concentrated research network. While this demonstrates the emergence of a focused scholarly discourse, it also underscores the need for broader academic participation and more diverse institutional engagement. Cross-national collaboration patterns indicate that research originating from North America, Europe, and Australia dominates the field, whereas scholarly contributions from developing countries remain limited. Expanding research efforts across diverse geographical contexts is essential for a comprehensive understanding of the global health implications of commercial influence.The bibliometric analysis underscores the multifaceted negative impacts of the alcohol and tobacco industries on public health, not only through direct health consequences but also via lobbying and policy interventions (Gilmore et al., 2023) explore how commercial actors shape societal norms and influence public policy agendas. Keyword analysis indicates that public health policies, corporate social responsibility, and social inequalities are frequently addressed themes, while issues such as climate change and environmental sustainability remain relatively marginalized within the scholarly discourse.Previous studies have primarily concentrated on identifying and conceptualizing commercial determinants of health (Gilmore et al., 2023; Yildirim & Uyar, 2023). By utilizing bibliometric methods across Web of Science, Scopus, and PubMed, the present study contributes valuable insights into emerging research themes, collaborative structures, and citation dynamics within the CDOH field. While this study offers valuable contributions, certain limitations must be acknowledged. It relies exclusively on publications indexed in three major databases and omits literature published in other languages or across alternative platforms. Furthermore, although bibliometric analysis effectively maps research trends and scholarly influence, it does not provide in-depth qualitative insights. Future studies should adopt multidisciplinary and mixed-method approaches to comprehensively investigate how commercial determinants influence public health outcomes.

CONCLUSION

This study analyzes the development and evolving trends of academic research on Commercial Determinants of Health (CDOH) in the scientific literature. Recent years have witnessed a notable surge in academic interest concerning the effects of commercial factors on public health, with scholarly contributions particularly concentrated in North America, Europe, and Australia. Public health policies, corporate social responsibility, marketing strategies, and industrial impacts have emerged as key themes within the literature. The health effects of the tobacco, food, and alcohol industries are frequently examined in the context of lobbying activities and regulatory policy frameworks (Kalayci Oflaz & Ozen, 2024). Topics such as corporate social

responsibility,socioeconomic inequalities, and public health governance reflect the expanding scope of academic engagement with CDOH.Looking ahead, it will be essential to conduct more robust policy analyses aimed at regulating the influence of commercial industries on public health.Promoting greater research engagement from low- and middle-income countries and fostering interdisciplinary approaches will be critical in addressing persistent knowledge gaps and advancing global strategies to counteract the adverse impacts of commercial determinants of health.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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Kalaycı Oflaz, N., & Özen, O. (2024). Sağlığın ticari belirleyicilerinden biri olarak tütün endüstrisi ve Türkiye'de tütün vergilerinin tütün tüketimine etkileri. *Anadolu Üniversitesi Sosyal Bilimler Dergisi, 24*(2), 525–544. https://doi.org/10.18037/ausbd.1416298

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EBFMC25-OP-27 · Evaluation of the Relationship Between Cyberchondria Level and eHealth Literacy in Individuals Applying to Polyclinic

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ABSTRACT

Introduction: Cyberchondria is the disruption of functionality by reaching levels that affect the individual's life as a result of negative emotional states and physician applications required as a result of excessive repetition of internet health research (McElroy & Shevlin, 2014). eHealth literacy refers to "the use of emerging information and communication technology to improve or enable health and health care" (Neter & Brainin, 2012). The aim of this study was to determine the levels of cyberchondria and eHealth literacy in individuals over 18 years of age who applied to Ordu University Family Medicine Outpatient Clinic and to determine the relationship between sociodemographic characteristics of patients and cyberchondria and eHealth literacy.

Materials and Methods: This cross-sectional and descriptive study, a questionnaire including the Cyberchondria Severity Scale short form (CSS-12) and the eHealth Literacy Scale was applied together with the sociodemographic data form of the individuals who applied to the Family Medicine Polyclinic. Data were analysed with IBM SPSS V23. Significance level was taken as $p<0.050$.

Results: The study included 400 participants. 69.5% (n=278) of the participants were between the ages of 18-30 years. The proportion of women was 70.8% (n=283). According to educational status, the highest proportion was university graduates with 67.8% (n=271). In case of any illness/discomfort, the first health institution usually consulted was the family health center with 47.3% (n=189). The mean score of the participants on the e-health literacy scale was 26.71. The mean cyberchondria severity scale score was 28. A statistically weak positive correlation was found between the participants' eHealth Literacy scale score and Cyberchondria Severity Scale score ($p<0.001$). When the relationship between age and scale scores was examined in our study, a statistically significant difference was observed. The level of cyberchondria and eHealth literacy was found to be higher in those aged between 18-30 years.

Conclusion: The level of cyberchondria and e-health literacy is higher in young people, and this is due to the fact that young people have easier access to the internet and technological devices. The duty of physicians is to educate and raise awareness especially among young people about the adequate and correct use of the internet for health-related information, to identify people who may need help and to make the necessary referrals. In this way, negative consequences such as patient discontinuation of treatment can be prevented and unnecessary health expenditures can be reduced by preventing the patient's repeated visits to health institutions.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Cyberchondria, health literacy, eHealth literacy, health anxiety, hypochondria

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-28 · Medicolegal Evaluation of Forensic Reports from Community and Family Health Centers

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ABSTRACT

Introduction: Community Health Centers (CHCs) and Family Health Centers (FHCs) serve as primary forensic evaluation points, issuing preliminary forensic reports (Bozkurt et al., 2015). The accuracy and reliability of these reports are critical for medico-legal processes. This study assesses the diagnostic precision and concordance of forensic reports issued by CHCs and FHCs compared to advanced forensic medical evaluations (Sunay & Serpil, 2004).

Materials and Methods: A retrospective analysis was conducted on 41 cases referred to the Forensic Medicine Clinic at Ordu University Training and Research Hospital between January 1, 2020, and December 31, 2024, following forensic evaluations at CHCs and FHCs. Demographic data, referral reasons, lesion classifications, and concordance with advanced forensic assessments were analyzed. The chi-square test was used for statistical comparisons ($p<0.05$).

Results: Of the 41 cases, 48.8% (n=20) were female, and 51.2% (n=21) were male, with a mean age of 41.46±21.55 years (females: 34.50±18.90 years, males: 48.09±22.25 years). The leading cause for forensic evaluation was physical assault (85.4%, n=34), followed by sharp/blunt instrument injuries (7.3%, n=3), falls (4.9%, n=2), and penetrating injuries (2.4%, n=1). Most cases were referred from FHCs (65.9%, n=27), while 34.1% (n=14) were from CHCs. 63.4% (n=26) of cases required referral to higher-level institutions, with 46.3% (n=19) needing advanced diagnostic and therapeutic interventions and 17.1% (n=7) requiring specialist evaluation (p=0.44). Lesion classification inconsistencies were significant: 34.1% (n=14) of CHC/FHC reports used "hyperemia", but 21.9% (n=9) of these were reclassified as "ecchymosis" upon forensic reevaluation. Cases initially documented as having no traumatic findings were 7.3% (n=3) in CHC/FHC reports, but this rate increased to 24.4% (n=10) after forensic examination. Among cases with suspected fractures (9.7%, n=4), radiological confirmation was found in 7.3% (n=3). Life-threatening injuries were identified in 4.87% (n=2), while 17.1% (n=7) required medical intervention beyond simple treatment.

Conclusion: Forensic reports from CHCs and FHCs show significant inconsistencies compared to advanced forensic evaluations, particularly in lesion classification, fracture detection, and identification of traumatic findings (Rizzo, 2024; Yavuz & Yavuz, 2006). The frequent use of vague terminology and diagnostic discrepancies highlight the need for more precise forensic documentation. Enhancing forensic training among primary care physicians could improve report accuracy, ensuring more reliable medico-legal assessments (Kuş, Avşar, & Karabekiroğlu, 2023).

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Forensic assessment, traumatic lesions, family medicine

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-29 · Digital Health and Family Medicine: Practical Reflections of e-Nabız Usage and Physicians' Perspectives

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ABSTRACT

Introduction: This study is a descriptive cross-sectional survey conducted with 126 primary care physicians across Turkey.
Materials and Methods: A total of 15 structured online questions, both multiple-choice and open-ended, were administered to the participants. The questionnaire was pre-tested and content validity was evaluated by field experts. Data were collected using a convenience sampling method.
Results: The findings cover satisfaction levels with the e-Nabız system, frequency of use, perceived workload, and suggestions for technical improvements.
Conclusion: Overall, the results indicate a generally positive reception of the e-Nabız system in primary care settings, while also highlighting areas requiring systemic enhancements based on user experience.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Digital health, e-Nabız, health informatics, primary care, clinical decision support systems

INTRODUCTION

In recent years, the digitalization of healthcare services has led to a significant transformation in patient management and the integrated monitoring of health data. In Turkey, one of the main instruments of this transformation is the e-Nabız system, which aims to support diagnostic, treatment, and follow-up processes by enabling healthcare professionals to access patients' medical history in real time. For family physicians working in primary care, the functionality of this system and its impact on clinical practice are critical areas for evaluation.

This study aims to evaluate the impact of e-Nabız, a prominent digital health application, on family medicine practice, based on the perspectives of family physicians actively working in the field. It seeks to explore physicians' perceptions regarding patient follow-up, information access, workload, and technical adequacy.

MATERIALS AND METHODS

This descriptive cross-sectional study was conducted via a survey with 126 family physicians. The structured online questionnaire comprised 15 questions, including both multiple-choice and open-ended items. The questionnaire was pre-tested, and its content validity was established through expert reviews. Convenience sampling was employed. Data were analyzed using SPSS software, and interpretations were based on frequency distributions.

RESULTS

Impact on Patient Monitoring: 94.4% of participants reported that the e-Nabız system facilitates patient follow-up.
Perceived Workload: 57.9% reported no increase in workload; 25.4% indicated an increase.
Age-Based Satisfaction: General satisfaction was high and increased with age, indicating the system's growing adoption in clinical practice.
Usage Frequency: 68.3% use the system only for specific patients, whereas 28.6% use it for every patient.
Patient Volume and Satisfaction: An increase in patient load did not lead to a notable decrease in satisfaction.
Age and Satisfaction Correlation: Regression analysis indicated a positive trend.
Improvement Suggestions: Missing patient data (n=43) and the SMS verification process were major concerns.
Technical Requests: 57.9% requested the removal of SMS verification. Other demands included faster system access and improved inter-institutional data sharing.

DISCUSSION

Findings show that most family physicians in Turkey perceive the e-Nabız system as beneficial for patient follow-up. However, technical limitations, difficulties in ease of use, and data updating issues negatively affect user experience. As highlighted by Gagnon et al. (2012), key factors influencing the adoption of digital health technologies include perceived usefulness, ease of use, and technical support. Our study also reports similar challenges alongside the benefits of e-Nabız for patient tracking. Notably, the observed increase in satisfaction with age aligns with the tendency of more experienced physicians to use the system more consistently. Investments in digital health training programs and infrastructure could enhance system effectiveness. These results may also reflect the fact that older physicians typically have a more stable patient base and established workflows.

The findings align with a similar study by Ünal et al. (2021), which identified e-Nabız as beneficial for patient monitoring while pointing out issues such as data incompleteness, slow system performance, and technical access problems. Our study contributes to the literature by providing more detailed analyses based on variables such as age and patient load. Compared to Ünal et al., our results more specifically articulate user demands (e.g., SMS code access, full access to patient data), offering concrete policy recommendations for system improvement.

A review article titled "E-Health Solutions in Family Medicine Practice," published in *Turkish Family Physician*, also supports these findings. It emphasizes that while digital health systems offer potential benefits in patient follow-up, counseling, and chronic disease management at the primary care level, structural and educational challenges hinder integration. The issues highlighted in our study—such as incomplete patient data, SMS verification barriers, and non-routine use-reflect similar limitations noted in the review. Thus, our study reinforces existing literature and underscores critical focus areas for policymakers to ensure sustainability of digital health tools in primary care.

CONCLUSION

This study demonstrates that the e-Nabız system is generally well-received by primary care physicians and contributes positively to patient management. However, areas such as data integrity, system speed, and institutional integration still require improvement. Designing user-friendly, functional, and integrated digital health systems will enhance their efficacy in healthcare delivery.

Despite the limited number of participants, this study offers valuable insights into e-Nabız use in primary care by identifying trends based on age groups, patient load, and usage tendencies. The findings can serve as preliminary data for future research involving larger and more diverse samples.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-30 · Goiter and Pulmonary Nodule in a Patient Presenting with Persistent Throat Irritation: A Case Report

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ABSTRACT

Introduction: Persistent throat irritation and dry cough are common symptoms encountered in daily clinical practice, with a wide range of etiological factors.
Case Presentation: This case report describes a patient who initially sought symptomatic treatment but was subsequently diagnosed with hypothyroidism, an angiotensin-converting enzyme (ACE) inhibitor-induced cough, and a pulmonary nodule through a comprehensive clinical evaluation.
Discussion: A multidisciplinary approach facilitated the identification of underlying systemic conditions and optimized the management process through appropriate referrals.
Conclusion: This case underscores the importance of thorough patient assessment in family medicine practice and highlights the necessity of considering a broad differential diagnosis in patients presenting with seemingly benign symptoms.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Goiter, ACE inhibitor, pulmonary nodule, family medicine, multidisciplinary approach

INTRODUCTION

This case report aims to underscore the significance of differential diagnosis in patients presenting with similar symptoms and to highlight the necessity of a multidisciplinary approach in family medicine practice.

CASE PRESENTATION

A 57-year-old male patient presented to our outpatient clinic with complaints of persistent throat irritation and dry cough lasting for the past two months. Initially, the patient sought only symptomatic relief with a throat spray containing flurbiprofen; however, a comprehensive history and physical examination indicated the necessity for further evaluation.

The patient's symptoms had been ongoing for approximately two months, with throat irritation and dry cough being the predominant complaints. The cough, which was particularly aggravated at night and triggered by speaking, caused sleep disturbances. He had been on perindopril therapy for hypertension for the past two months and noticed that his cough commenced following the initiation of the medication, though he had not associated it directly with the drug. He had not previously sought medical attention for similar complaints. Additionally, he reported occasional episodes of shortness of breath but denied symptoms such as sputum production, chest pain, or wheezing. The patient had a history of smoking amounting to 20 pack-years and was an active smoker. There was no family history of malignancy or thyroid disease.

Upon physical examination, the patient appeared in good general condition, alert, cooperative, and oriented. His vital signs were as follows: blood pressure 132/84 mmHg, pulse rate 78 bpm, respiratory rate 18 breaths per minute, body temperature 36.7°C, and oxygen saturation 97%. Neck examination revealed diffuse thyroid enlargement with a mildly firm and non-tender consistency. No cervical lymphadenopathy was detected, and

oropharyngeal examination was unremarkable. Pulmonary examination revealed normal bilateral breath sounds without adventitious sounds. Systemic examination findings were otherwise unremarkable.
Laboratory investigations demonstrated a TSH level of 9.94 μIU/mL and a T4 level of 0.9 ng/dL. A chest radiograph performed due to his complaints of shortness of breath revealed a 0.5×0.5 cm pulmonary nodule in the right apical region. The patient was diagnosed with hypothyroidism, and levothyroxine sodium therapy was initiated. He was referred to the endocrinology department for thyroid ultrasonography. Given the suspected etiology, the ACE inhibitor (perindopril) was discontinued and replaced with an angiotensin receptor blocker (ARB). Additionally, the patient was referred to the pulmonology department for further evaluation and management of the pulmonary nodule.

RESULTS

Comprehensive clinical evaluation of the patient revealed that the presenting symptoms were multifactorial in origin. Laboratory analyses indicated a thyrotropin (TSH) level of 9.94 μIU/mL, exceeding the reference range, and a free thyroxine (fT4) level of 0.9 ng/dL, which was below the normal range, supporting a diagnosis of primary hypothyroidism. A chest radiograph, performed due to the patient's respiratory complaints, demonstrated a 0.5×0.5 cm pulmonary nodule in the right apical region, lacking irregular borders.
Detailed medication history revealed that the patient had been using perindopril for the past two months, with the onset of dry cough coinciding with the initiation of this medication. Given the clinical presentation and temporal association, ACE inhibitor-induced cough was suspected, leading to discontinuation of the drug and replacement with an angiotensin receptor blocker (ARB). Follow-up evaluations revealed marked improvement in cough symptoms after the medication adjustment.
The patient was managed based on the following preliminary diagnoses:

- Primary hypothyroidism: Levothyroxine therapy was initiated, and the patient was referred to the endocrinology outpatient clinic for further evaluation and follow-up.
- Chronic dry cough secondary to ACE inhibitor: Given the suspected drug-induced etiology, pharmacological management was revised accordingly.
- Incidental pulmonary nodule: Considering the patient's status as a current smoker with a 20 pack-year history, he was categorized as being at increased risk for malignancy. Consequently, he was referred to the pulmonology outpatient clinic for low-dose thoracic computed tomography and further monitoring.

This clinical presentation demonstrates that superficial evaluation of symptoms may obscure serious underlying systemic pathologies. A holistic and multidisciplinary approach significantly enhances diagnostic accuracy and patient management in family medicine practice.

DISCUSSION

Throat irritation and dry cough are nonspecific symptoms that may arise from a wide range of etiologies. In this case, these symptoms were found to be associated with multiple underlying pathologies, necessitating a comprehensive approach to diagnosis and management:

- ACE Inhibitor-Induced Cough: This condition is attributed to the accumulation of bradykinin and substance P, which can lead to persistent cough (Alp, Karahan, & Kalçık, 2018).
- Hypothyroidism and Its Respiratory Implications: Hypothyroidism can contribute to mucosaledema, dyspnea, and impaired pulmonary function. (Yılmaz, Adas, Helvaci, Altintas, & Günaldi, 2013)
- Diffuse Thyroid Enlargement: Enlargement of the thyroid gland may exert compressive effectson adjacent anatomical structures, resulting in dysphagia, dyspnea, and voice alterations. (Menekşe, 2018)
- Pulmonary Nodule: The presence of a pulmonary nodule in a patient with a significant smoking history warrants careful monitoring due to the potential risk of malignancy. While small nodules are generally considered low risk, those detected in smokers require close surveillance (Verım, Kara, & Sarı, 2012).

The Fleischner Society Guidelines serve as a valuable reference for the management of pulmonary nodules. According to the latest recommendations:

- Nodules <6 mm are generally considered low risk and do not typically necessitate follow-up.
- In high-risk individuals, such as smokers, low-dose thoracic CT at 3- to 6-month intervals is recommended.
- Nodules measuring 6-8 mm should be reassessed with follow-up CT every 6-12 months to monitor for changes in size or morphology.

- Nodules >8 mm require more detailed evaluation due to an increased risk of malignancy. Advanced imaging techniques such as PET-CT, as well as biopsy, should be considered based on the radiological characteristics of the nodule. (MacMahon et al., 2017)

CONCLUSION

This case underscores the critical role of family medicine beyond symptomatic management, emphasizing its contribution to comprehensive patient evaluation through a multidisciplinary approach. As the first point of contact between patients and the healthcare system, family physicians play an essential role in early diagnosis and intervention, highlighting the importance of a detailed clinical history and thorough physical examination. (Çaylan, 2016)

Given the long-term pulmonary effects of smoking, routine surveillance is crucial for patients with detected pulmonary nodules. Additionally, patient education regarding potential medication side effects, coupled with a multidisciplinary treatment approach, significantly enhances early disease recognition and management. Maintaining high clinical suspicion, ensuring appropriate utilization of advanced imaging, and implementing systematic follow-up strategies are imperative in preventing complications and optimizing patient outcomes.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-31 · The Impact of Low Back Pain on Work Productivity: A Scale Development Study

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ABSTRACT

Introduction: Low back pain is a major factor causing productivity loss among occupational “musculoskeletal disorders” and is a significant global public health issue. In 2020, it accounted for 619 million cases worldwide, making it one of the leading causes of years lived with disability (YLD) and severely reducing quality of life (Carregaro et al., 2020; Ferreira et al., 2023). This study aimed to develop a tool to assess the impact of low back pain on work motivation, performance, and productivity, addressing the lack of such an instrument in the literature.

Materials and Methods: This methodological study focused on developing a scale. The sample included individuals aged 18 years or older, actively employed in various sectors, and presenting with low back pain at T.C. SB Hitit University Çorum Erol Olçok Training and Research Hospital’s Neurosurgery Clinic between February 1 and May 1, 2024. A 25-item pool was created based on a literature review and expert contributions. Five experts reviewed the items, and necessary revisions were made. A five-point Likert scale was used. Construct validity was assessed using exploratory (EFA) and confirmatory factor analyses (CFA), while criterion validity was tested through correlations with the Oswestry Disability Index (ODI) (Yakut et al., 2004). The cut-off value was determined via ROC analysis, based on ODI sensitivity and specificity.

Results: The study group (n=247) included 50.2% women (n=124), with a mean age of 37.49±9.45 years. The KMO value was 0.872, and Bartlett's test p-value was <0.001, confirming the suitability for factor analysis. EFA and internal consistency analyses indicated reliability, with five subfactors and a Cronbach's alpha of 0.890. The Guttman Split-Half coefficient was 0.789, demonstrating adequate reliability. A low-to-moderate positive correlation was found between the scale and ODI (r=+0.382; p<0.001). CFA results showed $x^2/df=389/160$, CFI=0.904, TLI=0.886, SRMR=0.0636, and RMSEA=0.076, indicating good fit. The ROC

curve determined a cut-off score of 63.5 (Sensitivity: 78%, Specificity: 59%), with 43.3% of participants experiencing productivity loss due to low back pain. The area under the curve was 72.2% ($p<0.001$). Scores ranged from 20 to 100, with higher scores indicating greater negative impact. Scores of 63.5 or above reflected significant productivity impairment.
Conclusion: This scale is a valid and reliable tool for evaluating the impact of low back pain on work productivity. Clinicians can use it to consider workplace factors, helping to prevent productivity loss and mitigate broader health issues.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Low back pain, work productivity, scale

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-32 · A Case of Brucellosis with Low Back and Leg Pain

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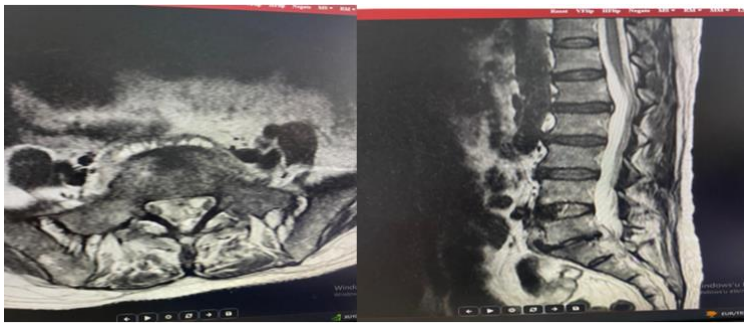
ABSTRACT

Introduction: Brucellosis, a zoonotic infection, is common in our country and can also affect the nervous system (Demirdağ et al., 2002; Kandemir, 2015; Özer et al., 1998). Therefore, brucellosis should be included in the differential diagnosis in patients with low back and back pain. Our aim in this study is to share the clinical, radiological and laboratory findings of a patient we diagnosed with epidural abscess and spondylodiscitis and to enlighten our colleagues working in the primary care unit on this issue.

Case Presentation: In 2024, a 60-year-old female patient referred to Ordu University Education and Research Hospital with a preliminary diagnosis of Lumbar Disc Herniation was evaluated for preoperative radiological, clinical and laboratory findings. The patient was admitted to the ward due to loss of strength in the dorsiflexion of the right foot. Lumbar MRI taken after the patient was admitted to the hospital showed spondylodiscitis in the L5-S1 disc space and epidural abscess in this space (Figure 1).

Figure 1

Lumbar MRI images of the patient



Leukocyte: 8000, hemoglobin: 10.9, H CRP: 134, sedimentation: 74, Brucella agglutination test was positive at 1/640 titer, Tuberculin skin test was negative. The patient's history included waist and back pain that worsened at night, fever and sweating. The patient underwent emergency surgery due to motor deficit. The epidural abscess was drained. Culture and pathological specimen were taken. The patient was transferred to the Infectious Diseases Department on the first postoperative day for medical treatment. The loss of strength in the foot improved during follow-up. The patient, whose back and waist pains also decreased, was discharged from the hospital after receiving outpatient treatment. The patient's culture result was positive during follow-up.

Discussion: Brucellosis is a disease that should be kept in mind in the differential diagnosis of patients with back and waist pain due to its endemic nature in our country.

Conclusion: Early diagnosis is very important as it can affect not only the spine but also the central nervous system and cause serious neurological damage. Delay in diagnosis in a patient who could potentially be treated as an outpatient in the outpatient clinic has increased the cost of treatment exponentially due to complications as well as the difficulties it brings to the patient.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Brucellosis, spine, spondylodiscitis

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-33 · A Case of Splenic Artery Aneurysm Rupture with Delirium and Incisional Hernia

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ABSTRACT

Introduction: Splenic artery aneurysms are the most common among visceral artery aneurysms, with an incidence of 0.1-0.2%. The rupture of splenic artery aneurysms is a rare condition with a high mortality rate (25-75%). We present the course of a rare case of spontaneous ruptured splenic artery aneurysm with a high mortality risk.

Case Presentation: Our patient is a 60-year-old male who presented to a district state hospital with complaints of sudden onset abdominal pain radiating to the back. Computed tomography revealed a splenic artery aneurysm rupture, and he was referred to our clinic via the 112-emergency coordination center. The patient was received in the emergency room. The patient was quickly taken to surgery. Following splenectomy, the splenic artery was ligated proximally and distally.

Splenectomy allowed better hemorrhage control. Except for delirium in the postoperative period in the ICU (intensive care unit), no complications were noted. During long-term follow-up, the patient developed an incisional hernia and underwent surgery for it in the eighth month. Our patient is healthy and has no complaints at the 15th month controls.

Conclusion: Our patient, who presented with a ruptured splenic artery aneurysm, recovered with emergency laparotomy. In hemodynamically unstable patients with splenic artery aneurysm rupture, emergency laparotomy is life-saving.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Aneurysm, ruptured, diagnosis, splenectomy, splenic artery, hernia, delirium

INTRODUCTION

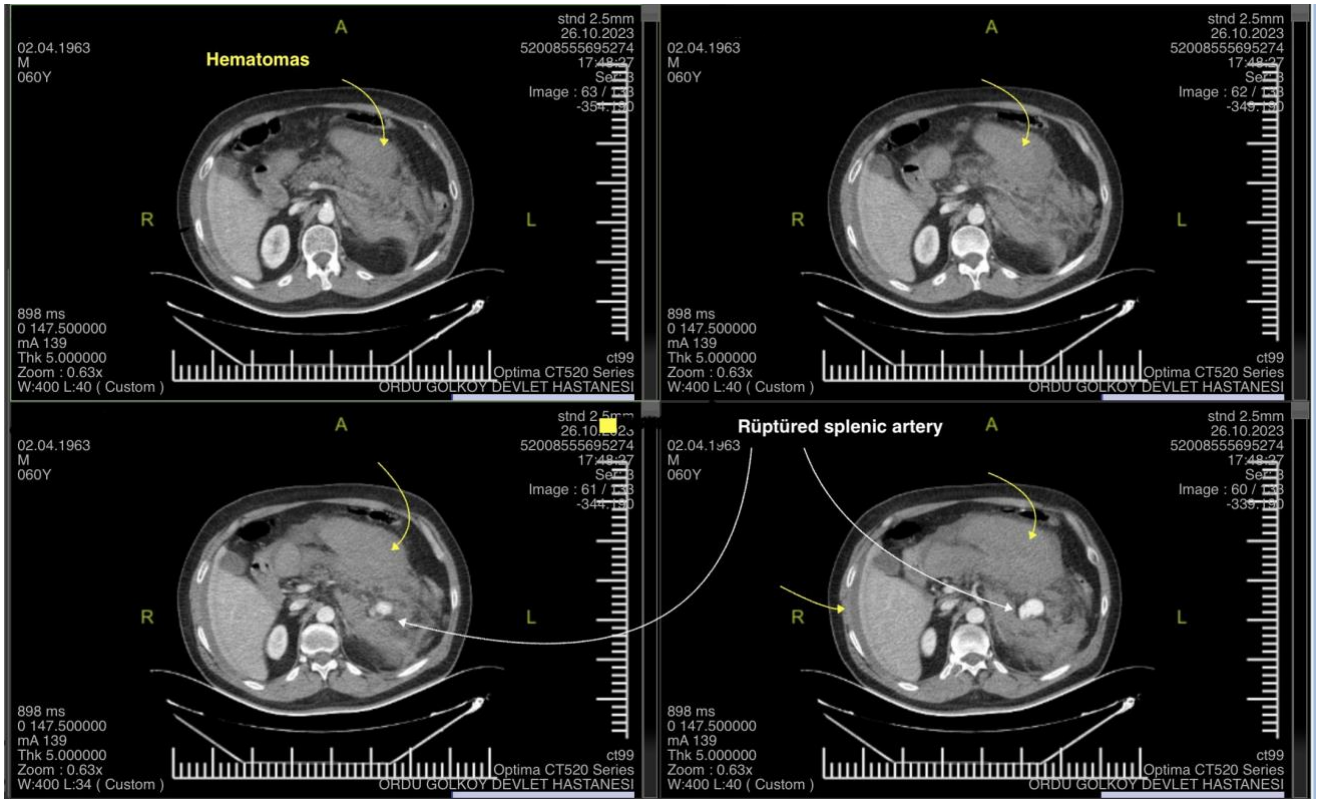
Splenic artery aneurysms are the most common among visceral artery aneurysms, with an incidence of 0.1-0.2%. The rupture of splenic artery aneurysms is a rare condition with a high mortality rate (25-75%). We present the course of a rare case of spontaneous ruptured splenic artery aneurysm with a high mortality risk.

CASE PRESENTATION

Our patient is a 60-year-old male who presented to a district state hospital with complaints of sudden onset abdominal pain radiating to the back. Computed tomography revealed a splenic artery aneurysm rupture, and he was referred to our clinic via the 112-emergency coordination center. The patient was received in the emergency room. He was conscious but appeared highly agitated. He reported severe pain radiating to his left shoulder and back, stating that he was unable to tolerate it. He had no history of smoking or known comorbidities. He had no history of regular medication use. On physical examination, the pulse was 88 beats per minute, and arterial blood pressure was 85/50 mmHg. The epigastric region was defensive. Hemoglobin level measured in the emergency department was 8.2 mg/dl. CT showed an organized hematoma around the ruptured splenic artery and free fluid in the perihepatic area (Image 1).

Image 1

Yellow arrow; hematomas, white arrow; ruptured splenic artery aneurysm



About 40 minutes had passed since the CT was taken. The patient was quickly taken to surgery. A large hematoma extending beyond the lesser omentum and filling the left upper quadrant was evacuated. The lesser omentum was opened and the hematoma in that area was also cleared. It was difficult to access the bleeding site and spleen. Compresses were placed on the actively bleeding area. To increase exposure, the incision was extended to the left subcostal region. Following splenectomy, the splenic artery was ligated proximally and distally. Splenectomy allowed better hemorrhage control. The patient received 3 units of erythrocyte suspension. His hemoglobin was 9.1 mg/dl at discharge. Except for delirium in the postoperative period in the ICU (intensive care unit), no complications were noted. He was discharged on the 7th postoperative day. Pneumococcal, meningococcal, and Haemophilus influenza type B vaccines were administered in the second week after discharge. During long-term follow-up, the patient developed an incisional hernia and underwent surgery for it in the eighth month. Our patient is healthy and has no complaints at the 15th month control.

Ethics Committee Approval: As this is a case report, ethics committee approval was not required. Written informed consent was obtained from the patient.

DISCUSSION

Splenic artery aneurysm was first described by Beaussier in 1770 (Beaussier, 1770). Its prevalence in the population is 0.09% in autopsy series and 0.78% in arteriographic studies (Stanley, Thompson, & Fry, 1970). Visceral artery aneurysms represent 5% of intra-abdominal aneurysms, and the most common type is splenic artery aneurysms, comprising 60% (Chaer et al., 2020; Marone et al., 2011a). These aneurysms are four times more common in women, but the risk of rupture is higher in men (Ierardi et al., 2014). Etiological factors for splenic artery aneurysms include atherosclerosis, medial degeneration, dysplasia, infection and inflammatory diseases, connective tissue disorders, portal hypertension, pregnancy, and iatrogenic causes related to interventional procedures (Marone et al., 2011b). Risk factors for rupture include pregnancy and portal hypertension, which leads to medial hyperplasia and fragmentation of the elastic lamina in the arterial wall (Pararas et al., 2020). Our patient had no comorbidities, history of smoking, or trauma. Endovascular, open surgical, and laparoscopic approaches have all been shown to be effective in the treatment of splenic artery aneurysms (Arca et al., 1999; Chaer et al., 2020). Although successful endovascular interventions for splenic

artery aneurysm rupture have been reported in recent years, open surgical ligation of the splenic artery, with or without splenectomy, remains the first-line treatment (Chaer et al., 2020; Rinaldi, Brioschi, & Marone, 2023). Aneurysm rupture leads to hemodynamic instability and requires urgent transfer to the operating room (Chaer et al., 2020). Typically, the rupture occurs in two stages. In the first stage, the hemorrhage fills the lesser omentum, and the tamponade effect of the hematoma provides temporary control. This phase buys time for intervention. In the second stage, the hemorrhage overcomes the lesser omentum, making hemodynamic stabilization difficult (Pararas et al., 2020). In our patient's CT, there was free hematoma around the liver and spleen, indicating the second stage. We performed emergency laparotomy. There was hematoma in the abdomen, around the spleen and liver, and filling the lesser omentum. Ligation of the splenic artery with splenectomy allowed us to control the bleeding. The patient was monitored in the ICU postoperatively. On postoperative day 4, he developed delirium. Delirium is seen in 70–87% of ICU patients (Ely et al., 2001). It may have been triggered by a high-risk condition at admission, lack of sunlight, absence of visitors, medications, or other causes (Ali & Cascella, 2025).

The condition resolved within 24 hours with psychiatric support after transfer to the ward. In the sixth postoperative month, a whole-body CT angiography showed no aneurysms elsewhere in the body, especially intracranial. An incisional hernia developed and was repaired with a retromuscular mesh graft in the eighth month. Patients with previous abdominal surgery have a 10% risk of hernia development, and repair with retromuscular mesh is recommended (Sanders et al., 2023).

CONCLUSION

Our patient, who presented with a ruptured splenic artery aneurysm, recovered with emergency laparotomy. In hemodynamically unstable patients with splenic artery aneurysm rupture, emergency laparotomy is life-saving.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal of interest in this study.

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EBFMC25-OP-34 · Calculation of Brain Volume Measurements by Magnetic Resonance Imaging (MRI) in Patients with Migraine

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ABSTRACT

Introduction: Migraine is a type of primary headache characterized by episodic headache attacks with varying amounts of neurological, autonomic and gastrointestinal symptoms (Russell et al., 1994). The World Health Organization (WHO) considers migraine headache as one of the most disabling and disabling diseases (Bradley et al., 2008; Goadsby et al., 2002). The purpose of this study was to investigate whether brain volume changes in migraine may be related to the course of the disease and whether volumetric MR measurements can be used as a differential diagnostic tool that can predict migraine status and progression in people diagnosed with migraine (Gudmundsson et al., 2013).

Materials and Methods: The study included 130 patients, including patients with a diagnosis of migraine (80 people) (study group) and patients who did not have a prediagnosis of migraine and who did not have any known neurologic disease and for whom MRI was requested for exclusion (50 people) (control group).

One-way ANOVA test and independent test were used for comparisons between migraine and control groups in terms of age, gender and brain volume variables. Statistical significance was set at $p<0.05$.

Results: A statistically significant discrepancy was identified between the healthy and patient groups with respect to the mean values of the right and left hemisphere, brain stem, cerebellum, right and left cerebral cortex, right and left cerebral nucleus, right and left white matter, right and left sulcus, right and left frontal, right and left parietal, right and left temporal, right occipital volume measurements ($p<0.05$). A statistically significant disparity was identified between the healthy and patient groups with respect to several key metrics, including total cerebellum value, right and left cerebellum, right and left cerebellum white matter, right and left cerebellum gray matter, total brain stem, right and left brain stem, right and left mesencephalon, right and left pons, and right medulla volume measurement mean values ($p<0.05$).

Conclusion: We concluded that brain volume changes in migraine may be related to the course of the disease and that volumetric MR measurements can be used as a differential diagnostic tool that can predict migraine status and progression in people diagnosed with migraine. As a result of all these studies, it was concluded that migraine affects the volume in many regions of the brain.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Brain, volume, migraine

CONFLICT OF INTEREST DECLARATION

There is no conflict of interest between the authors or family members of the authors. The authors do not have any consultancy, expertise, working conditions, shareholding, or similar situations that may lead to potential conflicts of interest in any company.

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EBFMC25-OP-35 · A Young Case with Stroke Secondary to Minor Trauma-Related Vertebral Artery Dissection

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ABSTRACT

Introduction: Vertebral artery dissection is a rare but significant cause of posterior circulation ischemia in younger patients with stroke. The delay in the diagnosis and appropriate management may result in fatal outcome.

Case Presentation: In this case report, we presented a young woman who presented with headache and temporary loss of vision and diagnosed with left cerebellar infarction due to dissection of left vertebra artery.

Discussion: In patients presenting with clinical signs suggestive of vertebrobasilar system involvement, traumatic injury should be kept in mind even if the patient did not mention in the initial assessment.

Conclusion: In the differential diagnosis of younger patients with stroke, vertebral artery dissection should be suspected, and appropriate radiological evaluations should be planned for diagnosis.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Younger patient with stroke, trauma, vertebral artery dissection

INTRODUCTION

Young ischemic stroke is defined as ischemic stroke seen in individuals younger than 55 years. Cervical artery dissections are significant causes of stroke in younger individuals, involving carotid artery and vertebral artery dissections. The vertebral artery dissection is less common than carotid dissection. Etiology includes genetic disorders, trauma; however, it may occur spontaneously. Post-traumatic dissection can occur following major traumas as well as it may occur due to minor traumas such as simple physical activities, valsalva maneuver, cough or sneezing. The vertebral artery dissection is seen in younger patients when compared to carotid artery dissection, with incidence of 0.97: 100.000. It is thought that true incidence is higher as some cases are asymptomatic (Lee, Brown, Mandrekar, & Mokri, 2006). The vertebral artery dissections is a rare cause of stroke; and delayed diagnosis and treatment can result in mortality (Schievink, 2001).

CASE PRESENTATION

A 31-years old woman presented to emergency department with headache over 3 days; followed by loss of monocular vision over 15 minutes. In her history, it was found out that she had pain at head and neck region over a few days which she neglected but presented to emergency department due to onset of loss of vision. On diffusion MR imaging, multiple areas of infarct were detected at left cerebellar hemisphere. The patient was diagnosed as cerebrovascular stroke and admitted to neurology clinic. Again, in her history, it was found out that the patient experienced severe and persistent neck pain after sleeping with her child one week ago. It was also found that moderate headache persisted after the neck pain but did not affect her daily living, but she became concerned with onset of loss of vision. Based on her history, vertebral artery dissection was suspected in the patient. In addition, the patient had no history of chronic disease, hormone use, smoking or alcohol or

substance use. She had family history of coronary artery disease. After initial assessment, the patient underwent carotid-vertebral artery CT angiography which was inconclusive. Thus, the patient underwent carotid-vertebral artery MR angiography and fat-suppressed cervical MR imaging with suspected vertebral artery dissection. On MR imaging, there was narrowing vertebral artery lumen at V2 segment, false lumen sign and slow-flow. Anticoagulation was performed using warfarin with the diagnosis of vertebral artery dissection with extra-cranial involvement. After admission, no novel neurological deficit was observed with relief in head-neck pain. The patient underwent to identify etiology of young stroke and referred to another facility for DSA. Figure 1: A) Multiple areas of acute infarct at left cerebellar hemisphere on diffusion MR imaging; B) False lumen sign at V2 segment of left vertebral artery on T1-weighted low-noise, thin-slice cervical MR imaging.

DISCUSSION

Discussion: The cervical artery dissection accounts for 2% of all ischemic strokes and 10-25% of strokes inpatients younger than 55 years (young stroke). The cervical artery dissection are classified into two categories as carotid artery dissection and vertebral artery dissection (Goeggel Simonetti et al., 2015). Clinical presentation may be highly variable. Mild cases may be asymptomatic while it may be life-threatening in severe cases. Headache, neck pain, vertigo and dizziness are the most commonly reported findings. In addition, there may be tenderness at scalp, tinnitus or loss of vision. Acute stroke or transient ischemic attack are seen in patients diagnosed with highest risk for stroke within first two week after onset of dissection. Thus, dissection should be suspected in younger patients with stroke, particularly in the presence of headache and neck pain (Simon, Nassar, & Mohseni, 2017). Vertebral artery dissection may be either spontaneous or traumatic. In spontaneous form, dissection general occurs due to the weakened vessel wall caused by underlying vascular or connective tissue disorders. In addition, minor triggering factors may also be seen in spontaneous dissection. The degree of injury may range from irregular vascular wall, intracranial or extracranial bleeding to complete transection. Studies indicated that approximately 30-40% of carotid and vertebral artery dissections developed following a trauma. Although car accident- or sport-related injuries seem to be more commonly associated with dissection, minor traumas are more common reasons underlying dissections. Sneezing, blowing nose, weight lifting, sexual intercourse, yoga, fall and scuba diving as well as all mechanical events related to neck movements have been linked to cervical artery dissection (Engelter et al., 2013; Schievink, 2001; Simon, Nassar, & Mohseni, 2017). In arterial dissection, a hematoma is formed within the vessel wall due to tears at adventitia and intimal layer. The hematoma may lead narrowing or occlusion of the vessel or disrupt blood flow. A double-lumen sign called false lumen can be seen due to blood diffusion into vascular wall after formation of tears. The false lumen sign is highly helpful in the diagnosis on MR images (Schievink, 2001). The CT angiography (CTA) is the recommended imaging study in vertebral artery dissection. The CTA has sensitivity of 100% and specificity of 98% in the diagnosis. In recent years, upon advance in neurovascular imaging technology, high-resolution magnetic resonance imaging is being effectively used to show intimal flap and blood clot within an artery while T1-weighted images are used to show hyperintensity of vessel wall. Conventional angiography, which is gold standard in the diagnosis of vertebral artery dissection, is recommended in the presence of clinic suspicion when both CTA and MR imaging are negative (Fusco & Harrigan, 2011; Shakir et al., 2016). The treatment options may vary based on location of dissection, symptoms and degree of injury. Eligible patients presented within first 3 hours after symptom onset are assessed for systemic thrombolytic therapy. Thrombolysis via catheter angiography can be considered in ineligible patients who presented within first 4 or 5 hours. In patients who are ineligible for thrombolytic therapy, anticoagulation, anti-platelet therapy and endovascular or open surgical repair can be planned (Brommeland et al., 2018; Elder & Tuma, 2018; Yaguchi et al., 2019). In patients with vertebral dissection, it was reported that the risk for palsy and death were 24% and 8%, respectively. Poor prognostic factors include advanced age, bilateral involvement, arterial occlusion, insufficient collateral circulation, brainstem involvement and severe stroke at time of diagnosis. Prognosis is good in patients survived. Recovery without sequel was reported in 88% of patients (De Bray et al., 1997; Stahmer et al., 1997).

CONCLUSION

In young population, dissection should be kept in mind in cases presented with clinical signs suggestive of posterior circulation disorder even if suspected history is lacking and neuroradiological imaging studies should be performed rapidly to allow diagnosis and timely management.

CONFLICT OF INTEREST DECLARATION

There is no conflict of interest.

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EBFMC25-OP-36 · Clinical and Sociodemographic Characteristics of Patients with Subjective Cognitive Impairment

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ABSTRACT

Introduction: Subjective cognitive impairment is a clinical condition where there is a decline in memory and intellectual functions but not in neuropsychological tests and functionality. In previous studies, it was shown that subjective cognitive impairment may be an early sign of dementia.

Materials and Methods: In this study we reviewed data from 129 patients who presented to our neurology outpatient clinics with forgetfulness between 01.07.2023 and 01.03.2025 and were diagnosed with subjective cognitive impairment by excluding dementia, Alzheimer's disease or mild cognitive impairment. All patients were assessed using MMSE (Mini-Mental State Examination); Lawton & Brody Activities of Daily Living (ADL) scale; Geriatric Depression Scale (GDS); and Epworth Sleepiness Scale; in addition, age, smoking and alcohol use, comorbid vascular disorders, and presence or absence of hearing problems were also assessed.

Results: Mean age was 68.07 ± 7.31 years (min: 51, max: 89 years). Of the patients, 65 were female. It was found that mean MMT score was 27 while mean Lawton & Brody ADL score was 7. Based on GDS results; 42 patients were diagnosed with definitive depression while there was hearing problems in 28 patients. It was found that majority of patients (58%) had hypertension while 34% had diabetes mellitus.

Conclusion: The detailed evaluation of patients presented with forgetfulness, early diagnosis of the entity with masked clinical signs such as subjective cognitive impairment, meticulous follow-up, implementing measures needed and treatment are highly important regarding quality of life in these patients.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Cognitive loss, dementia, early diagnosis, subjective cognitive impairment

INTRODUCTION

Subjective cognitive impairment is a clinical condition where there is a decline in memory and intellectual functions but not in neuropsychological tests and functionality. It has been shown that subjective cognitive

impairment may be an early sign of mild cognitive impairment and dementia (Mitchell et al., 2014). Today, forgetfulness is a highly common complaint with higher likelihood among individuals older than 65 years. The studies on subjective cognitive impairment were generally conducted in individuals at advanced age, reporting that its incidence ranged from 32% to 88% among individuals older than 65 years (Bassett & Folstein, 1993; Cheng et al., 2023). In our study, we aimed to present data analysis of sociodemographic, clinical and selected risk factors in patients who were followed with a diagnosis of subjective cognitive impairment in our clinic.

MATERIALS AND METHODS

The study included 129 patients who presented to our neurology outpatient clinics with forgetfulness between 01.07.2023 and 01.03.2025 and were diagnosed with subjective cognitive impairment but not dementia, Alzheimer's disease or mild cognitive impairment. In all patients, cognitive state was assessed using MMSE (Mini-Mental State Examination), while instrumental daily living activities using Lawton & Brody Activities of Daily Living (ADL) scale; depression using Geriatric Depression Scale (GDS); and daytime sleepiness using Epworth Sleepiness Scale. In addition, vascular risk factors including hypertension, diabetes mellitus, dyslipidemia and history of cardiovascular disorder; smoking and alcohol use; presence or absence of hearing problems; age, gender and level of education were also assessed.

RESULTS

Mean age was 68.07 ± 7.31 years (min: 51, max: 89 years). Of the patients, %36.4 (n=47) were male whereas 64.6% (n=82) were female. In addition, 82.1% (n=106) were primary school graduate or illiterate while 15.6% (n=20) were secondary school or high school graduate and 2.3% (n=3) had college degree. It was found that mean MMT score was 26.75 ±1.65 while mean Lawton & Brody ADL score was 7.34 ± 0.94. Based on GDS results, it was found that there was definitive depression in 32.5% (n=42), possible depression in 10.8% (n=14) and no depression in 56.5% (n=73). Based on Epworth Sleepiness Scale results, it was found that 53.4% (n=69) of patients were normal while there was normal but increased dozing in 24% (n=31), increased but mild dozing 10% (n=13), increased moderate dozing 7.7% (n=10), increased severe dozing 4.6% (n=6). Of the patients, 21.7% (n=28) had hearing problem; 6.9% (n=9) were using hearing aids. Of the patients, 17.8% (n=23) were active smokers while 10.8% (n=14) quitted smoker and alcohol and 24.0% (n=31) were ex-smoker. In addition, it was reported that there was hypertension in 58.1% (n=75), diabetes mellitus in 34.1% (n=44), dyslipidemia in 9.3% (n=12), heart diseases in 13.1% (n=17), other comorbid disease in 58.9% (n=76) while there was no comorbid disease in 8.5% (n=11) of the patients.

DISCUSSION

The cognitive performance in subjective cognitive impairment hasn't been impaired as much as mild cognitive impairment. The subjective cognitive impairment differs from mild cognitive impairment and dementia by lack of abnormalities in neuropsychological tests and unaffected daily living activities. Individuals who performed normal in neuropsychological test despite memory complaints are defined as subjective cognitive impairment while individuals who performed 1.5 or 2 SD below normal score are defined as mild cognitive impairment (Abdulrab & Heun, 2008; Viviano et al., 2019). As a part of healthy aging, individuals experience performance loss in cognitive functions in advanced ages. In individuals at advanced ages, it is important whether cognitive disorders is a part of normal aging or transition to dementias together with subjective cognitive impairment. In a previous study, it was shown that there was complaints of memory in 15% of individuals aged 18 - 44 years, 43% of those aged 65 - 74 years, 51% of those aged 75 - 84 years and 88% of those 85 years or older and that the rate of increase was higher after 65 years of age and involved distinct cognitive function domains (Bassett & Folstein, 1993). In our study, mean age was 68 years in 129 patients, ranging from 51 to 89 years.

When assessed by gender, it was shown that mild cognitive function was more common in women, and it was suggested that cognitive impairment is associated to mood in women while it had objective association in men (Tomita et al., 2014). In our study, there was 82 of patients (64.6%) were female. As similar to dementias, lower educational level is also a risk factor for subjective cognitive disorder. In a study from South Korea, it was found that mean duration of education was 3.3 years in patients diagnosed with subjective cognitive impairment while it was 5.6 years in those without (Kim, Chang, Lee, & Bae, 2020). In a study from Turkey, Açıkgöz et al. linked low educational level to higher complaints of memory at advanced ages (Açikgöz et al.,

2014). In our study, majority of our patients (82.1%; n=106) were primary school graduate or illiterate while 15.6% (n=20) were secondary school or high school graduate and 2.3% (n=3) had college degree. In agreement with other studies, illiterate individuals or those with lower educational level comprised majority of our study population. Since the use of cognitive screening tests in subjective cognitive impairment (SCI) is not consistent with the definition and diagnostic criteria of the disorder, it is deemed that the use of cognitive screening tests such as the MMSE (Mini-Mental State Examination), which are used to detect the diagnosis and progression of Alzheimer's, other types of dementia, or mild cognitive impairment, are not suitable for routine practice (Jessen et al., 2014). However, in the studies, it was seen that that the individuals with subjective cognitive impairment tended to perform worse on the MMSE compared to those without (Açikgöz et al., 2014). Thus, it seems that there is need for more comprehensive neuropsychological tests tailored to the nature of the disease. In our patients, the mean MMSE score was found as 27 in agreement with the literature. Subjective cognitive decline represents memory complaints due to forgetfulness in daily living activities (Açikgöz et al., 2014). In elderly individuals, the performance was assessed using the Lawton and Brody Instrumental Activities of Daily Living Scale in our study and found that there was no dependency in our patients with a score of 7.3 (Lawton & Brody, 1969). It is known there are also cognitive symptoms, in addition to emotional and physical symptoms in patients with depression. Subjective cognitive impairment is frequently seen in this patient group (Lahr et al., 2007; Ottowitz et al., 2002). In these patients, it is thought that the cognitive impairment in results from hippocampal damage and shrinkage, increased cortisol levels, and disruption of the hypothalamic-pituitary-adrenal axis (Hammar & Årdal, 2009). In our patient population, it was found that there was definitive depression in 32.5% (n=42), possible depression in 10.8% (n=14) and no depression in 56.5% (n=73) based on GDS results. The studies suggest that hearing loss may be associated with dementia. The decreased stimulant effect due to hearing loss and consequent decline in social interaction also affects cognitive functions in an individual. When compared to those without hearing loss, patients the risk for dementia was increased by 2-folds in patients with mild hearing loss, 3-folds in patients with moderate hearing loss, and 5-folds in patients with severe hearing loss (Arlinger, 2003; Lin et al., 2011; Uhlmann et al., 1989). In our study population, 21.7% of patients (n=28) had hearing problem; 6.9% (n=9) were using hearing aids. Attention deficit is seen in patients with sleep disorders and excessive daytime sleepiness. As a result, decline in cognitive functions and memory problems develop. The risk for cognitive decline is increased by 30% in individuals with sleep disorders and it is recommended to follow such patients for dementia risk. In our study, it was found that 53.4% (n=69) of patients were normal while there was normal but increased dozing in 24% (n=31), increased but mild dozing 10% (n=13), increased moderate dozing 7.7% (n=10), increased severe dozing 4.6% (n=6) based on Epworth Sleepiness Scale results. It is thought that the shared vascular risk factors the possible reason underlying the relationship between subjective cognitive impairment and risk for stroke. In some studies, it was shown that there is a relationship between subjective cognitive impairment and micro-hemorrhage and white matter lesions (Cordonnier et al., 2006; Rostamian et al., 2014; Stewart et al., 2011). Thus, we evaluated the most common vascular risk factors including hypertension, diabetes mellitus, dyslipidemia, heart disease, smoking and alcohol use. It was found that there was hypertension in 58.1% (n=75), diabetes mellitus in 34.1% (n=44), dyslipidemia in 9.3% (n=12), heart diseases in 13.1% (n=17) of our patients while 17.8% (n=23) were active smokers while 10.8% (n=14) quitted smoker and alcohol and 24.0% (n=31) were ex-smoker.

CONCLUSION

The risk for development of dementia is 2-folds higher in elder individuals with subjective cognitive impairment when compared normal elderly population. Of the elder individuals with subjective cognitive impairment, 2.3% and 6.6% progress to dementias and mild cognitive impairment, respectively (Mitchell et al., 2014). It was shown that 10% of subjective cognitive impairment incidents may progress into dementia and mild cognitive impairment. It is recommended to assess subjective cognitive impairment in detail in patients who presented with forgetfulness but not received diagnosis of mild cognitive impairment or dementia (Moret-Tatay et al., 2023; Poptsi et al., 2023). The studies directed to early diagnosis and prevention of subjective cognitive impairment will help decreasing socioeconomic burden due to dementia.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-37 · Acute Occipital Lobe Infarction in a Patient Presenting with Complaint of Decreased Vision

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ABSTRACT

Introduction: Homonymous hemianopia (HH) may occur due to pathologies involving posterior visual pathways, such as ischemia or infarction of the occipital cortex.
Case Presentation: Detection of visual field defects plays a key role in the early diagnosis and management of many potentially life-threatening conditions.
Discussion: HH may impair daily activities such as driving or reading and can lead to decreased vision. Thus, patients may have difficulty describing their visual field defects.
Conclusion: The confrontation test is the most frequently used and easily applicable screening tool for assessing visual field defects in the presence of HH.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Homonymous hemianopia, confrontation, visual field

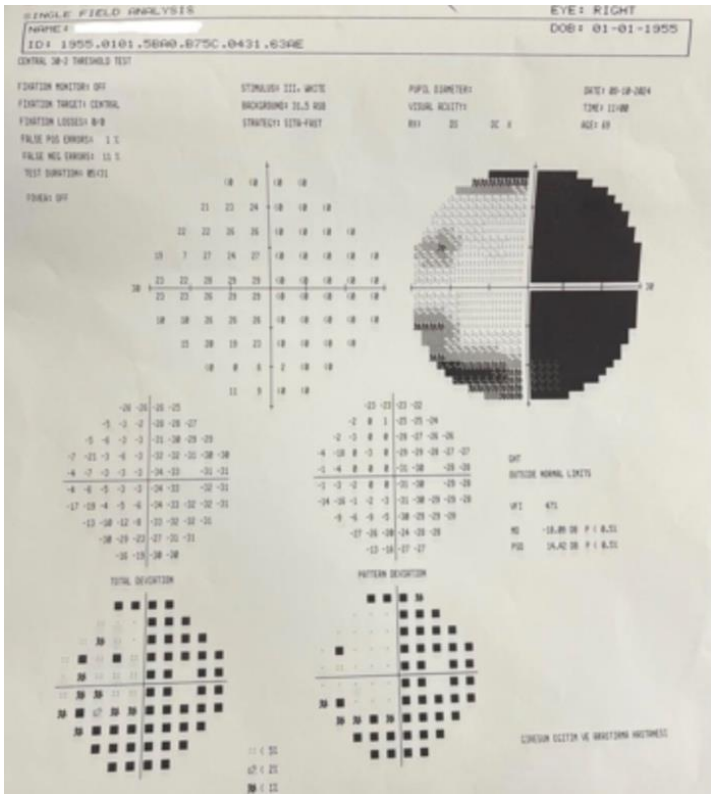
INTRODUCTION

Homonymous hemianopia (HH) or homonymous hemianopsia is a visual field defect characterized by loss of vision occurring in the same half of the visual field in both eyes. Pathologies involving the posterior visual pathways can cause homonymous hemianopia (HH). Among these pathologies, occipital cortex ischemia or infarction is the most common cause, accounting for approximately 75% of cases; however, lesions involving the optic tract and optic radiations have also been reported to result in HH (Kedar et al., 2007). In a study by Zhang et al. involving 904 cases, HH showed nearly equal gender distribution (male 52%, female 48%) with a mean patient age around 50 years (Zhang et al., 2006). Detection of visual field defects has a significant impact on the early diagnosis and management of various diseases. The confrontation test is the most frequently used screening method for evaluating visual field defects in the presence of HH. Another option is automated or manual (Goldmann, tangent screen, Humphrey visual field) perimetry testing (Ruia & Tripathy, 2023). In this study, we present a case of acute occipital lobe infarction detected in a patient who presented to the ophthalmology outpatient clinic with a complaint of decreased vision. The confrontation test was initially used as a screening method, raising suspicion of right homonymous hemianopia. Following confirmation with Humphrey visual field testing, subsequent cranial imaging revealed acute occipital lobe infarction.

CASE PRESENTATION

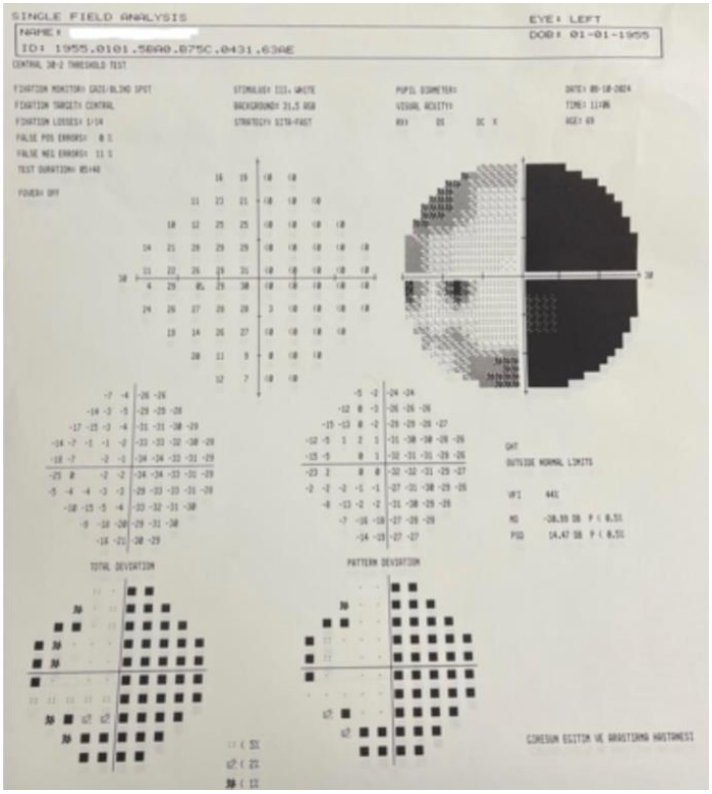
A 70-year-old male patient presented to the ophthalmology clinic with complaints of bilateral visual deterioration lasting for two days. Clinically, the patient was partially uncooperative and poorly compliant with examination. Visual acuity (VA) was 0.6 in both eyes. During confrontation testing, the patient showed no object tracking on the right side. Intraocular pressure (IOP) was measured as 17 mmHg in the right eye and 18 mmHg in the left eye. Anterior segment examination revealed normal conjunctiva, clear cornea, and normal anterior chamber in both eyes. Fundus examination showed bilateral optic discs and retinas to be normal. Spectral domain optical coherence tomography (SD-OCT) findings were unremarkable. Humphrey visual field testing revealed right homonymous hemianopia (Figure 1).

Figure 1



Cranial imaging was performed due to suspected acute cerebrovascular event. Cranial tomography (CT) showed an acute cerebral infarction in the left occipital lobe paramedian region (Figure 2). The patient was urgently referred to the neurology clinic for acute cerebral infarction management.

Figure 2



Detection of visual field defects plays a key role in the early diagnosis and management of many vital diseases.

DISCUSSION

HH can impair activities such as driving or reading and cause decreased vision (Elgin et al., 2010; Zihl, 1995). Therefore, the history of patients presenting with these complaints should be thoroughly evaluated. Accompanying symptoms and physical examination are critical for diagnosis. HH often results from vascular injury. Cerebral infarctions and intracranial hemorrhages are the most common causes in adults, accounting for approximately 42% to 89% of cases. These are followed by tumors, trauma, iatrogenic events, demyelinating disorders, and neurological diseases (Ruia & Tripathy, 2023). Typically, during the confrontation test, the examiner sits opposite the patient at eye level. The patient covers one eye and is instructed to fixate on a stationary target (usually the examiner's eye). The examiner slowly brings an object or a light from the nasal, superior, temporal, inferior, and oblique quadrants toward the center sequentially. The regions where the patient notices the object roughly determine the patient's visual field. This procedure is repeated for both eyes.

CONCLUSION

Detection of visual field defects significantly impacts the early diagnosis and management of numerous potentially life-threatening conditions. The confrontation test is a simple screening method easily performed by physicians in outpatient settings and may play a critical role in the preliminary diagnosis of acute cerebral infarctions

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-38 · Myiasis Cases in Primary Care: Evaluation of Intact Skin and Wound Infections

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ABSTRACT

Introduction: Myiasis is a parasitic infestation caused by the settlement and development of fly larvae in human or animal tissues. Although this condition is usually seen in tropical and subtropical regions, it is also reported in wider geographies due to migration, travelling and changes in hygiene conditions (Francesconi & Lupi, 2012). Myiasis cases may develop in open lesions such as wounds, ulcers, surgical sites, or rarely through larval penetration through intact skin (Robbins & Khachemoune, 2010). Diagnosis and management of myiasis cases in primary health care is often challenging. In particular, cases of myiasis developing on intact skin may be confused with cellulitis, folliculitis or other skin infections. The ability of family physicians to recognise such cases is of great importance (McGraw & Turiansky, 2008). In community-based health services, individuals' old age, poverty, lack of hygiene, underlying diseases and being in need of care also increase the risk of myiasis (Shinohara et al., 2004). This study aims to evaluate myiasis cases admitted to primary health care services within the scope of intact skin and wound infections, to define their clinical features and to contribute to family medicine practices.

Materials and Methods: Cases of intact skin and wound myiasis were evaluated from a primary care perspective; aetiology, clinical findings, diagnostic methods and management strategies were discussed in the light of the literature.

Results: Myiasis agents are generally fly species belonging to the families Calliphoridae (blowflies), Sarcophagidae (flesh flies) and Oestridae. The most frequently encountered species include Cochliomyia hominivorax, Dermatobia hominis and Chrysomya bezziana (McGraw & Turiansky, 2008).

Conclusion: Family physicians are the first point of contact in the diagnosis of myiasis. Early diagnosis is critical to prevent complications. Wound care and environmental hygiene are especially important in elderly, bedridden or immunocompromised individuals. Increasing the awareness of healthcare professionals working in primary care about myiasis may improve case management (Yotsu et al., 2011). Myiasis is an easily recognisable and manageable infestation that can be encountered in primary health care services, especially in developing countries. It can be prevented by hygiene, protection of open wounds and patient education. Recognition of myiasis in family medicine practices provides important gains in terms of both individual and community health.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Myiasis, tissue, human

INTRODUCTION

Myiasis is a parasitic infestation caused by the development of fly larvae within human or animal tissues. Although it is predominantly observed in tropical and subtropical regions, due to migration, travel, and changing hygiene conditions, it has also been reported in wider geographical areas (Francesconi & Lupi, 2012). Myiasis can occur in open lesions such as wounds, ulcers, or surgical sites, but it can also rarely present through larval penetration of intact skin (Robbins & Khachemoune, 2010).

Diagnosing and managing myiasis cases in primary healthcare settings can be challenging, particularly when involving intact skin, as it may be misdiagnosed as cellulitis, folliculitis, or other skin infections. Therefore, the ability of family physicians to differentiate such cases is of great importance (McGraw & Turiansky, 2008; Ockenhouse et al., 2005).

In community-based health services, factors such as aging, poverty, poor hygiene, underlying illnesses, and dependency on care also increase the risk of myiasis (Shinohara et al., 2004).

This study aims to evaluate myiasis cases presenting to primary healthcare settings in terms of intact skin and wound infections, define their clinical features, and contribute to family medicine practice.

MATERIALS AND METHODS

Cases of intact skin and wound myiasis were evaluated from a primary care perspective; the etiology, clinical findings, diagnostic methods, and management strategies were discussed in light of the literature.

RESULTS

The causative agents of myiasis generally belong to the fly families Calliphoridae (blowflies), Sarcophagidae (flesh flies), and Oestridae. The most frequently encountered species include Cochliomyia hominivorax, Dermatobia hominis, and Chrysomya bezziana (McGraw & Turiansky, 2008).

Clinically, myiasis is commonly classified as follows:

- Cutaneous myiasis: A self-limiting form in which larvae penetrate intact skin.
- Wound myiasis: Characterized by larval infestation in open wounds.
- Cavitary myiasis: Larvae invade natural body cavities such as the ears, nose, or eyes.
- Gastrointestinal and urogenital myiasis: Rare forms that may develop through ingestion of contaminated food.

Patients typically present with symptoms such as pain, itching, redness, and localized inflammation. Larval movement maybe felt and sometimes observed at the lesion site. In wound myiasis, foul odor, purulent discharge, and necrotic tissue are prominent findings (Yotsu et al., 2011).

Yotsu et al. (2011) described a 48-year-old male patient who presented to a rural health clinic with a painful swelling on the posterior thigh. Upon observing a central pore resembling a breathing hole with visible movement, furuncular myiasis was suspected. The larva was expelled following vaseline application. Similarly, Sharma et al. (2017) reported a diabetic 65-year-old male patient who had more than 15 larvae removed from a foul-smelling wound on the dorsum of his left foot. Robbins and Khachemoune (2010) identified myiasis in a 78-year-old bedridden female Alzheimer's patient who had developed a pressure ulcer on her sacrum. The authors emphasized the increased risk of myiasis in home care patients and the importance of caregiver education and occlusive dressings. Diagnosis of myiasis is usually made clinically; direct observation of the larva is sufficient. In some cases, imaging methods such as ultrasound or dermoscopy can also be used (Francesconi & Lupi, 2012). The primary treatment of myiasis involves the physical removal of larvae. This can be facilitated by occlusive methods (e.g., applying vaseline, ether, or oil-based dressings) to suffocate the larvae and encourage them to surface. In wound myiasis, debridement of necrotic tissue and antiseptic applications are recommended. Topical or systemic antibiotics may be necessary to prevent secondary infections (Robbins & Khachemoune, 2010).

CONCLUSION

Family physicians are often the first point of contact in diagnosing myiasis. Early diagnosis is critical in preventing complications. Ensuring proper wound care and environmental hygiene is particularly important for elderly, bedridden, or immunocompromised individuals. Increasing awareness among primary healthcare professionals about myiasis can improve case management (Gupta et al., 2014; Yotsu et al., 2011). Myiasis is an infestation that can be encountered in primary care settings, especially in developing countries, and is generally easy to recognize and manage. It is preventable through hygiene maintenance, protection of open

wounds, and patient education. Recognizing myiasis in family medicine practices yields significant benefits for both individual and public health.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-39 · Study on the Validity and Reliability of the Spiritual Intelligence Scale in Physicians

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ABSTRACT

Introduction: Historically, many studies have been conducted on Physical Quotient (PQ) and Intelligence Quotient (IQ) and in recent years, the concepts of Emotional Quotient (EQ) and Spiritual Quotient (SQ) have also come to the fore and research on the importance of different intelligence dimensions in terms of a person's performance in both social and professional areas is increasing day by day. The aim of this study is to examine the validity and reliability of the Spiritual Intelligence Scale, developed by Kumar and Mehta (Kumar & Mehta, 2011) and adapted to Turkish by Erduran and Ekşi, and its validity and reliability examined in adolescents (Erduran & Tekin, 2019).

Materials and Methods: This study, which is a methodological research; In February – June 2023, the questionnaire was sent to the registered phone numbers of the physicians with the Google questionnaire file and it was carried out with 301 volunteer physicians. In the first part of the questionnaire, questions containing sociodemographic information were included. Statistical data analysis was performed using the IBM SPSS Statistics 26.0 package program (IBM Corp., Armonk, New York, USA). Construct validity, criterion-related validity, internal consistency reliability, two-half test reliability (divided into two halves) and item analysis methods were used. Explanatory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were performed on the data obtained for construct validity (Tabachnick BG, 2013).

Results: The Cronbach's alpha coefficient of the Spiritual Intelligence Scale was calculated as 0.807. The Barlett sphericity test of the scale was found to be 1253.557 ($p < 0.001$), and the Kaiser-Meyer-Olkin coefficient (KMO) was 0.806, and it was decided that our data were suitable for EFA. As a result of the factor analysis, it was determined that the items were gathered under 4 factors with Eigenvalues greater than 1 and 4 factors explained 47.563% of the cumulative variance. The result of the confirmatory factor analysis was calculated as $\chi 2/df = 2.086$, $p = < 0.001$.

Conclusion: Spiritual intelligence scale was found to be a reliable and valid scale that can be used by physicians ($\alpha = 0.807$).

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Spiritual intelligence, validity, reliability, spiritual care, spirituality

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-40 · Achievements of Transsimed Project in North Macedonia

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ABSTRACT

Introduction: The Transsimed project, funded through the Erasmus+ programme, focuses on establishing a competency-based education system through simulations in primary healthcare, aimed at increasing patient safety in life-threatening situations. The project started in September 2022 and will run for three years. The project partners include the Faculty of Medicine in Skopje, the Faculty of Medicine in Zagreb, the Health Center in Zagreb, and the Health Center Ljubljana. A key objective of the project is the development of a simulation center in North Macedonia that will offer training for doctors and nurses at the primary healthcare level.

Materials and Methods: As part of the project, several workshops have been conducted. One of these was the "BLS" (Basic Life Support) workshop, which was attended by 427 participants. Additionally, the "Anaphylactic Shock" workshop was held from October to December 2024, consisting of 34 workshops with 134 participants. Also, there were 12 workshops with 120 sixth-year medical students, during January – February 2025 there were 9 workshops for community pharmacists with 45 participants.

Results: The general evaluation of the workshops revealed exceptionally high ratings, with 99.6% of participants rating the quality of the workshops as excellent. An important aspect of the education involves integrating simulation-based learning into the standard curriculum. The results have been outstanding: over 90% of students were able to promptly recognize an anaphylactic shock and take appropriate action (Simons et al., 2011). Simulation-based education has been rated as the most effective and realistic approach to improving responses to emergency healthcare situations in everyday work at primary healthcare facilities.

Conclusion: Additionally, the Transsimed project included the training of advanced instructors from North Macedonia at the Ljubljana Simulation Center. These advanced instructors are now equipped to train basic instructors and will work at a high level in all domains of simulation education in primary healthcare. The Transsimed project emphasizes the importance of continuous education through simulations, which is crucial for improving healthcare quality and reducing deaths due to improperly managed emergency situations. The establishment of a simulation center at the primary healthcare level in Skopje will ensure ongoing training for healthcare professionals and contribute to increased patient safety. By the end of 2024, 4,701 participants were trained at the Skopje Simulation Center, further demonstrating the success of the program.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Transsimed project, simulations, primary healthcare

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-41 · A Rare Coronary Anomaly; RCA Arising from LAD

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ABSTRACT

Introduction: This case report presents the history and management of a 67-year-old male patient with a rare variant of coronary artery anomalies, "RCA originating from the LAD". The patient had additional risk factors such as diabetes, hypertension and a history of percutaneous coronary intervention (PCI) of the LAD and RCA.

Case Presentation: After recurrent chest pains, investigations revealed multiple stenoses in the LAD and CX as well as RCA originating from the LAD. Because of this rare anomaly of origin and multiple critical stenoses, the patient underwent triple coronary artery bypass grafting (CABG). The patient recovered clinically on the fifth postoperative day and was recommended regular follow-up and medical treatment before discharge.

Discussion: According to literature data, coronary artery anomalies occur in approximately 0.6 - 1.5% of the general population, and some of them may lead to severe ischemic events or sudden cardiac death. The origin of the RCA from the LAD is a very rare variant in this picture, reported only in 0.02 - 0.05% of angiography series. The course of the anomaly and the presence of associated lesions may affect the prognosis.

Conclusion: In this case, surgical intervention successfully treated the patient and prevented ischemic complications. The main message of this case is that rare coronary anomalies, especially when associated with severe stenoses, are of high clinical importance and early diagnosis and appropriate treatment have a favorable impact on the longterm prognosis of patients.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

RCA arising from LAD, coronary artery anomaly, coronary bypass surgery (CABG), percutaneous coronary intervention (PCI).

INTRODUCTION

Coronary artery anomalies are cardiac anomalies that, despite their relatively low prevalence in the general population, can have clinically important consequences. The most common coronary anomalies include abnormal origin and course of the right coronary artery (RCA). The origin of the RCA from the left coronary system (especially from the left anterior descending artery, LAD) is an extremely rare variation and may predispose to severe ischemic events or sudden cardiac problems in some cases. In this case report, we describe a 67-year-old male patient with a history of known coronary artery disease (CAD) who was successfully discharged after coronary bypass surgery for RCA anomaly arising from the LAD.

CASE PRESENTATION

Demographic Information and History

- Age/sex: 67-year-old male patient.
- Comorbidities: Diabetes mellitus (DM), hypertension (HT), anxiety disorder, benign prostatic hyperplasia (BPH).
- Cardiac History: Previously diagnosed coronary artery disease, history of percutaneous coronary intervention (PCI) to both LAD and RCA. It was learned that the patient had not used antiaggregants for a long time.

The patient had irregular cardiology visits in the last year and was found to have discontinued the recommended antithrombotic treatment. Recently, he presented to the emergency department several times with complaints of chest pain and sweating, and the result of Myocardial Perfusion Scintigraphy (MPS) performed in one of these visits was reported as normal. However, new tests were planned due to recurrent complaints.

Physical Examination and Laboratory Findings

- Physical Examination: Vital signs were stable (blood pressure 130/80 mmHg, pulse 80/min, respiratory rate and O2 saturation within normal limits). No abnormal murmur was detected on cardiac auscultation.
- Laboratory Values: Triglycerides: 287 mg/dL (high) and Hb: 11 g/dL (mild anemia)

Imaging and Cardiology Evaluation

- Echocardiography (ECHO): Ejection fraction (EF) was 55%. Evaluation for segmental wall motion abnormality (SWMD) revealed no significant segmental abnormality despite suboptimal visualization.
- Coronary Angiography Findings:
  - LMCA (Left Main Coronary Artery): Normal.
  - LAD (Left Anterior Descending Artery): 80-90% stenosis was observed in the mid segment; 60-70% stenosis was present in the previously stented area. The distal segment was plaque.
  - CX (Circumflex Artery): Mid segment plaque, 70% stenosis at OM3 osteal.
  - RCA: The right coronary artery was seen to arise from the LAD and a 70% stenosis was reported in the osteal area.

Because of this rare anomaly (RCA originating from the LAD) and multiple stenoses, the patient was referred to the cardiovascular surgery council for coronary bypass surgery.

Surgical Intervention and Postoperative Process

- Operation: The patient underwent "Coronary Artery Bypass Graft (CABG)" for three vessels (LAD, CX and RCA of abnormal origin). Saphenous vein and/or Internal Mammarian Artery (IMA) grafts were used.
- Postoperative Follow-up: On the fifth postoperative day, the patient's general condition was good, hemodynamic parameters were stable and no major abnormality was detected on pulmonary examination. The surgical incisions were clean and healing was uneventful. The patient started to gradually return to daily activities by increasing mobilization.
- Discharge: Approximately one week after surgery, the patient was discharged uneventfully with an outpatient follow-up scheduled ten days later.

(Written informed consent was obtained from the patient for the publication of this case report and any accompanying images.)

DISCUSSION

General Prevalence of Coronary Artery Anomalies

- In large series of patients in the general population (e.g., Yamanaka and Hobbs' 1990 coronary angiography study of 126,595 patients), the overall incidence of coronary artery anomalies ranged from approximately 0.6 to 1.5% (Yamanaka & Hobbs, 1990).
- While some of these anomalies may remain clinically silent, especially those with a so-called "malignant course" may pose a life-threatening risk.

- Most Common Coronary Anomalies
- Separate Ostium of the LAD and LCX Separated from the Left Main Coronary Artery (LMCA)
- Origin of the Right Coronary Artery (RCA) from the Left Sinus of Valsalva (or left coronary sinus)
- Exit of the Circumflex Artery (LCX) from the Right Sinus Valsalva or RCA Ostium
- Exit of the Left Main Coronary Artery (LMCA) from the Right Sinus of Valsalva

RCA Exiting the LAD: A Rare Anomaly

- Origin of the RCA from the LAD is one of the most rarely reported coronary anomalies in the literature. Origin of the RCA from the left coronary system (especially from the LAD) is reported in angiographic studies at very low rates of 0.02-0.05% (even lower in some series) (Roberts, 1986).
- Despite such rarity, the exact course of the abnormality (e.g. interarterial, intramyocardial, etc.) and the presence of additional stenoses may be prognostically decisive.
- RCA originating from the LAD may sometimes be associated with additional bifurcation anomalies or ostial stenoses. Therefore, coronary angiography or CT angiography findings should be analyzed in detail.

Clinical Significance and Risks

- Coronary anomalies may be detected incidentally in some patients; in others, they may lead to a serious clinical picture, such as myocardial ischemia, arrhythmia, syncope or sudden cardiac death.
- In these cases, the course of the coronary arteries is of great importance. Especially if the anomaly is located between the aorta and the pulmonary artery (interarterial course), it is considered higher risk.
- For rare anomalies (e.g. RCA arising from the LAD), the strategy for surgical or percutaneous intervention is determined by the patient's symptoms, additional stenoses, evidence of ischemia and risk factors.

In this case, a 67-year-old male patient with a rare coronary anomaly -right coronary artery (RCA) originating from the left anterior descending artery (LAD)- underwent successful coronary artery bypass grafting (CABG) due to multiple significant stenoses. The surgical approach was necessary given the severity of the lesions and the high risk of ischemic complications. Postoperatively, the patient showed a good clinical recovery, with stable hemodynamic parameters and no significant complications. He was discharged approximately one week after surgery with recommendations for regular follow-up.

CONCLUSION

The rarity of RCA originating from the LAD (0.02-0.05% incidence in angiographic series) underscores the importance of early diagnosis and appropriate intervention. In this case, surgical treatment effectively managed the anomaly and associated stenoses, preventing potential life-threatening ischemic events. The findings highlight the necessity of individualized treatment plans for patients with coronary artery anomalies to improve long-term prognosis (Angelini, 2007; Roberts, 1986).

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-42 · Atypical ECG Finding in Kounis Syndrome: Coexistence of ST-Segment Elevation and De Winter T-Waves

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ABSTRACT

Introduction: Kounis syndrome is a physiologically based mast cell activation syndrome in which acute coronary syndromes (ACS) occur following exposure to an allergen. There are 4 main variants of the syndrome.
Case Presentation: In our case, a 47-year- old male patient was admitted to the emergency department with chest pain that started after a bee sting.
Discussion: ECG performed at the time of admission revealed ST segment elevation in leads DI-aVL-V1 and V2, reciprocal ST segment depression in leads DII-DIII and aVF, and de Winter T waves in leads V3-V6. Angiography revealed LAD stenosis.
Conclusion: No similar ECG pattern was found in the literature.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Kounis syndrome, deWinter T waves, ST segment elevation, anaphylaxia

INTRODUCTION

Kounis syndrome is characterized by mast cell activation and the occurrence of acute coronary syndromes (ACS), such as coronary spasm, abrupt myocardial infarction, and stent thrombosis, in response to allergen exposure (Kounis, 2016). In addition to being insufficiently recognized by clinicians, it is often difficult to diagnose. t should be considered in the differential diagnosis when cardiac symptoms occur following exposure to an allergen (Alblaihed & Huis In 't Veld, 2023). There are four main variants of the syndrome. Type 1 is associated with coronary vasospasm following allergen exposure in individuals with no underlying coronary artery disease. Type 2 is characterized by plaque erosion following allergen exposure in individuals

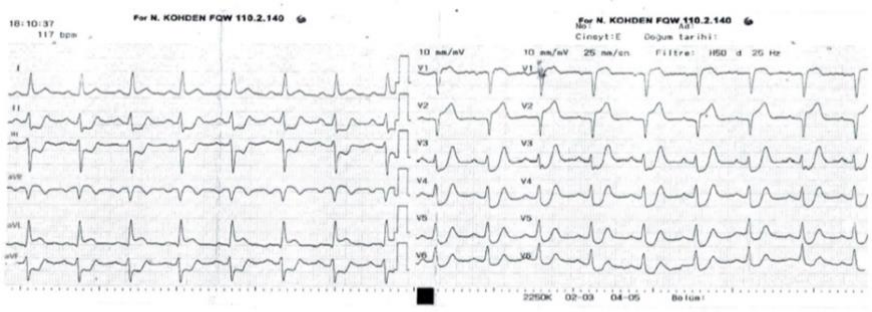
with coronary atherosclerosis. Type 3 is associated with stent thrombosis after allergen exposure, while Type 4 is characterized by coronary artery bypass graft (CABG) thrombosis (Brancaccio et al., 2024). Treatment should target both the allergic component and the immune reactions that result in coronary vasospasm, thrombus formation, or plaque rupture. Treating the allergic reaction may relieve pain, but if cardiac ischemia is present, ACS guidelines should be followed (Alblaihed & Huis In 't Veld, 2023; Douedi et al., 2023).
In this case report, we present a case of Kounis syndrome which developed after a bee sting and resulted in chest pain that led to a visit to the emergency department and the patient's atypical ECG pattern.

CASE PRESENTATION

A 47-year-old male presented to the ED with complaints of pressing, widespread chest pain, nausea, and vomiting following approximately 8–10 bee stings. The patient reported no history of chronic illness or medication use. His vital signs included a blood pressure of 140/80 mmHg, body temperature of 36.6°C, heart rate of 117 beats/min, respiratory rate of 16 breaths/min, and oxygen saturation of 99% on room air. Physical examination revealed one bee sting on the neck and 7-8 stings on the hand and arm, as well as edematous, hyperemic, blanching areas when pressure was applied. No uvular edema, rales, rhonchi, or dyspnea were seen. Electrocardiogram (ECG) taken upon admission showed ST-segment elevation in leads DI-aVL-V_1 and V_2, reciprocal ST-segment depression in leads DII-DIII and aVF, and upward-sloping ST-segment depression in leads V_3-V_6, followed by long, symmetrical T (Figure 1).

Figure 1

Admission ECG

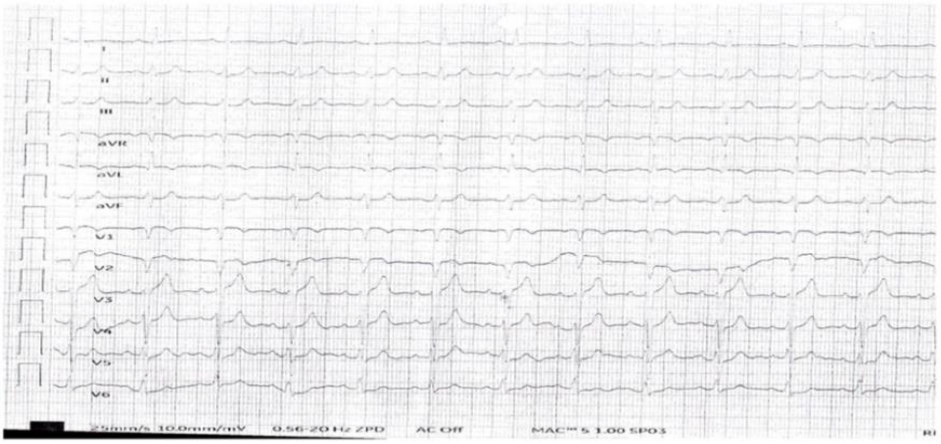


ST-segment elevation in leads DI-aVL-V_1 and V_2, reciprocal ST-segment depression in leads DII-DIII and aVF, and upward-sloping ST-segment depression in leads V_3-V_6, followed by long, symmetrical T waves

The patient was diagnosed with Kounis syndrome, and treatment for the allergic reaction was initiated with 120 mg (2 mg/kg) of intravenous (IV) methylprednisolone, 40 mg IV pantoprazole, and hydration with normal saline. Additionally, according to the ACS treatment protocol, 300 mg of oral acetylsalicylic acid and 6000 anti-Xa IU/0.6 mL of subcutaneous enoxaparin sodium were administered. Following treatment, the patient's symptoms regressed, and a follow-up ECG showed ST-segment depression in DII and aVF, as well as a QS segment with minimal ST-segment elevation in leads V1-V2, with the disappearance of the other findings (Figure 2).

Figure 2

Follow-up ECG after antihistamine and steroid treatment

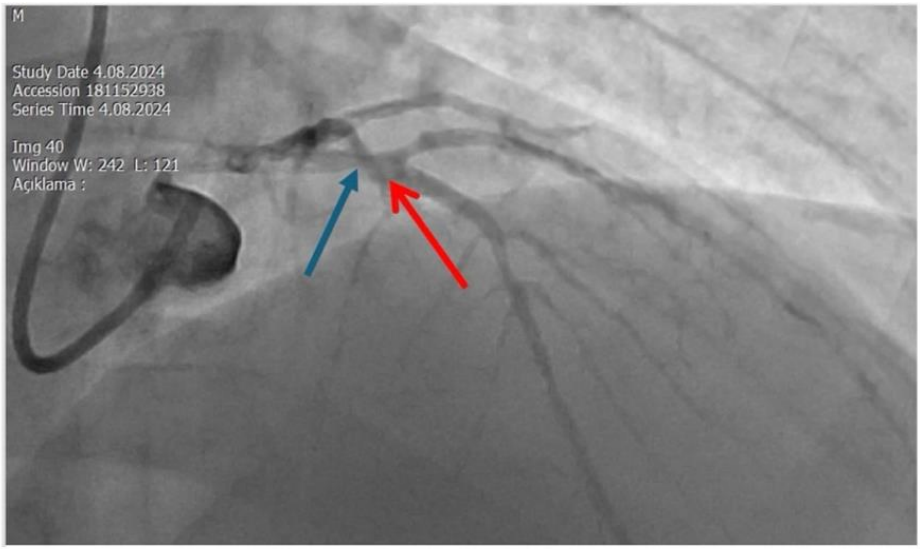


ST-segment depression in DII and aVF, as well as a QS segment with minimal ST-segment elevation in leads V1-V2

The patient was consulted with the cardiology department and underwent coronary angiography. Angiography revealed a 60-70% narrowing with plaque and a partially resolved thrombus in the distal left anterior descending (LAD) artery (Figure 3).

Figure 3

Percutaneous coronary angiography image



Red arrow: Thrombus at the ostium of D1

Blue arrow: 60-70% stenosis in the proximal LAD at D1

A 3.0x20 mm stent was implanted in the LAD at 18 atm. Laboratory tests revealed a leukocyte count of 18.03 x10^3/uL, C-reactive protein of 12.49 mg/L, and hemoglobin level of 16.9 g/dL. Liver and kidney function tests were within normal limits. The initial troponin-I level at presentation was 0.118 ng/mL (normal <0.3 ng/mL), and the control troponin-I level was 0.948 ng/mL. After coronary angiography, the patient was admitted to the coronary intensive care unit and was discharged with dual antiplatelet therapy following a 5-day follow-up. Consent was not deemed necessary since no personal data other than the patient's age and gender was shared.

DISCUSSION

Due to LAD artery obstruction, De Winter syndrome is an acute coronary syndrome that is similar to ST-segment elevation syndrome but does not exhibit a noticeable ST-segment elevation (Yan et al., 2020). There is still much to learn about the syndrome's pathogenesis. According to a suspected mechanism, the infarct area is too big and can only be captured with an aVR (Verouden et al., 2009). The gold standard for diagnosing De Winter syndrome is electrocardiography; features include long, pointed T waves, upsloping ST-segment depression at the J point, no ST-segment elevation in leads V1–V6, and relatively small ST-segment elevation in lead aVR (de Winter et al., 2008).

Kounis syndrome can be defined as an ACS resulting from an allergic, anaphylactoid, or hypersensitivity reaction caused by mast cell activation (Kounis, 2006). First described in 1991 by N.G. Kounis and G.M. Zavras as “allergic angina syndrome,” (Kounis & Zavras, 1991) case reports of acute myocardial infarction following penicillin allergy have been documented in the literature as far back as the 1950s (Pfister & Plice, 1950). Kounis syndrome is divided into four different types depending on the condition of the coronary arteries. Type I variant, which is the most common, is characterized by coronary spasm occurring in normal arteries, usually presenting with normal or elevated cardiac enzyme levels, and can lead to acute myocardial infarction. In Type II variant, coronary artery spasm occurs due to the release of inflammatory mediators, manifesting as ACS with plaque erosion or rupture (Fourie, 2016). In cases of stent thrombosis following drug-eluting stent implantation after 2009, eosinophils and mast cells found in the thrombus material suggested a hypersensitivity reaction, which has been classified as the Type III variant of Kounis syndrome (Chen et al., 2009). Type IV variant is characterized by CABG thrombosis following allergen exposure (Brancaccio et al., 2024). Although measuring histamine levels within the first 8 minutes after acute pain is recommended as a diagnostic tool, this is not feasible in the ED setting Instead, serum tryptase levels can be measured every 30 minutes over a two-hour period (Kounis et al., 2019). Nonspecific ECG findings include ST-segment depression, atrial fibrillation, bigeminal rhythm, QRS widening, QT prolongation, ventricular ectopic beats, T wave inversion or flattening, sinus tachycardia, atrioventricular block, sinoatrial block, and ventricular fibrillation (Kounis, 2016). A literature review revealed a case report of Kounis syndrome coexisting with De Winter ECG patterns (Dai et al., 2021). In the presented case, both ST-segment elevation and De Winter waves were present in the precordial leads, which has not been previously reported in the literature. Additionally, the changes in the ECG pattern following treatment were noteworthy. In this case, the presence of plaque during angiography led to the classification of the patient as having the Type II variant. Diagnosing Kounis syndrome requires recognizing the simultaneous occurrence of an allergic reaction and ACS. In emergency situations, distinguishing this syndrome from classic acute myocardial infarction is critical, as the treatment approach may differ. For instance, treating the allergic component is important and typically requires antihistamines and corticosteroids, in addition to following standard ACS management protocols (Balta et al., 2022).

CONCLUSION

In conclusion, in addition to life-threatening events such as anaphylaxis and anaphylactic shock following allergic reactions, including animal stings, clinicians must be vigilant for Kounis syndrome, which can cause coronary vasospasm and be fatal. Increasing knowledge and skill levels regarding this syndrome is essential.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-43 · Acute Viral Myositis Developed During Influenza B Infection and Incidental Wolff-Parkinson-White (WPW) Syndrome: A Case Report

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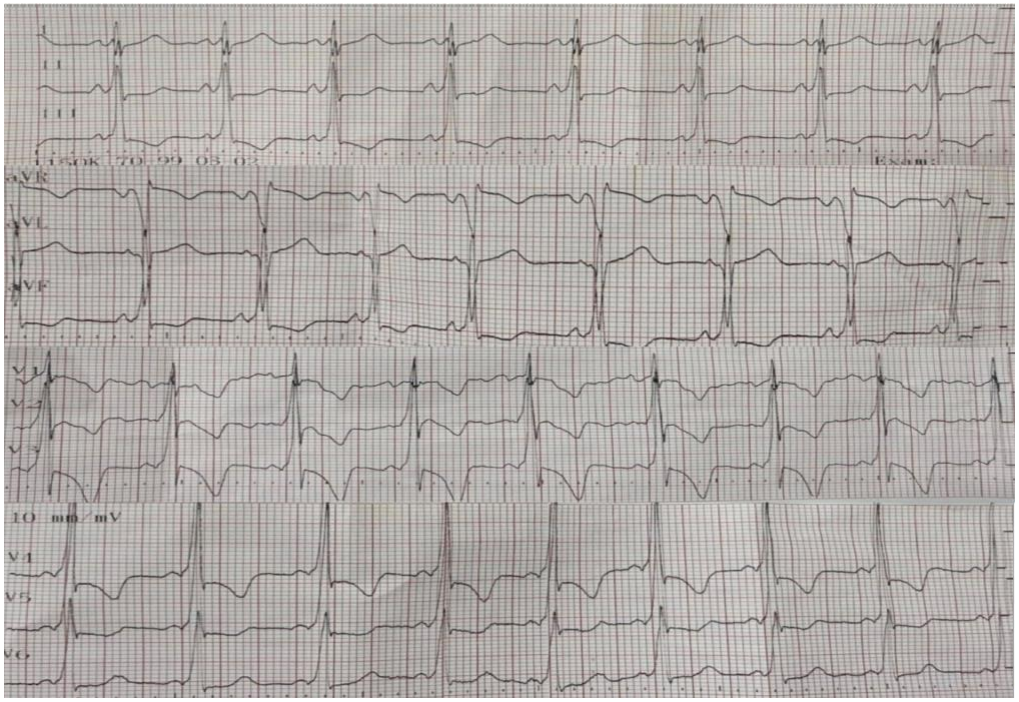
ABSTRACT

Introduction: Acute viral myositis is common in children presenting with difficulty walking and is most frequently seen during viral infections such as influenza (Majava et al., 2024). We present a patient who was admitted with acute viral myositis and was incidentally diagnosed with Wolff-Parkinson-White (WPW) syndrome during his clinical evaluation.

Case Presentation: A 10-year-old male patient presented with complaints of fever, headache, sore throat, runny nose, and pain in the knees and legs (Arrab et al., 2024). The patient had no significant medical history, and the family history was notable for the early death of the father at 26 years of age. Physical examination revealed normal vital signs, hyperemia in the oropharynx, and preserved deep tendon reflexes (DTR). Other physical and neurological examination findings were normal. Acute rheumatic fever was considered in the differential diagnosis due to joint pain, and an electrocardiogram (ECG) was performed. The ECG revealed delta waves, consistent with Wolff-Parkinson-White (WPW) syndrome (Figure 1).

Figure 1



The patient's respiratory viral panel tested positive for Influenza B. Laboratory findings showed a significantly elevated creatine kinase level of 11,645 U/L, with normal hemogram parameters, sedimentation rate of 24 mm/h, ASO level of 204 IU/mL, and CRP of 3.6 mg/L. The patient was hospitalized for observation, with the preliminary diagnoses of acute viral myositis and WPW syndrome. He received supportive care and hydration. During follow-up, creatine kinase levels decreased to the normal range. Pediatric cardiology evaluated the patient for WPW syndrome, and ablation was planned.
Discussion: Acute viral myositis is a common condition in children, often associated with viral infections such as influenza. While its clinical presentation is well-known, the association with Wolff-Parkinson-White (WPW) syndrome has not been reported in the literature. In this case, the incidental discovery of WPW syndrome during the diagnostic process for acute myositis highlights the importance of thorough clinical evaluation. The importance of such evaluations becomes even more pronounced when cardiac-involving diseases such as acute rheumatic fever are considered in the differential diagnosis. This case contributes to the understanding of the rare coexistence of these two conditions and emphasizes the need for careful consideration of all potential diagnoses in pediatric patients presenting with viral myositis.
Conclusion: This case emphasizes the importance of comprehensive diagnostic evaluation in pediatric patients, particularly when symptoms overlap with multiple conditions. Further research is warranted to investigate potential links between viral myositis and congenital arrhythmias such as WPW syndrome.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Acute viral myositis, influenza B, wolff-parkinson-white syndrome (WPW)

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-44 · Assessment of Attitudes Toward Hypertension Prevention Among Adults

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ABSTRACT

Introduction: Hypertension (HT) is a preventable but highly prevalent public health concern (Mills, Stefanescu, & He, 2020). Within the scope of family medicine, efforts to prevent HT and promote health are of critical importance (Brouwers et al., 2021). This study aimed to assess adult attitudes toward HT prevention and contribute to awareness-raising on this issue.

Materials and Methods: This descriptive, cross-sectional study was conducted with adults applying to Family Healthcare Centers. Data were gathered through face-to-face interviews using a structured questionnaire, which included socio-demographic questions, items related to HT prevention, and the Hypertension Prevention Attitude Scale (HPAS). The HPAS comprises five subscales: Prevention-Control (PC), Habits-Lifestyle (HL), Nutritional Attitudes (NA), Psychological Status-Physical Activity (PS-PA), and Knowledge of Disease and Risk (KDR). Higher scores reflect more favorable attitudes. Statistical analysis was performed with SPSS v23.0; $p<0.05$ was accepted as significant.

Results: As of the interim analysis, data from 121 participants were analyzed. Of them, 54.5% were female, and the mean age was 39±14 years (range:18–79). Educational attainment of high school or above was observed in 83.5%. At least one chronic disease was reported by 24.8%, regular medication uses by 23.1%, and a family history of HT by 54.5%. While 69.4% correctly identified normal blood pressure (BP) values and 58.7% recognized HT symptoms, 19% of participants lacked awareness of HT risk factors, and 9% believed HT was untreatable. The mean HPAS total score was 109±12. Women scored significantly higher in NA ($p=0.027$). Participants with income exceeding expenses had higher PS-PA scores compared to those with financial constraints ($p=0.043$). Education level significantly impacted total HPAS ($p=0.009$), KDR ($p=0.028$), and PC ($p=0.011$) scores. Chronic illness or presence of a healthcare professional in the family did not significantly affect HPAS scores. A family history of HT was associated only with higher NA scores ($p=0.033$). Participants exercising fewer than three times weekly scored higher in NA than those exercising 3–5 times/week ($p=0.012$). Ownership of a home BP monitor was associated with higher PS-PA scores ($p=0.027$). Recent BP measurement within the past 3 months was linked to higher NA scores compared to earlier measurements ($p=0.004$).

Conclusion: Family physicians play a crucial role in fostering preventive attitudes toward HT. Special focus should be placed on men and individuals with lower socioeconomic and educational levels. Importantly, routine blood pressure monitoring appears to positively influence preventive attitudes.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Hypertension, prevention, family medicine, public health, patient attitudes

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-45 · Cardiac Tamponade in a Down Syndrome Infant with Congenital Hypothyroidism: A Rare Complication

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ABSTRACT

Introduction: Congenital hypothyroidism is frequently observed in individuals with Down syndrome; however, it is essential to recognize that this condition may lead to rare but life-threatening complications such as pericardial effusion and, in exceptional cases, cardiac tamponade.
Case Presentation: This report presents a case of a 6-month-old infant with Down syndrome who developed cardiac tamponade requiring emergency pericardiocentesis due to congenital hypothyroidism.
Discussion: This case highlights the necessity of early detection and regular echocardiographic monitoring of pericardial effusion in infants with Down syndrome and hypothyroidism.
Conclusion: Pericardial effusion, and in rare cases cardiac tamponade, should be considered in infants with Down syndrome who present with respiratory symptoms and cardiomegaly.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Down syndrome, congenital hypothyroidism, pericardial effusion, cardiac tamponade

INTRODUCTION

Down syndrome (Trisomy 21) is a genetic disorder characterized by intellectual disability and multisystem anomalies. Among its endocrine manifestations, congenital hypothyroidism is the most frequently encountered. Hypothyroidism may cause a variety of systemic complications, including growth and developmental delays. Pericardial effusion (PE), although rare, is a significant clinical consequence in this population (van Trotsenburg et al., 2006).

Although pericardial effusion often remains clinically silent, progression can lead to cardiac tamponade—a potentially fatal condition necessitating urgent diagnosis and intervention (Allen et al., 2016). We describe a rare case of cardiac tamponade secondary to congenital hypothyroidism in a young infant with Down syndrome.

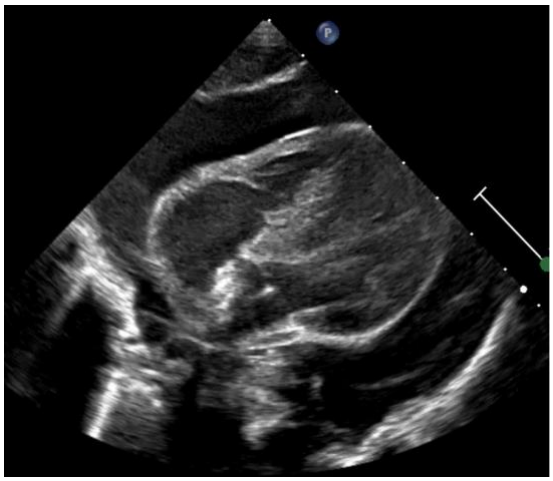
CASE PRESENTATION

A 6-month-old male infant with a known diagnosis of Down syndrome was admitted to the emergency department due to respiratory distress, tachypnea, and central cyanosis. Initially diagnosed with a lower respiratory tract infection, he was hospitalized. Chest radiography revealed cardiomegaly, prompting referral

to pediatric cardiology. Transthoracic echocardiography revealed a large pericardial effusion causing cardiac tamponade (Figure 1).

Figure 1

Transthoracic echocardiographic image showing
a large pericardial effusion indicative of cardiac tamponade



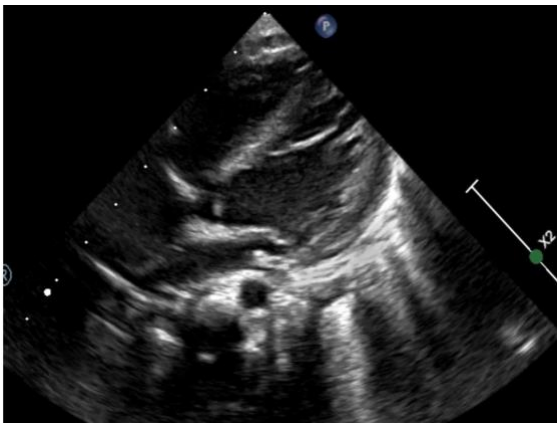
On examination, the heart rate was 160–170 bpm, and blood pressure was 55/38 mmHg. Muffled heart sounds and jugular venous distention were noted; however, no murmur or friction rub was present. Other systemic findings were unremarkable.

Emergency pericardiocentesis was performed, and 220 mL of serous pericardial fluid was aspirated. Microbiological culture of the fluid was negative; acid-fast bacilli were not detected, and cytology excluded malignancy. Inflammatory markers were within normal limits.

Thyroid function tests revealed TSH >100 μIU/mL. Levothyroxine treatment was initiated at a dose of 15 μg/kg/day. During follow-up, TSH levels normalized, and echocardiography confirmed complete resolution of the effusion (Figure 2).

Figure 2

Follow-up transthoracic echocardiogram revealing resolution of pericardial effusion



DISCUSSION

Congenital hypothyroidism is prevalent in individuals with Down syndrome, with incidence ranging from 28% to 40% (Pierce, LaFranchi, & Pinter, 2017). Pericardial effusion is a rare but reversible complication of hypothyroidism that typically responds well to thyroid hormone replacement therapy. However, rapid fluid accumulation may lead to cardiac tamponade by limiting pericardial compliance (Ata et al., 2024). Cardiac tamponade is classically defined by Beck's triad: hypotension, jugular venous distention, and muffled heart

sounds (Spodick, 2003). All three findings were present in our patient. The diagnosis was promptly confirmed via echocardiography, and pericardiocentesis was life-saving.

This case highlights the necessity of early detection and regular echocardiographic monitoring of pericardial effusion in infants with Down syndrome and hypothyroidism. In those presenting with unexplained dyspnea or cardiomegaly, pericardial effusion and tamponade should be considered. To our knowledge, this is the youngest reported case of cardiac tamponade secondary to hypothyroidism in an infant with Down syndrome (Iqbal et al., 2024).

The exact mechanism of pericardial effusion in these patients is not fully understood but may involve autoimmune disorders (e.g., celiac disease), infections, or hypothyroidism-induced changes in vascular permeability. Hypothyroidism increases albumin permeability in pericardial capillaries and decreases oncotic pressure, favoring fluid accumulation (Riccabona & Rossipal, 2000).

CONCLUSION

Pericardial effusion, and in rare cases cardiac tamponade, should be considered in infants with Down syndrome who present with respiratory symptoms and cardiomegaly. This case illustrates the importance of early thyroid screening and cardiac monitoring in this vulnerable population. Timely diagnosis and appropriate therapy can lead to full recovery, even in life-threatening presentations.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-46 · Empowering Primary Care Physicians in Early Diagnose of Heterozygous Familial Hypercholesterolaemia

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ABSTRACT

Introduction: Heterozygous familial hypercholesterolaemia (HeFH) is common genetic disorder characterized by high lipid levels, which significantly increases the risk of premature cardiovascular events. Despite its high prevalence of 1 in 250 individuals, lack of general awareness among medical community and difficulties for genetic confirmation for most of cases it remains under-recognized, often treated sub-optimally and diagnosed after early-onset cardiovascular event (Beheshti et al., 2020; Nordestgaard et al., 2013; Vaezi & Amini, 2022). With this collective case summery report, we aimed to emphasis the importance of recognizing HeFH and diagnosing it through the use of clinical criteria.

Case Presentation: The three cases presented in this summary involve males aged ≤ 40 years with significantly elevated total cholesterol (TC) >9mmol/L and low-density lipoprotein cholesterol (LDL-c)>6.5mmol/L. They all shared positive family history of hyperlipidemia and atherosclerotic cardiovascular disease. All cases fulfilled the Dutch Lipid Clinic Network criteria for diagnosing familial hypercholesterolaemia based on their lipid profiles, family history and clinical findings (score of 6: probable FH). One of the patients accepted the referral to cardiologist and genetic testing, while the two others refuse the genetic confirmation of the condition. Despite the difficulty in obtaining genetic diagnoses, clinical suspicion for HeFH was high, and management was initiated based on established HeFH treatment recommendations (Knowles, Rader, & Khoury, 2017). Two of them were prescribed with rosuvastatin 20mg intensified with ezetimibe 10mg. and one case with rosuvastatin 40mg. due to prescription coverage (deGoma et al., 2016).

Results: Among the three cases, only one patient achieved the recommended ≥50% reduction in LDL-c levels, decreasing from 7.6 mmol/L to 2.5 mmol/L. The remaining two cases exhibited lower reductions, reaching approximately 45%, one decreasing from 6.6 mmol/L to 3.6 mmol/L and the other from 7.5 mmol/L to 4.1 mmol/L. Despite the implementation of lipid-lowering therapies, none of the patients attained the target LDL-c <1.8 mmol/L, as outlined by the European Society of Cardiology (ESC, 2019) guidelines (European Atherosclerosis Society, 2019; European Society of Cardiology, 2019). These findings suggest that more

intensive therapeutic strategies, incorporating combination therapy, may be necessary to enhance LDL-c reduction aligning with guideline-based targets (Agarwala, Quispe, Goldberg, & Michos, 2021; Grundy et al., 2019).
Conclusion: Despite challenges with genetic testing, clinical diagnosis remains a critical tool in identifying heterozygous familial hypercholesterolemia (HeFH). Physicians must rely on clinical indicators and lipid profiles to facilitate timely intervention through the initiation of lipid-lowering therapies and lifestyle modifications (Representatives of the Global Familial Hypercholesterolemia Community, 2020). Strengthening the role of primary care physicians in recognizing HeFH, optimizing treatment strategies, enhancing long-term therapy adherence and fostering patient involvement through shared decision-making can significantly reduce premature cardiovascular events.
Written informed consent was obtained from the patients.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Heterozygous, familial, hypercholesterolemia, premature, cardiovascular.

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-47 · Case: Mylohyoid Muscle Defect and Herniation

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ABSTRACT

Introduction: The genioglossus and geniohyoid muscles are situated medially to the sublingual cavity, but the mylohyoid muscle is located inferolaterally to it. The mylohyoid muscle is a crucial element forming the floor of the mouth. The mylohyoid muscle acts as a muscular partition between the sublingual and submandibular areas.

Case Presentation: A 25-year-old female patient appeared with a bulge behind the left jaw, which she had observed for approximately one year. The woman was initially brought to our clinic due to concerns over potential malignancy in her neck. During the physical examination, a non-mobile, approximately 2 cm diameter, smooth-surfaced mass lesion is observed in the submandibular region that is elicited by swallowing. Ultrasonographic examination revealed a 22x12 mm soft tissue in the submandibular region. As a preliminary diagnosis, mass in the submandibular gland tissue, herniation in the submandibular gland and surrounding soft tissues, lipoma and congenital cyst were considered. Magnetic resonance imaging was recommended for further investigation. Neutral magnetic resonance imaging showed a fascia defect in the left anterior part, provoked swallowing or valsalva maneuver was performed, mylohyoid muscle herniation was detected. No mass image was seen.

Conclusion: SLG (sublingual) herniation is a common condition. In a cadaveric study conducted in Korea, the incidence of herniations was similar to that reported in European studies. Out of 100 SLGs, 42 herniated and were more common in women. It has been reported that one or a combination of fat, muscle tissue or salivary gland tissue may herniate from these defects at variable rates. In our case, the clinical presentation was asymptomatic except for the presence of an immobile and cosmetically uncomfortable mass in the neck that appeared with swallowing. It should be kept in mind among the differential diagnoses in patients evaluated with a mass in the submandibular region of the neck. Failure to clearly identify the mylohyoid muscle defect on radiologic imaging may cause unnecessary anxiety and unnecessary prediagnoses such as malignancy.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Mylohyoid muscle, herniation, submandibular gland

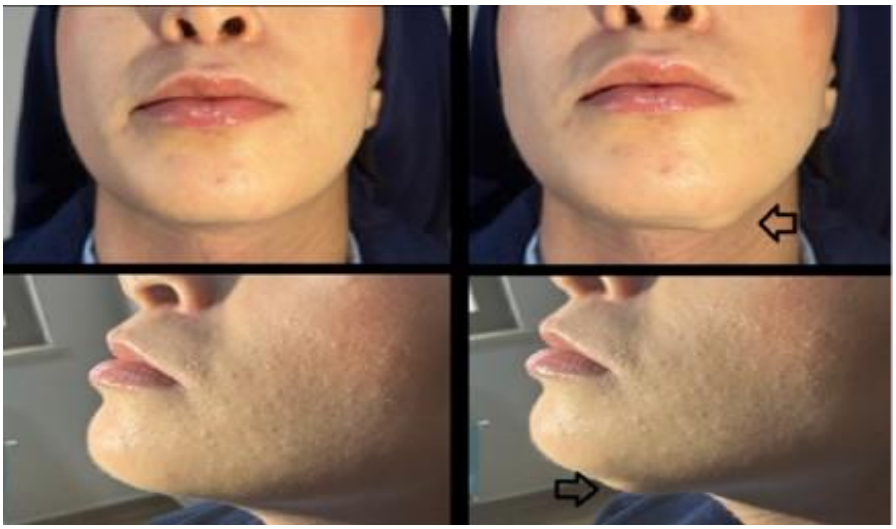
INTRODUCTION

The genioglossus and geniohyoid muscles are situated medially to the sublingual cavity, but the mylohyoid muscle is located inferolaterally to it. The mylohyoid muscle is a crucial element forming the floor of the mouth. The mylohyoid muscle acts as a muscular partition between the sublingual and submandibular areas. (Rosen & Bailey, 2001) However, abnormalities in the mylohyoid muscle and soft tissue herniations frequently encountered in cadaver dissections and CT (computered tomography) scans pose a diagnostic problem (Engel et al., 1987; White et al., 2001; Yang et al., 2016).

MATERIALS AND METHODS

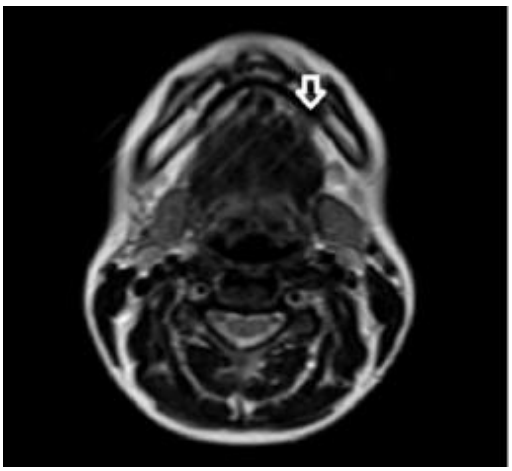
A 25-year-old female patient appeared with a bulge behind the left jaw, which she had observed for approximately one year. The woman was initially brought to our clinic due to concerns over potential malignancy in her neck. During the physical examination, a non-mobile, approximately 2 cm diameter, smooth-surfaced mass lesion is observed in the submandibular region that is elicited by swallowing (Figure 1).

Figure 1



The patient has no prior medical history. Her sole surgical history consists of a rhinoplasty performed two years ago. Other than that, he had no additional disease and did not use any medication. Ultrasonographic examination revealed a 22x12 mm soft tissue in the submandibular region. As a preliminary diagnosis, mass in the submandibular gland tissue, herniation in the submandibular gland and surrounding soft tissues, lipoma and congenital cyst were considered. Magnetic resonance imaging was recommended for further investigation. Neutral magnetic resonance imaging showed a fascia defect in the left anterior part, provoked swallowing or valsalva maneuver was performed, mylohyoid muscle herniation was detected. No mass image was seen (Figure 2).

Figure 2



This study does not require ethics committee approval. Written informed consent was obtained from the patient.

RESULTS

SLG (sublingual) herniation is a common condition. In a cadaveric study conducted in Europe, mylohyoid herniation was detected in 45 of 100 adult cadavers. (Engel, J. D., Harn, S. D., & Cohen, D. M. (1987). In a cadaveric study conducted in Korea, the incidence of herniations was similar to that reported in European studies. Out of 100 SLGs, 42 herniated and were more common in women. Similar to our case, 63% of total herniations were reported in the anterior part of the mylohyoid muscle. In another a cadaveric study of 50 cases, degenerative changes were observed in the herniated part of the sublingual gland (Kim, H. C., Yang, H. C., Cho, H. J., & Nam, K. I. (2019). In another clinical study, 77 out of 100 people who underwent CT scanning showed defects in the mylohyoid muscle. It has been reported that one or a combination of fat, muscle tissue or salivary gland tissue may herniate from these defects at variable rates. In 61% of these cases, herniation of the salivary gland was observed in 61% fat, 42% vascular structures and 37% salivary gland (White, D. K., Davidson, H. C., Harnsberger, H. R., Haller, J., & Kamya, A. (2001).

DISCUSSION

In our case, the clinical presentation was asymptomatic except for the presence of an immobile and cosmetically uncomfortable mass in the neck that appeared with swallowing. The clinical presentation may vary depending on the size of the herniation, the size of the defect in the mylohyoid muscle and the amount of herniated gland or soft tissues. Although mylohyoid muscle defects and soft tissue herniations are common, they are generally asymptomatic and are mostly diagnosed in screening studies and cadaver dissections. And for this reason, it poses a diagnostic difficulty.

CONCLUSION

It should be kept in mind among the differential diagnoses in patients evaluated with a mass in the submandibular region of the neck. Failure to clearly identify the mylohyoid muscle defect on radiologic imaging may cause unnecessary anxiety and unnecessary prediagnoses such as malignancy (Sher, Z. A., & Tan, G. (2016).

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-48 · Laboratory Methods in Parasitic Infections of the Gastrointestinal System

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ABSTRACT

Introduction: The gastrointestinal system is one of the most frequently infected parts of the human body. Parasitic infections represent a significant public health issue, particularly in developing countries (Haque et al., 2003). These parasites, which are transmitted through water and food, can cause a range of clinical presentations from mild gastrointestinal disorders to serious systemic complications. Researchers have reported that Entamoeba histolytica, Giardia intestinalis, Cryptosporidium spp., Ascaris lumbricoides, and Strongyloides stercoralis are among the most commonly encountered gastrointestinal parasites worldwide (WHO, 2020). Accurate diagnosis of these infections is crucial for both effective individual treatment and public health management. Laboratory diagnostic methods are an essential part of clinical practice (Garcia, 2007). Various laboratory techniques, including stool microscopy, antigen detection tests, molecular methods (PCR), serological tests, and culture, are used to diagnose parasitic infections. Each method has its own advantages and disadvantages in terms of sensitivity, specificity, ease of application, and cost (Ryan & Caccio, 2013). This study aims to discuss in detail the main methods used in the laboratory diagnosis of gastrointestinal parasitic infections, evaluate the effectiveness, areas of use, and recent developments in each method.

Materials and Methods: In this study, frequently used diagnostic methods were reviewed and compared based on source information.

Results: Gastrointestinal parasites are diagnosed through stool microscopy, direct examination, concentration methods, antigen detection tests, serological tests, and culture methods.

Conclusion: The laboratory methods discussed in this study have various advantages and disadvantages in terms of diagnostic accuracy, applicability, cost, and time. While classical microscopic methods are still the most widely used diagnostic tools, they may not always be sufficient due to their low sensitivity and observer dependency. In such cases, antigen tests and molecular methods offer higher accuracy in parasite detection. Molecular methods (PCR, Real-Time PCR) are particularly valuable as they enable species-level diagnosis and can yield positive results even in low-intensity infections. However, the widespread use of these methods is still limited due to costs, infrastructure requirements, and the need for specialized personnel. This limitation is especially significant in resource-limited regions. It is recommended that current molecular and antigen-based methods should be more widely used in diagnosing parasitic infections. A combination of multiple methods should be incorporated into diagnostic algorithms, healthcare professionals should receive training on these methods, and public health campaigns should be initiated to raise awareness.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Laboratory methods, parasitic infections, gastrointestinal system

INTRODUCTION

The gastrointestinal system is one of the most commonly infected regions of the human body. Parasitic infections, particularly in developing countries, represent a major public health concern (Haque et al., 2003). These parasites, transmitted through contaminated water and food, can cause a wide spectrum of clinical symptoms, ranging from mild gastrointestinal discomfort to severe systemic complications. Researchers have identified Entamoeba histolytica, Giardia intestinalis, Cryptosporidium spp., Ascaris lumbricoides, and Strongyloides stercoralis as some of the most common gastrointestinal parasites worldwide (WHO, 2020).

Accurate diagnosis of these infections is critical for both individual treatment success and public health. In this regard, laboratory diagnostic methods are an essential part of the clinical approach (Garcia, 2007). Techniques such as stool microscopy, antigen detection tests, molecular methods (PCR), serological tests, and culture are utilized for the identification of parasitic agents. Each method has its own advantages and disadvantages in terms of sensitivity, specificity, ease of application, and cost (Ryan & Caccio, 2013).

This study comprehensively reviews the main diagnostic methods used in the detection of gastrointestinal parasitic infections, evaluating the effectiveness, applications, and recent developments of each method.

MATERIALS AND METHODS

The commonly used diagnostic methods were researched from literature sources and comparatively evaluated.

RESULTS

Parasitic diagnosis is carried out using methods such as direct stool microscopy and concentration techniques, antigen detection tests, serological tests, and culture methods (Table 1).

Table 1

Comparison of Diagnostic Methods

Method	Sensitivity	Specificity	Speed	Cost	Application Area
Microscopy	Moderate	Moderate	Medium	Low	All parasites
Antigen Tests	High	High	Fast	Moderate	*Giardia*, *Cryptosporidium*
PCR	Very High	Very High	Medium	High	Species/subtype ID, mixed infections
Serology	Moderate-High	Moderate	Medium	Moderate	Systemic/invasive parasites
Culture	Low	High	Slow	Moderate-High	Research purposes, some amoeba species

CONCLUSION

The laboratory methods discussed in this study have various advantages and disadvantages in terms of diagnostic accuracy, feasibility, cost, and time. Although classical microscopic methods are still the most commonly used diagnostic tools, they may not always be sufficient alone due to their lower sensitivity and reliance on the observer. In such cases, antigen detection and molecular methods provide higher diagnostic accuracy.

Molecular methods (PCR, Real-Time PCR) allow for species-level diagnosis and can detect even low-intensity infections, making them particularly valuable. However, their widespread use remains limited due to cost, infrastructure, and the need for skilled personnel -factors that present significant barriers, especially in resource- limited settings.

The study emphasizes the need for:

- wider use of updated molecular and antigen-basedmethods,
- integration of combined diagnostic algorithms,
- training of healthcare personnel in these techniques,
- and public awareness campaigns to increase community knowledge.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-49 · Determination of Trichomonas vaginalis, Some Bacteria and Fungi Positivity and Risk Factors in Female Patients with Urogenital Complaints

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ABSTRACT

Introduction: Trichomonas vaginalis is a flagellated protozoan that lives in the human uro-genital system. It has only trophozoite form in its life cycle, there is no cyst form. The disease it causes in the human uro-genital system is called Trichomoniasis. Trichomonas vaginalis is a single-celled, flagellated, microaerophilic protozoa causing vaginitis. Trichomoniasis ranks first among nonviral causes of sexually transmitted diseases. It is a causative agent that may cause vulvovaginal itching, burning sensation, yellow-green foamy malodorous discharge, painful sexual intercourse, dysuria and sometimes a strawberry-like cervix known as punctate haemorrhagic lesion (Merdivenci, 1981; Unat et all, 1991). In this study, it was aimed to determine the risk factors by comparing T. vaginalis positivity and other data that may cause vaginal infections. In addition, by investigating its prevalence in different social groups in Ordu and its surroundings, it will contribute to the data on the regions in Turkey.

Materials and Methods: In this study, smear samples obtained from female patients who applied to Ordu University Training and Research Hospital Gynaecology outpatient clinics were evaluated. Direct microscopic examination, staining and cultivation methods were used for diagnosis and smear samples were also stained and analysed. A questionnaire was also filled out and the prevalence and risk factors were investigated in terms of socio-economic level, age, marital status, education level, residential unit, employment status, if any, employment and education status of the spouses, if any, and if it was a large family, the presence of other women in the life, and knowledge of infectious diseases.

Results: The presence of Trichomonas vaginalis was found in 24.6% (n=58), but not in 75.4% (n=178) of the patients analysed in the study. Paps stained Trich smear samples were positive in 12.7% (n=30) and negative in 87.3% (n=206). Bacterial vaginosis was found in 23.7% (n=56), but not in 76.3% (n=180). The presence of candida was observed in 13.6% (n=32) and was negative in 86.4% (n=204). Acute cystitis was observed in 15.3% (n=36) and was not detected in 84.7% (n=200). The presence of coccobacilli was found in 14.0%

(n=33), but not in 86.0% (n=203). Calcium oxalate crystals were detected in only 0.8% (n=2), but not in 99.2% (n=234). The presence of lactobacilli was detected in 7.2% (n=17) but not in 92.8% (n=219). Finally, haematuria was observed in 4.7% (n=11), but not in 95.3% (n=225).
Conclusion: The high accuracy of the model shows that such artificial intelligence-based approaches can be used effectively in clinical decision support systems.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Trichomonas vaginalis, uro-genital infection, protozoa

INTRODUCTION

Trichomonas vaginalis is a flagellated protozoan that resides in the human urogenital system. It exists only in the trophozoite form; no cyst form is present. The disease caused by T. vaginalis in the human urogenital tract is called trichomoniasis. It is a single-celled, flagellated, microaerophilic protozoan that causes vaginitis. Trichomoniasis ranks first among non-viral sexually transmitted infections. It can cause symptoms such as vulvo-vaginal itching, burning sensation, yellow-green frothy foul-smelling discharge, painful intercourse, dysuria, and occasionally "strawberry cervix" (punctate hemorrhagic lesions) (Merdivenci, 1981; Unat et al., 1991).
This study aimed to determine the risk factors by comparing T. vaginalis positivity with other data that could cause vaginal infections. The study also contributes to regional data in Türkiye by investigating prevalence among different social groups in Ordu and surrounding areas.

MATERIALS AND METHODS

Smear samples were collected from women who visited the gynecology outpatient clinics of Ordu University Education and Research Hospital. Diagnosis was made using direct microscopy, staining, and culture methods. Smear samples were also stained and examined. Additionally, participants completed a questionnaire collecting data on socioeconomic status, age, marital status, education level, place of residence, employment status, spouse’s employment and education status (if applicable), presence of other women in extended families, and knowledge about infectious diseases. The frequency and risk factors were evaluated.

RESULTS

Among the patients, Trichomonas vaginalis was detected in 24.6% (n=58), while 75.4% (n=178) tested negative. Papanicolaou (Pap) stained Trichomonas smears were positive in 12.7% (n=30) and negative in 87.3% (n=206). Bacterial vaginosis was found in 23.7% (n=56) and absent in 76.3% (n=180). Candida was observed in 13.6% (n=32) and absent in 86.4% (n=204). Acute cystitis was seen in 15.3% (n=36) and not observed in 84.7% (n=200). The presence of coccobacilli was found in 14.0% (n=33) and absent in 86.0% (n=203). Calcium oxalate crystals were identified in only 0.8% (n=2) and absent in 99.2% (n=234). Lactobacillus was found in 7.2% (n=17) and absent in 92.8% (n=219). Hematuria was observed in 4.7% (n=11) and absent in 95.3% (n=225).

CONCLUSION

This study aimed to evaluate the prevalence of vaginal infections and associated findings, providing important insights into women's reproductive health.
Although 75.4% of patients tested negative for T. vaginalis, the 24.6% positivity rate still underscores the public health significance of this parasitic infection. The results highlight the need for effective screening and awareness programs to prevent sexually transmitted infections.
Only 12.7% of Pap-stained smears were positive, suggesting that cytological methods may have limited sensitivity in microorganism detection, and additional diagnostic techniques may be required. The high rate of negative results indicates that this method may not be sufficient alone for diagnosis.

Bacterial vaginosis was found in 21.2% of the patients, emphasizing the negative impact of vaginal microbiota imbalance on women's health. Strategies to preserve vaginal microflora may play a key role in the control of bacterial vaginosis.
Analysis by age group revealed the highest infection rate (37.3%) in the 40–50 age range. This may be due to higher sexual activity levels, hormonal changes, and increased exposure to risk factors in this group.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-50 · Evaluation of Blood Parameters in Patients Diagnosed with Diabetes Mellitus

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ABSTRACT

Introduction: Type 2 Diabetes Mellitus (T2DM) is characterized by varying degrees of insulin resistance, impaired insulin secretion, and increased glucose production (Harreiter & Roden, 2019). The primary biomarker used to assess long-term glycemic control in diabetic individuals is HbA1c (Hemoglobin A1c). However, HbA1c cannot detect ongoing inflammatory changes in the body. Hematological parameters such as mean platelet volume (MPV), red cell distribution width (RDW), and neutrophil-lymphocyte ratio (NLR) provide significant insights into systemic inflammation in diabetic patients (Aygün et al., 2024; Wang & Hng, 2021). This study aimed to investigate the relationship between glycemic control and hematological parameters, including white blood cell count (WBC), hemoglobin (HGB), mean corpuscular volume (MCV), MPV, RDW, NLR, hematocrit (HCT), platelet count (PLT), C-reactive protein (CRP), and HbA1c in patients with T2DM followed at a university hospital.

Materials and Methods: A total of 470 patients diagnosed with T2DM and followed at the Endocrinology Outpatient Clinic of Selcuk University Faculty of Medicine Hospital were included in the study. Blood parameters of the patients were retrospectively analyzed.

Results: Among the patients, 61.1% were female, and 38.9% were male. The mean age of the patients was 56.83 ± 11.11 years. A statistically significant difference was observed between HbA1c and WBC and MCV levels (p=0.000, p=0.032). However, no significant difference was found between HbA1c and MPV or NLR (p=0.504, p=0.987). A statistically significant positive correlation was identified between HbA1c and WBC (p=0.000), indicating that WBC levels increased with higher HbA1c values. Conversely, a statistically significant negative correlation was found between HbA1c and MCV, showing a significant decrease in MCV levels as HbA1c levels increased (p=0.001).

Conclusion: Our findings suggest that evaluating complete blood count (CBC) parameters during routine follow-up of diabetic patients may serve as an indicator of glycemic control. When performing CBC in diabetic patients, particular attention should be paid to these parameters, and in cases of elevated values, patients should be assessed for potential microvascular complications. However, larger-scale studies are needed to determine the effectiveness of CBC parameters in diabetes monitoring and complication prediction.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Diabetes mellitus, mean platelet volume, white blood cell count

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-51 · Have Outpatient Visits and Hospital Admissions for COPD Remained Stable Over the Last 10 Years?

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ABSTRACT

Introduction: Chronic obstructive pulmonary disease (COPD) is the leading non-communicable chronic respiratory disease world-wide (Boers et al., 2023). In 2019, the global prevalence of COPD was estimated at approximately 400 million cases (Adeloye et al., 2022). This study aimed to evaluate and compare the characteristics of COPD patients admitted and hospitalised in our hospital over the last 10 years.

Materials and Methods: The number of admissions and hospitalisation rates of patients with COPD admitted to our hospital which is one of the Turkey's leading university education and research hospitals specialising in respiratory diseases with a capacity of 405 beds, between 2015 and 2024 were compared by year. Hospital records were accessed from the electronic data system. The level of statistical significance was accepted as $p<0.05$.

Results: In the last 10 years, a total of 1,691,360 outpatient chest clinics were held, of which 17.9% were coded as J44 and its subcategories with ICD10 classification diagnosed as COPD disease. The number of patients admitted during this period was 987,486, of which 20.2% (199,060 patients) were reported as having COPD. Although the frequency of visits of patients with COPD was found to be 1.52, it was calculated that all patients had 1.26 visits. Patients with COPD presented significantly more often ($p<0.05$). Over the 10-year period, 18.4% of our patients who attended the outpatient clinic were hospitalised. Of these hospitalised patients, 68.2% (25,016) were male. The mean male age was 61.48±12.54 years and the mean female age was 63.01±13.19 years ($p<0.01$). Female inpatients were found to be older than female outpatients ($p<0.05$).

Discussion: Over a 10-year period, it was found that more than 25,000 patients visited the outpatient clinic each year and 30% of them were admitted to hospital. When outpatients and inpatients were compared in terms of male/female ratio and age, it was found that the inpatients were older, and the male/female ratio did not change.

Conclusion: COPD is an increasingly important cause of morbidity, disability and mortality worldwide (Adeloye et al., 2022; Boers et al., 2023). It is important to analyse the demographics of patients requiring

hospital admission. Future studies can be planned to analyse the reasons for hospitalisation and preventive strategies can be reconsidered according to the reasons for hospitalisation.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
COPD, hospitalisation, admission

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-52 · Emotional Manipulation in Married Individuals: Marital Attitudes and Family Belonging

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ABSTRACT

Introduction: Marriage is an institution in which individuals are connected by emotional, social, and cultural bonds, based on mutual understanding, respect, and trust. However, some individuals may resort to negative communication patterns, such as emotional manipulation, in an attempt to gain power and control within the relationship. Emotional manipulation is a major risk factor that undermines trust between partners, threatens psychological integrity, and reduces relational satisfaction. This study examines the effects of emotional manipulation on marital attitudes and family belonging in married individuals, in light of theoretical and empirical findings.

Materials and Methods: This study primarily involved a literature review focused on the relationship between emotional manipulation, marital attitudes, and family belonging among married individuals.

Results: Emotional manipulation is defined as an attempt to control another person by triggering feelings such as guilt, fear, shame, or dependency (Simon, 1996). Manipulative tactics include patterns such as gaslighting (distortion of reality), silent treatment, passive-aggressive behaviors, and excessive jealousy. Marital attitude reflects an individual's thoughts, emotions, and behavioral tendencies regarding marriage. Positive marital attitudes are characterized by respect for the spouse, belief in the sanctity of marriage, and high motivation toward maintaining the relationship (Yıldırım & Demirtaş, 2013). In manipulative relationships, these positive attitudes may weaken over time, potentially leading to emotional alienation. Family belonging encompasses an individual's sense of attachment, feeling of belonging, and awareness of responsibility toward their family. While a strong sense of belonging is typical in healthy relationships, in relationships where manipulation is intense, individuals may experience emotional distancing from the family environment, alienation, or a sense of burnout (Çiftçi & Arkan, 2020). Various studies have shown that emotional manipulation in marriage negatively affects individuals' attitudes toward the marital relationship. For instance, a study by Karaca and Güngör (2018) indicated that manipulative behaviors decrease marital satisfaction and contribute to emotional detachment between spouses.

Conclusion: Emotional manipulation is a serious communication problem that should not be overlooked in marital relationships. Individuals exposed to manipulative behavior tend to develop negative marital attitudes, experience a reduced sense of belonging, and report lower life satisfaction. Therefore, it is crucial for couples to increase their emotional awareness, develop healthy communication skills, and seek psychological counseling when necessary. Additionally, incorporating discussions on healthy relationship dynamics and types of manipulation into premarital education programs may help prevent potential risks.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Emotional manipulation, family belonging, marital attitude

INTRODUCTION

Marriage is an institution in which individuals are bound by emotional, social, and cultural ties; it is based on mutual understanding, respect, and trust. In this context, marital attitudes and family belonging are important indicators reflecting individuals' expectations from marriage, their roles in the relationship, and their commitment to family structure. However, some individuals may resort to negative communication patterns such as emotional manipulation to gain power and control in the relationship. Emotional manipulation is a significant risk factor that undermines trust between spouses, threatens psychological integrity, and decreases relational satisfaction. This study examines the effects of emotional manipulation on marital attitudes and family belonging among married individuals, in light of theoretical and empirical findings.

MATERIALS AND METHODS

The study was constructed by analyzing five master's theses and twenty-two national and international academic publications from the years 2010–2025, selected retrospectively, focusing on the relationship between family belonging and marital attitudes among married individuals.

RESULTS

Emotional manipulation is defined as an attempt by an individual to control the other person by triggering emotions such as guilt, fear, shame, or dependency (Simon, 1996). Manipulative tactics include gaslighting (distorting reality), silent treatment, passive-aggressive behaviors, and extreme jealousy. Such behaviors in marital relationships damage trust and reduce the quality of communication between spouses. Marital attitude refers to an individual's tendencies in thoughts, feelings, and behaviors regarding marriage. Positive marital attitudes are characterized by respect for the spouse, belief in the sanctity of marriage, and high motivation toward the relationship (Yıldırım & Demirtaş, 2013). In manipulative relationships, these positive attitudes may weaken over time, leading to alienation in the relationship.

Family belonging encompasses a sense of loyalty, belongingness, and responsibility toward one's family. In healthy relationships, this sense is strong, whereas in relationships with intense manipulation, individuals may experience emotional distancing, alienation, or burnout within the family context (Çiftçi & Arkan, 2020). Various studies show that emotional manipulation in marriage negatively affects individuals' marital attitudes. For example, in a study by Karaca and Güngör (2018), manipulative behaviors were found to reduce marital satisfaction and cause emotional detachment between spouses. It was also revealed that individuals continuously subjected to manipulation become alienated from their family roles and experience weakened family belonging.

CONCLUSION

Emotional manipulation is a serious communication issue in marital relationships that should not be overlooked. Individuals exposed to manipulative behaviors exhibit negative marital attitudes, weakened sense of belonging, and decreased overall life satisfaction. Therefore, it is essential for couples to increase their emotional awareness, acquire healthy communication skills, and seek psychological counseling when necessary. Additionally, addressing healthy relationship dynamics and types of manipulation in pre-marital education programs may help prevent potential risks.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-53 · Evaluation of Patients Receiving Nicotine Spray Treatment in a Smoking Cessation Clinic

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ABSTRACT

Introduction: Smoking remains a significant global public health issue, causing millions of deaths annually (Nides, 2020). Smoking cessation clinics offer a variety of individualized therapeutic options tailored to patient-specific characteristics. Nicotine spray is one such method known for its effectiveness in smoking cessation (Sandhu, 2023). This study aimed to evaluate the sociodemographic characteristics, smoking cessation outcomes, and side effects experienced by patients using nicotine spray therapy.

Methods: The study was conducted retrospectively at Şişli Etfal Hospital's Smoking Cessation Clinic between February 1st, 2025, and February 28th, 2025. Data from patients who applied to the clinic within the last six months of 2024 and initiated nicotine spray therapy were reviewed. Sociodemographic data (age, gender, presence of chronic diseases, employment status), smoking dependency levels (Fagerström Test for Nicotine Dependence - FTND scores), smoking intensity (pack-years), daily nicotine spray usage, smoking cessation outcomes, and treatment-related side effects were recorded. Data were analyzed using SPSS version 25, and a p-value <0.05 was considered statistically significant.

Results: Data from 67 patients who initiated nicotine spray therapy were analyzed. Twenty-two patients were excluded due to withdrawal from treatment, perceived lack of treatment necessity, or financial inability to obtain the spray. The final analysis included 45 patients, with a mean age of 40.77 ± 13.89 years (range: 18–62) and an average FTND score of 4.73 ± 2.78 (range: 0–10). The mean daily nicotine spray usage was 4.53 ± 1.72 puffs (range: 1–10). Side effects related to nicotine spray usage occurred in 7 patients (15.5%), with nausea (n=2, 4.4%) and throat dryness (n=2, 4.4%) being the most frequent. Fifteen patients (33.3%) successfully quit smoking. No statistically significant associations were identified between smoking cessation success and age, gender, chronic disease presence, employment status, smoking intensity, or FTND scores ($p>0.05$). Additionally, no significant associations were found between daily spray usage amount or the occurrence of side effects and completion of treatment ($p>0.05$).

Conclusion: In this study, nicotine spray therapy was well-tolerated by most patients, with mild and infrequent side effects. Although nicotine spray is considered a reliable and feasible therapeutic option, larger prospective studies are needed to evaluate its impact on smoking cessation success more definitively.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Nicotine spray, smoking cessation, side effect

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-54 · Examining the Effect of Virtual Family Formation on Assessing Family Adaptability and Unity

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ABSTRACT

Introduction: While virtual families can provide emotional support for some individuals, they may also lead to a weakening of relationships with real-life family members in certain cases. Studies have shown that virtual communities can be effective in developing the social skills of young individuals (Turkle, 2011), yet they may also cause disconnections in family communication (Subrahmanyam & Greenfield, 2008). Strong bonds formed by adolescents on digital platforms can lead them to question their real-life family roles and grow distant from their families. However, some research suggests that virtual families may play a healing role, particularly for individuals raised in dysfunctional family environments (Lenhart et al., 2015). This study aims to investigate the impact of digital family formations on family dynamics such as communication and cooperation, and to examine to what extent virtual relationships are included in family cohesion and unity alongside real-life relationships.

Materials and Methods: In this study, articles and theses related to families and social media between 2020 and 2025 were accessed through Google Scholar, the National Thesis Center of the Council of Higher Education, and ResearchGate. The studies were analyzed to determine which aspects of family dynamics they focused on and the perspectives from which they approached family interactions on social media.

Results: Although the literature search conducted in Turkish between 2020 and 2025 revealed studies on the impact of social media on intra-family interactions, no research was found specifically on virtual family formation. However, during the research, two relevant scales were accessed: the Family Adaptability and Cohesion Evaluation Scale, which assesses family dynamics in nine sub-dimensions, and the Virtual Family Scale presented at a congress. Following the necessary permissions, these scales will be applied to a selected sample using the relational correlational method. A personal information form will be included to determine which member of the family each participant represents. Data will be analyzed using the IBM SPSS statistical program to determine which sub-dimensions are related, the degree of the relationships, and whether significant differences exist.

Conclusion: This study aims to investigate the extent to which families in the age of social media associate their virtual dynamics with real-life family structures. It seeks to quantitatively assess and reveal whether families transfer their online interactions to their real-life bonds. If such an influence is identified, it will be suggested that the phenomenon of virtual family formation should be examined further by researchers in the field.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Virtual family, family cohesion, intra-family communication

INTRODUCTION

While virtual families can provide emotional support for some individuals, in certain cases, they may lead to the weakening of real family relationships. Studies have shown that virtual communities can effectively enhance the social skills of young individuals (Turkle, 2011) but may also cause disruptions in family communication (Subrahmanyam & Greenfield, 2008).

Especially during adolescence, the strong bonds formed on digital platforms may lead individuals to question their real-life family roles and distance themselves from their families. However, some research also indicates that virtual families can play a therapeutic role, especially for individuals raised in dysfunctional family environments (Lenhart et al., 2015).

This study aims to investigate the impact of digital family formation on family dynamics such as communication and cooperation and to examine to what extent families incorporate their virtual interactions into their perception of family unity. The objective is to identify the underlying dynamics of the social media phenomenon that affects the psychological structure of the family institution and to determine which dimensions are influenced and to what degree.

MATERIALS AND METHODS

For this study, academic articles and theses on family and social media between 2020 and 2025 were accessed via Google Scholar, the National Thesis Center of the Higher Education Council (YÖK), and ResearchGate. A total of 20 articles, 4 master's theses, and 2 conference papers were reviewed. This retrospective review aimed to systematically synthesize the existing knowledge accumulated during the specified time period.

The studies examined were analyzed in terms of which aspects of family dynamics they focused on and what perspectives they brought to the interactions within the family institution in the context of social media.

RESULTS

The literature review limited to Turkish-language studies published between 2020 and 2025 revealed that while there are studies on the effects of social media on intra-family interactions, no research was found specifically on the formation of virtual families. Through the non-open-access Toad database, a Family Adaptability and Cohesion Evaluation Scale -addressing nine different sub-dimensions of family dynamics- was accessed, as well as a Virtual Family Scale presented in a conference paper.

In 40% of the reviewed 20 articles (8 articles), communication sub-dimension and the dimensions of balanced cohesion and disengagement were the most prominent among the key aspects of the family institution. In all four master's theses, communication and unity emerged as the most significant family dimensions. Conference papers also consistently emphasized the communication dimension.

Virtual Family: This conceptual term describes a reality in which families spend most of their time on social media networks, interacting with each other—even with family members—through virtual channels. This masked communication causes individuals to disconnect from reality and prefer virtual interactions over real ones.

Family Adaptability and Cohesion: This term refers to the factors on which family harmony depends and how families assess their own unity. It is used to explore the necessary steps to strengthen family dynamics.

Balanced Cohesion: A situation in which family members are emotionally connected to one another.

- Disengagement: A state in which family members are emotionally distant from each other. This disconnection arises when members prefer or fail to maintain closeness with the family while preserving their autonomy.
- Family Communication: This refers to functional and positive communication skills within the family, such as empathic listening, unconditional acceptance, and honest expression of emotions among members.

CONCLUSION

Social media platforms now provide families with a new and significant space for interaction, altering traditional dynamics. In this context, the concept of “virtual family formation” represents the new perceptual and interactional reality emerging within the family framework due to social media. Family members may

perceive social media as a more effective tool for assessing unity, disconnection, and communication patterns compared to traditional methods—highlighting the growing role of social media in family functioning.
Virtual family formation occupies an important place among the internal and external factors of the family institution and requires conceptual analysis. The tendency of families to prioritize virtual over real interactions shifts their perception of unity to a new dimension. This new dynamic should be integrated into fields such as family counseling, with its advantages and disadvantages carefully considered. Moreover, strategic steps should be taken to reduce the negative aspects of detachment from reality and to enhance the positive contributions of virtual family formation to family mental health.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-55 · A Rare Cause of Hypokalemia: Gitelman Syndrome

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ABSTRACT

Introduction: Hypokalemia is a common electrolyte disturbance encountered in clinical practice, frequently caused by gastrointestinal losses or diuretic use.
Case Presentation: We present a case of a 42-year-old male who was admitted with diarrhea and muscle weakness, later diagnosed with Gitelman syndrome based on biochemical features including hypokalemia, hypomagnesemia, hypocalciuria, metabolic alkalosis, and increased urinary chloride excretion.
Discussion: Persistent or treatment-resistant hypokalemia should prompt further evaluation to identify rare causes such as inherited renal tubulopathies.
Conclusion: This case underscores the importance of considering Gitelman syndrome in the differential diagnosis of resistant hypokalemia.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Gitelman syndrome, hypokalemia, hypomagnesemia, metabolic alkalosis, renal tubulopathy

INTRODUCTION

Hypokalemia is a common electrolyte imbalance encountered in clinical practice. The most frequent causes include gastrointestinal losses such as diarrhea and vomiting. Other causes are inappropriate diuretic use, malignancies, and primary hyperaldosteronism. Resistant hypokalemia is defined as a serum potassium level remaining below 3.5 mmol/L despite appropriate replacement therapy. In this report, we present a case of resistant hypokalemia ultimately attributed to Gitelman syndrome, a rare tubulopathy (Fulchiero & Seo-Mayer, 2019).

CASE PRESENTATION

A 42-year-old male patient presented to the emergency department with complaints of diarrhea for three days, generalized weakness, and diffuse body aches. His general condition was good, and he was conscious and oriented. He had no known chronic illnesses and was not on any regular medication. On physical examination, respiratory sounds were normal bilaterally. Blood pressure was 100/60 mmHg, pulse 76 bpm, and his ECG showed sinus rhythm without pathological findings. Other systemic examinations were unremarkable.
Initial laboratory investigations revealed: Hgb: 16 g/dL, WBC: 11,000/mm³, Ca: 8.6 mg/dL, Na: 141 mmol/L, K: 2.5 mmol/L, creatinine: 1.2 mg/dL, Cl: 90 mmol/L, Mg: 1.28 mg/dL, CRP: 9.9 mg/L, TSH: 1.04 mIU/mL, T4: 1.3 ng/dL. Arterial blood gas analysis showed: pH: 7.5, HCO_3: 32.3 mmol/L, pCO_2: 43.7 mmHg, lactate: 1.6 mmol/L. Urinalysis revealed no signs of infection.

The patient was hospitalized in the internal medicine ward with a preliminary diagnosis of gastroenteritis and for further evaluation of hypokalemia. Intravenous isotonic fluids and potassium replacement therapy were initiated. Daily monitoring of renal function and electrolytes was performed. Despite the resolution of diarrhea by the second day, hypokalemia persisted. Spironolactone 50 mg was started along with 6 g of IV potassium over 6 hours. On the second day, potassium was 3.07 mmol/L, and potassium supplementation was continued. Oral potassium (1.56 g twice daily) and spironolactone were maintained.

On day three, serum potassium was 3.36 mmol/L. Spironolactone dose was increased to 100 mg, and magnesium and calcium supplementation was added. On day four, serum potassium dropped again to 3.0 mmol/L. Treatment was adjusted to spironolactone 100 mg/day, IV potassium 4 ampules/day, ramipril 2.5 mg/day, oral magnesium, potassium citrate (three times daily), and calcium carbonate-cholecalciferol (once daily). By day five, potassium levels reached 4.0 mmol/L, and IV potassium was discontinued with continuation of oral therapies.

ACTH and cortisol levels obtained at admission were 20.3 pg/mL and 429 nmol/L, respectively, and within normal ranges. Renin (1.88 ng/mL/h) and aldosterone (8.58 ng/dL) levels obtained before treatment were also within normal limits. A 24-hour urine analysis showed chloride: 255 mmol/day, phosphate: 381 mmol/day, calcium: 1.5 mg/day—consistent with hypocalciuria. Blood and urine cultures were negative, as was the stool culture obtained during hospitalization. Thoracic CT and abdominal/pelvic MRI with contrast showed no evidence of a neuroendocrine tumor.

DISCUSSION

This patient presented with symptoms suggestive of a gastrointestinal cause of hypokalemia, which was supported by the initial presence of diarrhea. However, the persistence of hypokalemia despite symptom resolution and potassium replacement necessitated further workup. After ruling out common causes such as Cushing's syndrome, hyperaldosteronism, and diuretic use, the constellation of findings -including hypomagnesemia, hypocalciuria, metabolic alkalosis, and high urinary chloride excretion- was highly suggestive of Gitelman syndrome (Parmar, Muppidi, & Bashir, 2024).

Gitelman syndrome is a rare inherited tubulopathy caused by mutations in the SLC12A3 gene, affecting the thiazide-sensitive sodium-chloride co-transporter in the distal convoluted tubule. It leads to excessive renal loss of potassium and magnesium, reduced calcium excretion, and secondary hyperaldosteronism. Unlike Bartter syndrome, Gitelman syndrome typically presents later in life and is associated with hypocalciuria and milder volume depletion.

Diagnosis is typically clinical, supported by characteristic biochemical abnormalities. Although genetic testing can confirm the diagnosis, it is not always necessary for treatment initiation. Management focuses on correcting electrolyte imbalances and includes oral potassium and magnesium supplementation, potassium-sparing diuretics such as spironolactone, and RAAS blockade via ACE inhibitors or ARBs (Cho et al., 2024).

This case emphasizes the importance of considering rare renal tubular disorders such as Gitelman syndrome in patients with persistent or treatment-resistant hypokalemia. Prompt recognition and appropriate management can significantly improve symptoms and prevent complications. Gitelman syndrome, though uncommon, should be part of the differential diagnosis when facing unexplained hypokalemia, especially when accompanied by metabolic alkalosis, hypomagnesemia, and hypocalciuria.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-56 · Evaluation of Biochemical Parameters in Patients Diagnosed with Hepatosteatosis at the Family Medicine Clinic

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ABSTRACT

Introduction: This study was conducted to evaluate the diagnostic performance of certain anthropometric and biochemical parameters as early indicators of NAFLD (non-alcoholic fatty liver disease), aiming to provide practicality in selecting patients suspected of having NAFLD who need further examination and treatment.
Materials and Methods: The study population consists of patients aged 18 and above who visited the Family Medicine Clinic of Eskisehir Osmangazi University Medical Faculty for a check-up between 01.01.2022 and 31.03.2023. 100 patient records meeting the inclusion criteria during this period were identified.
Results: The mean age of the participants included in the study was 55±13.69, with 57% being female. The average BMI (body mass index) of the patients was 30.32±5.34 kg/m². A significant difference was found between the degrees of hepatosteatosis in terms of insulin (p=0.019). The insulin level of the Grade 1 group (11.95±7.19 mIU/L) was statistically significantly lower than that of the Grade 2-3 group (16.63±9.69 mIU/L). A significant difference was found in the HOMA-IR (Homeostasis Model Assessment of Insulin Resistance) values between the degrees of hepatosteatosis (p =0.002). The HOMA-IR value of the Grade 1 group (2.96±1.9) was statistically significantly lower than that of the Grade 2-3 group (4.73±2.83).
Conclusion: In our study, a positive correlation was found between NAFLD prevalence and female gender, increasing age, and BMI. As the degree of hepatosteatosis increased, the HOMA-IR value, which indicates insulin resistance, was found to be higher. Considering the possible limitations of non-invasive biomarkers for diagnosing the disease, we believe that in patients with high BMI, insulin resistance, and advanced age, further examinations for hepatosteatosis could lead to earlier detection of NAFLD and reduction in mortality and morbidity with appropriate approaches.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Non-alcoholic fatty liver disease, insulin resistance, obesity, metabolic syndrome

INTRODUCTION

NAFLD (non-alcoholic fatty liver disease) is the most common chronic liver disease worldwide (Angulo, 2002; Bayard et al., 2006). The incidence of NAFLD, which affects approximately 20-30% of the global population, is increasing and is expected to become the leading cause of cirrhosis and liver transplantation in the coming years (Neuschwander-Tetri, 2017). In Turkey, the prevalence of NAFLD is 48.3%, and it rises to 63% in individuals with a BMI (body mass index) ≥25 kg/m² (Degertekin et al., 2021). NAFLD is more common in people with diabetes and obesity (Younossi, 2019). With the rising frequency of type 2 diabetes

mellitus, obesity, and metabolic syndrome, fatty liver disease has become an important problem (Neuschwander-Tetri, 2017). Hepatosteatosis can progress to steatohepatitis and fibrosis, potentially leading to cirrhosis and hepatocellular carcinoma. As the disease progresses without symptoms, it is often diagnosed only after liver damage has occurred (Yapali & Cicek, 2023). Due to its high prevalence and the potential for progression to cirrhosis and hepatocellular carcinoma, NAFLD has become a significant public health problem (Kalafati et al., 2019). Since NAFLD remains asymptomatic until advanced stages, many patients are only diagnosed at later stages, making risk factor modification and existing or experimental treatments ineffective. Therefore, early predictors need to be investigated (Baranova & Younossi, 2008). Ultrasonography is the primary method used to detect liver fat (Turk Karaciger Arastirmalari Dernegi, 2021). Biopsy is the current gold standard for diagnosis and prognosis, but it is an expensive and invasive procedure with associated complication risks. Due to poor patient acceptance of this invasive technique, there is a need for reliable, accurate, and non-invasive or minimally invasive biomarkers (Piazzolla & Mangia, 2020). This study evaluates the diagnostic performance of certain anthropometric and biochemical parameters as early indicators of NAFLD, investigating whether they can provide practicality in selecting patients suspected of NAFLD.

MATERIALS AND METHODS

The study population consisted of patients aged 18 and above, who presented for a check-up at the Family Medicine Clinic of Eskisehir Osmangazi University Medical Faculty between 01.01.2022 and 31.03.2023. These patients had hepatosteatosis detected via abdominal ultrasonography and had available biochemical data. Patients with a history of alcohol consumption (more than 20 g/day in women and more than 30 g/day in men) or known chronic liver diseases were excluded. During the specified period, 100 patient records meeting the inclusion criteria were identified. Data were analyzed using SPSS 26.0. t-test, ANOVA, and chi-square tests were used in the analyses. This entire process related to this study has been approved by the Non-interventional Clinical Research Ethics Committee of Eskisehir Osmangazi University with decision number 29 on April 11, 2023.

RESULTS

The mean age of the participants was 55±13.69, and 57% of them were female. According to ultrasonography results, 68% had Grade 1, 29% had Grade 2, and 3% had Grade 3 hepatosteatosis. Chronic diseases were present in 45% of the patients. Among those with chronic diseases, 29% had hypertension and 12% had diabetes. The average BMI of the patients was 30.32±5.34 kg/m². The proportion of patients with a BMI of 25 and above was 90%. A significant difference in insulin levels was found between the hepatosteatosis grades ($p = 0.019$). The insulin level in the Grade 1 group (11.95±7.19 mIU/L) was statistically significantly lower than in the Grade 2-3 group (16.63±9.69 mIU/L). A significant difference in HOMA-IR (Homeostasis Model Assessment of Insulin Resistance) values was found between the hepatosteatosis grades ($p = 0.002$). The HOMA-IR value in the Grade 1 group (2.96±1.9) was statistically significantly lower than in the Grade 2-3 group (4.73±2.83).

DISCUSSION

The prevalence of NAFLD in women varies between 40-80% in different studies (Angulo et al., 1999; Bacon et al., 1994; Diehl et al., 1998; Itoh et al., 1987; Lee, 1989; Ludwig et al., 1980; Matteoni et al., 1999; Pinto et al., 1996; Powell et al., 1990; Teli et al., 1995). Some studies have also found that it is more common in men (Chen et al., 2008). In our study, NAFLD was found to be more common in women. The literature shows that NAFLD most often appears in the 5th and 6th decades (Angulo et al., 1999; Bacon et al., 1994; Diehl et al., 1998; Itoh et al., 1987; Lee, 1989; Ludwig et al., 1980; Nonomura et al., 1992; Powell et al., 1990). In our study, the average age was found to be 55. Our results were consistent with the literature.

The association between NAFLD and obesity ranges from 30% to 95% in different studies (Angulo et al., 1999; Bacon et al., 1994; Diehl et al., 1998; Itoh et al., 1987; Lee, 1989; Ludwig et al., 1980; Matteoni et al., 1999; Pinto et al., 1996; Powell et al., 1990; Teli et al., 1995). In our study, the proportion of patients with a BMI ≥ 25 was found to be 90%. While the incidence of NAFLD in obese individuals is approximately 75-80%, this rate is around 16% in individuals with normal weight (Milic et al., 2014; Powell et al., 1990). Insulin resistance is the primary factor responsible for the initial insult in the pathogenesis of NAFLD (Bugianesi et al., 2005). A study by Marchesini et al. (1999) found a positive correlation between NAFLD and insulin resistance. In a study consistent with our findings, a positive relationship was found between the level of

steatosis and HOMA-IR (Oral & Sahin, 2020). Various studies have found a significant positive correlation between NAFLD and elevated liver enzyme levels (Chen et al., 2008; Sanyal et al., 2015; Sorbi et al., 1999). In another study, even though liver enzymes were within normal ranges, a positive correlation was found between steatosis levels and liver enzymes (Oz, 2019). In another study, 59% of patients with fatty liver but normal liver enzymes were found to have biopsy-proven non-alcoholic steatohepatitis (Smith & Adams, 2011). In our study, however, no significant difference was found between liver enzyme levels and hepatosteatosis grades. As a result, normal liver enzyme levels are insufficient to exclude a diagnosis of NAFLD, and there is no correlation between the severity of the disease and transaminase levels (Mofrad et al., 2003). Dyslipidemia plays an important role in the etiology of NAFLD. Some studies have found a significant correlation between NAFLD and dyslipidemia, contrary to our findings (Peng et al., 2017; Speliotes et al., 2010). The low number of patients with Grade 3 hepatosteatosis may have contributed to this situation.

CONCLUSION

In our study, the factors directly affecting NAFLD were found to be gender, age, BMI, and insulin resistance. Our study showed that NAFLD is more common in women. Consistent with studies showing that NAFLD emerges more frequently in the 5th and 6th decades of life, the average age in our study was 55. Our study highlighted that increased BMI poses a significant risk for NAFLD and emphasized the importance of weight loss strategies. As the degree of hepatosteatosis increases, the HOMA-IR value also rises. In this context, the study supports the necessity of screening patients for NAFLD in the presence of insulin resistance. There is no correlation between the severity of the disease and liver function tests, and normal liver function tests are insufficient to exclude NAFLD. Due to increased dyslipidemia in NAFLD cases, attention must be paid to the increased cardiovascular risk in these patients.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-57 · A Rare Case of Vulvar Monophasic Synovial Sarcoma

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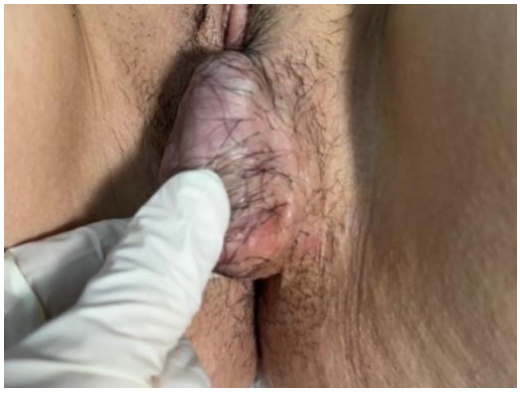
ABSTRACT

Introduction: Synovial sarcoma is the fourth most commonly occurring sarcoma, accounting for 7-8% of all sarcomas (Weiss, Goldblum, & Folpe, 2007). It most frequently occurs in young adults, with up to 30% being manifested during the first two decades of life (Okcu et al., 2003). The term synovial sarcoma was coined to denominate tumors arising near tendon sheaths and joint capsules. Despite its name, synovial sarcomas do not appear to arise from synovial membranes, but from unknown multipotent stem cells that are capable of differentiating into mesenchymal and/or epithelial structures and lack synovial differentiation (Holloway et al., 2007).

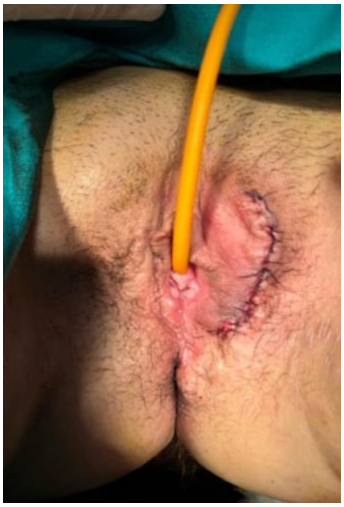
Case Presentation: A 15-year-old female, gravida 1, parity 1, presented with a complaint of swelling of the right vulva of increasing discomfort for four months (Figure 1).

Figure 1



She had no other gynaecological history and reported no mass elsewhere. Clinical examination revealed a healthy woman with a well-defined deep mobile mass in the right labium majus. The patient underwent excision of the swelling under general anaesthesia and the mass (Figure 2), which did not appear to be attached to adjacent structures, was dissected free of underlying tissue.

Figure 2



Surgical margin was reported as positive in one area. Transducin-like enhancer of split 1 (TLE1), which is highly sensitive for synovial sarcoma, was found to be positive on immunohistochemistry. No evidence of systemic disease was found on the post-diagnostic PET scan. On post-operative examination of the patient, the surgical margins appeared good and no stiffness was felt at the scar line. The patient was offered the options of re-excision +- radiotherapy or direct radiotherapy. In consultation with radiation oncology, adjuvant radiotherapy was planned for the scar line with preservation of the pelvic organs.

Conclusion: In the literature, a recurrence 1.2 years later was reported in a 33-year-old patient who was treated with a monophasic 5 cm partial radical vulvectomy and vulvoplasty and did not receive adjuvant treatment due to negative surgical margins. In another 50-year-old patient, 7 years of disease-free survival was achieved with adjuvant radiotherapy without re-excision after surgical resection with a positive surgical margin. A 26-year-old patient with biphasic morphology underwent surgical resection, had a negative surgical margin with re-excision after surgical resection, and despite receiving adjuvant radiotherapy, died in the third year of disease (Dicken et al., 2010; Kolin et al., 2020; White et al., 2008). Vulvar synovial sarcoma is a rare malignant soft tissue tumour and should be considered in patients presenting with vulvar mass.

This study does not require ethics committee approval.

Written informed consent was obtained from the patient.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Sarcoma, synovium, vulva

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-58 · Immune-Related Hypothyroidism Following Nivolumab Therapy: A Case Report

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Oral Presentation #58 *was presented at the 3rd International Eastern Black Sea Family Medicine Congress, held in Ordu, Türkiye, on May 22–24, 2025, and is part of the proceedings titled: Proceedings of the 3rd International Eastern Black Sea Family Medicine Congress.*

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ABSTRACT

Introduction: Immunotherapies have revolutionized cancer treatment, and immune checkpoint inhibitors are now widely utilized in the management of various malignancies. However, immune-related adverse events associated with immunotherapy are increasingly recognized. Among endocrine toxicities, thyroid dysfunction -particularly hypothyroidism- is one of the most frequently observed adverse effects. In this study, we present a case of hypothyroidism that developed following nivolumab treatment and discuss its management approach.

Case Presentation: A 62-year-old male patient was under follow-up for non-small cell lung cancer (adenocarcinoma). Following disease progression after first-line treatment with pemetrexed and cisplatin, nivolumab was initiated as second-line therapy. After six cycles, the patient developed prominent symptoms of hypothyroidism, including fatigue, somnolence, and constipation. Laboratory tests revealed a markedly elevated thyroid-stimulating hormone (TSH) level (82 mIU/L, normal: 0.4–4.0 mIU/L) and decreased levels of free triiodothyronine (fT3: 1.5 pg/mL, normal: 2.0–4.4 pg/mL) and free thyroxine (fT4: 0.5 ng/dL, normal: 0.9–1.7 ng/dL). Both thyroid peroxidase antibody (anti-TPO) and thyroglobulin antibody (anti-TG) were negative. Thyroid ultrasonography revealed a hypoechoic and heterogeneous parenchymal structure. These findings were consistent with immune-related hypothyroidism.

Discussion: Nivolumab treatment was temporarily withheld, and levothyroxine replacement therapy was initiated at a dose of 100 mcg/day based on clinical severity and patient weight. Within a week, clinical improvement was observed, and thyroid function tests showed recovery. Notably, nivolumab therapy was successfully resumed without the need for permanent discontinuation, allowing continued cancer treatment. Within six weeks, the patient's thyroid function tests stabilized with minimal adjustments to the levothyroxine dose (TSH: 9 mIU/L, fT3: 3 pg/mL, fT4: 1.6 ng/dL), and immunotherapy was safely continued. The patient remains under multidisciplinary follow-up in both endocrinology and oncology outpatient clinics.

Conclusion: Hypothyroidism induced by immunotherapy can be effectively managed without discontinuing treatment if diagnosed early and appropriately treated. Therefore, regular monitoring of thyroid function tests is essential in patients receiving immunotherapy, and early replacement therapy should be initiated in symptomatic cases. This case highlights the importance of early recognition and multidisciplinary management of immune-related hypothyroidism in patients undergoing checkpoint inhibitor therapy.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Immunotherapy, hypothyroidism, nivolumab, immune-related adverse events

INTRODUCTION

In recent years, immunotherapies have emerged as an effective treatment option for various types of cancer, including metastatic lung cancer (Pardoll, 2012). Immune checkpoint inhibitors activate the immune system against cancer cells, providing a significant therapeutic option (Topalian, Drake, & Pardoll, 2015). Specifically, inhibitors targeting Programmed Cell Death Protein 1 (PD-1) / Programmed Cell Death Ligand

1 (PD-L1) and Cytotoxic T-Lymphocyte-Associated Protein 4 (CTLA-4) have been widely incorporated into the treatment of multiple solid tumors (Barroso-Sousa et al., 2018).
However, these therapies target not only tumor cells but also lead to various immune-related adverse events due to excessive immune system activation (Postow, Sidlow, & Hellmann, 2018). These adverse effects can involve the dermatologic, gastrointestinal, pulmonary, and endocrine systems (Naidoo et al., 2015). Among the most commonly observed endocrine side effects are hypophysitis, adrenal insufficiency, and thyroid dysfunction (Abdel-Rahman, ElHalawani, & Fouad, 2016). Immunotherapy-induced hypothyroidism may present as either subclinical or overt hypothyroidism and, in most cases, becomes permanent, requiring lifelong replacement therapy (Postow et al., 2018).
In this report, we present a case of hypothyroidism following nivolumab therapy and discuss its diagnosis and the management of immune-related endocrine adverse effects.

CASE PRESENTATION

This case report was conducted in accordance with ethical principles and institutional guidelines. The patient was followed at the Medical Oncology Department of Ordu University Training and Research Hospital. Clinical follow-up, biochemical evaluations, and imaging procedures were performed during the course of nivolumab therapy as part of routine clinical care.
Thyroid function was assessed at baseline and monitored regularly throughout the treatment period, including measurements of serum TSH, free T4, and anti-thyroid antibodies. When the patient presented with symptoms suggestive of thyroid dysfunction, thyroid ultrasonography and repeat laboratory evaluations were performed. A diagnosis of immune-related hypothyroidism was established based on clinical presentation and laboratory findings. Levothyroxine replacement therapy was initiated under the guidance of the endocrinology department. Immunotherapy was temporarily withheld and later resumed after stabilization of thyroid function.
Data collection was limited to routine clinical assessments, and no experimental procedures were performed. Written informed consent was obtained from the patient for publication of this case. Ethics committee approval was not required for this case report.
A 62-year-old male patient with a history of hypertension but no other known chronic diseases had a 40 pack-year smoking history and was still smoking. There was no family history of malignancy or endocrine disorders. In March 2023, the patient presented to the pulmonology outpatient clinic with complaints of cough and hemoptysis. Thoracic computed tomography (CT) revealed a 7.5 cm primary mass in the lower lobe of the left lung, along with mediastinal lymphadenopathy. Histopathological evaluation of the bronchoscopic biopsy confirmed the diagnosis of non-small cell lung cancer (adenocarcinoma).
A positron emission tomography/computed tomography (PET/CT) scan performed to assess disease extent identified a 7 cm primary mass in the lower lobe of the left lung with a maximum standardized uptake value (SUVmax) of 16.5, exceeding the commonly accepted malignancy threshold and strongly suggesting a neoplastic process. Increased metabolic activity was observed in the mediastinal lymph nodes, with the highest SUVmax reaching 9. Multiple bone metastases were detected, with a maximum SUVmax reaching 11 in these lesions. Genetic analysis revealed no mutations suitable for targeted therapy, and PD-L1 expression was reported as weakly positive (1–49%).
First-line treatment with pemetrexed plus cisplatin was initiated. After three cycles, a partial response was observed, leading to the continuation of treatment for an additional three cycles. However, after the sixth cycle, PET-CT imaging revealed disease progression, including new bone metastases and bilateral metastatic lung lesions. Consequently, nivolumab was initiated as second-line therapy.
After approximately three months of treatment, a significant regression of both the primary tumor and metastatic lesions was observed. However, after three months of nivolumab therapy, the patient developed severe fatigue, persistent somnolence, and constipation. On physical examination, the patient was in good general condition, cooperative, and oriented. The skin and mucous membranes appeared pale, with no evidence of significant peripheral edema or dehydration. Vital signs were as follows: blood pressure, 125/90 mmHg; pulse rate, 62 bpm; respiratory rate, 18 breaths per minute; and body temperature, 36.8°C. Cardiovascular examination revealed no abnormal heart sounds or murmurs. Pulmonary auscultation revealed decreased breath sounds in the left lower lobe and basal inspiratory rales. No pathological findings were observed on gastrointestinal examination, and neurological examination revealed no motor or sensory deficits, although the patient reported marked fatigue and difficulty concentrating.

Laboratory tests revealed a hemoglobin level of 11.2 g/dL, a leukocyte count of 7,800/mm³, and a platelet count of 250,000/mm³. Renal function tests were within normal limits, with a creatinine level of 0.9 mg/dL. Liver function tests showed alanine aminotransferase (ALT) at 24 U/L, aspartate aminotransferase (AST) at 28 U/L, total bilirubin at 1.1 mg/dL, direct bilirubin at 0.4 mg/dL, alkaline phosphatase (ALP) at 213 U/L, and gamma-glutamyl transferase (GGT) at 55 U/L. C-reactive protein (CRP) was 7.2 mg/L, lactate dehydrogenase (LDH) was 289 U/L, and albumin was 3.8 g/dL. Electrolyte levels were as follows: sodium, 138 mmol/L; potassium, 4 mmol/L; calcium, 8.8 mg/dL; and magnesium, 0.88 mmol/L.

Endocrine evaluation revealed a markedly elevated thyroid-stimulating hormone (TSH) level (82 mIU/L, normal: 0.4–4.0 mIU/L), along with low free triiodothyronine (fT3: 1.5 pg/mL, normal: 2.0–4.4 pg/mL) and free thyroxine (fT4: 0.5 ng/dL, normal: 0.9–1.7 ng/dL) levels. Additional pituitary hormone tests were performed to assess for hypophysitis-related panhypopituitarism, but no abnormalities were detected other than the elevated TSH level. The patient had normal thyroid function tests prior to initiating nivolumab. To investigate the etiology of hypothyroidism, anti-thyroid peroxidase (anti-TPO) and anti-thyroglobulin (anti-TG) antibodies were tested and found negative. Thyroid ultrasonography revealed diffuse heterogeneity, a mild reduction in gland size, and decreased parenchymal echogenicity, consistent with hypothyroidism. No nodules or significant inflammatory changes were detected.

Given the significant thyroid function abnormalities, the patient was referred to the endocrinology department, where a diagnosis of immunotherapy-induced hypothyroidism was confirmed. Nivolumab therapy was temporarily withheld, and levothyroxine replacement therapy was initiated at a dose of 100 mcg/day based on clinical severity and patient weight. Follow-up testing after one week showed normalization of fT4 levels (1.2 ng/dL) and near-normalization of fT3 levels (1.9 pg/mL), accompanied by significant improvement in the patient's symptoms. At the two-week follow-up, the patient's somnolence and dizziness had resolved, and constipation showed improvement. Consequently, nivolumab therapy was resumed, and levothyroxine treatment was maintained.

Six weeks later, follow-up laboratory results showed a mildly elevated TSH level (9 mIU/L), while fT3 (3 pg/mL) and fT4 (1.6 ng/dL) remained within normal ranges. The levothyroxine dose was adjusted accordingly to maintain optimal thyroid function. Based on these findings, the patient was scheduled for regular followup in the endocrinology outpatient clinic, and nivolumab therapy was continued.

DISCUSSION

Although immunotherapies have revolutionized cancer treatment, they may also cause immune-related adverse events (Gonzalez-Rodriguez & Rodriguez-Abreu, 2016). Among these adverse effects, endocrine dysfunctions, particularly thyroid disorders, are among the most frequently observed (Muir et al., 2021). Thyroid disorders associated with immunotherapy typically manifest as hypothyroidism, thyroiditis, or hyperthyroidism. Clinically, both subclinical and overt hypothyroidism can develop, with most cases requiring thyroid hormone replacement therapy (Brahmer et al., 2018). This phenomenon is attributed to both the direct and indirect immune effects of immune checkpoint inhibitors on the thyroid gland. The absence of anti-TPO and anti-TG antibodies supports the diagnosis of destructive thyroiditis secondary to immunotherapy rather than classic autoimmune thyroid disease.

In this case study, the early diagnosis and appropriate management of hypothyroidism following nivolumab therapy were comprehensively evaluated. The patient's clinical symptoms, changes in thyroid function tests, and ultrasound findings, indicated immune-related thyroid dysfunction. Studies have shown that thyroid function abnormalities occur in approximately 10–20% of patients undergoing immunotherapy (Morganstein et al., 2017). Therefore, thyroid function tests should be regularly monitored at baseline and throughout the treatment course in patients receiving immunotherapy. This approach facilitates the early detection of immune-related endocrinopathies and allows for the timely implementation of appropriate treatment strategies.

In conclusion, early detection and appropriate management are crucial for minimizing the impact of immune-related thyroid dysfunction during immunotherapy. In our case, hypothyroidism that developed following nivolumab therapy was effectively managed with appropriate replacement therapy. Notably, immunotherapy was resumed without the need for permanent discontinuation, demonstrating that endocrine immune-related adverse events can be effectively managed without disrupting oncologic treatment. A multidisciplinary approach was implemented throughout this process.

A better understanding and management of endocrine adverse effects related to immunotherapy will aid in the early diagnosis and treatment of potential complications, ultimately enhancing patient prognosis and quality of life. Although immune checkpoint inhibitors have significantly advanced malignancy treatment, immune-related endocrine adverse effects can complicate patient management. Therefore, close endocrinological monitoring of patients receiving immunotherapy is crucial, particularly during the first few months of treatment and in the long term, as immune-related endocrine dysfunctions may manifest even after therapy discontinuation.

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CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-59 · What Is Allergic March and What should We Do?

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ABSTRACT

Introduction: Atopy is defined as an individual or familial history of type 1 allergy, bronchial asthma, allergic rhinitis-conjunctivitis and/or atopic dermatitis and/or a tendency to overproduce IgE antibodies (Weidinger & Novak, 2015). Asthma, allergic rhinitis, food allergy and atopic dermatitis are typically considered allergic diseases. Allergic March - Atopic March is a concept that refers to the natural progression of allergic diseases that usually begin early in life. The order of disease progression in childhood is usually Atopic Dermatitis, Food Allergy, Allergic Rhinitis, Asthma. This progression, which continues as skin, gastrointestinal system, respiratory system, may change depending on genetic and environmental exposure, possibly through epigenetic mechanisms (Turner, 2017). The main problem is inflammation caused by dysregulation of the immune response dependent on T helper 2 (Th2) cells (Martín-Orozco, Norte-Muñoz, & Martínez-García, 2017).

Materials and Methods: Possible mechanisms for the Allergic March are described as dysfunction of the skin barrier, alterations in the microbiome, epigenetic factors, social dysfunction of cells and molecules and the predicted interaction of other genes (Hill & Spergel, 2018; Hirota et al., 2017; Hudson, 2006; Luo, 2010; Penders et al., 2006; Peng et al., 2019; Yang et al., 2020).

Results: Atopic dermatitis is a chronic inflammatory skin disease characterised by recurrent itching and impaired skin barrier. 45% of affected children are diagnosed before the age of 6 months, 60% before the age of 1 year and 85% before the age of 5 years (Spergel, 2005). Food allergy (IgE positive) usually occurs in childhood with atopic dermatitis as the earliest manifestation of atopic march, with an estimated prevalence of 6-8% (Torres et al., 2019; Yang, Fu, & Zhou, 2020). It usually presents with mild symptoms such as abdominal discomfort, nausea, vomiting or diarrhoea (Knyziak-Mędrzycka, Majsiak, & Cukrowska, 2023). Eosinophilic esophagitis is defined as an immunological (Th2) disease causing chronic esophageal dysfunction characterised histologically by eosinophilic inflammation. Although it has been hypothesised that eosinophilic oesophagitis is the fifth member of the atopic march, this is controversial (Mohammad et al., 2017).

Conclusion: Strategically, it is important to consider that breastfeeding for more than 6 months not only reduces the incidence of atopic dermatitis but also reduces the risk of developing other allergic diseases, that the use of Lactobacillus rhamnosus as a probiotic during the first 2 years of life can be effective, that the use of tobacco products at home or in the environment triggers the development of allergic sensitisation - asthma in children and that the prevention of exposure is strongly ensured (Dick et al., 2014; Kull et al., 2005; Wickens et al., 2008). According to the Allergic March theory, early recognition of children at risk of allergic diseases and prevention of the process will significantly improve the quality of life in a healthy adult.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Asthma, rhinitis allergic, food allergies, atopic dermatitis, allergy

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-60 · Müllerian Anomaly Diagnosed During Cesarean Section: Unicorn Uterus

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ABSTRACT

Introduction: Congenital müllerian anomalies may also be asymptomatic, so their frequency cannot be clearly expressed. The prevalence has been reported as 5.5% - 8%. This rate was found to increase in patients with a history of pregnancy loss and/or infertility (24.5%). We aimed to present a case of unicorn uterus, a müllerian anomaly, who reached term in good health and was incidentally diagnosed during cesarean section.

Case Presentation: A 33-year-old G1P0 patient had no problem in screening tests and detailed ultrasonography during pregnancy follow-up. The pregnancy was continued with strict ultrasonography and Doppler follow-up until 38 weeks, but due to the onset of contractions and breech presentation of the fetus, she was delivered by cesarean section. During cesarean section, it was observed that the uterus was unicorn. A rudimentary horn and attached right ovary and tuba were observed on the right. The patient was informed after the operation and told that she should come for follow-up.

Discussion: Congenital uterine anomalies include septate, bicornuate, didelphys and unicornuate uterus and are caused by abnormal formation, fusion or resorption of the müllerian ducts. In the unicornuate uterus, one cavity is usually smaller than a normal uterus and has a fallopian tube, ovary, and cervix, while the failed müllerian duct has various configurations. The affected müllerian duct may not develop at all, or it may develop only partially as either a rudimentary horn on the uterus or an anlage (a cluster of embryonic cells). This horn (or anlage) may or may not communicate with the uterus. MRI can be useful to more reliably assess for the presence of a rudimentary horn with or without functional endometrium and an ectopic ovary. Most rudimentary horns are asymptomatic. If a rudimentary horn is obstructed (without communication to the other uterus or cervix), the patient may develop cyclic or chronic abdominopelvic pain. An obstructed or rudimentary uterine horn is also associated with uterine rupture. Patients with unicornuate uteri are generally not candidates for reconstructive procedures to improve pregnancy outcomes.

Conclusion: In our case, there was no pre-pregnancy symptom due to rudimentary horn, and it was detected incidentally during caesarean section. Therefore, the preliminary diagnosis of our case may be noncominican rudimentary horn without functional endometrium. Uterine anomalies may cause fertility-related and obstetric problems or may be detected incidentally without any symptoms as in our case. Therefore, correct identification and appropriate management of uterine anomalies are important.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Müllerian anomaly, unicorn uterus, caesarean section, rudimentary horn

INTRODUCTION

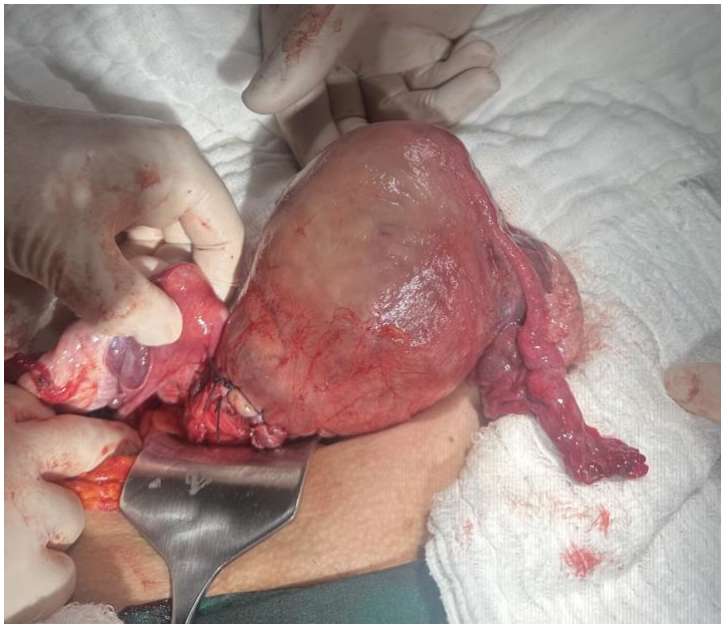
Congenital müllerian anomalies may also be asymptomatic, so their frequency cannot be clearly expressed. The prevalence has been reported as 5.5% - 8% (Chan et al., 2011). This rate was found to increase in patients with a history of pregnancy loss and/or infertility (24.5%). Congenital müllerian anomalies may cause pelvic pain, abnormal uterine bleeding, abortion, preterm labor, anomalies of presentation and intrauterine growth

retardation. We aimed to present a case of unicorn uterus, a müllerian anomaly, who reached term in good health and was incidentally diagnosed during cesarean section.

CASE PRESENTATION

A 33-year-old G1P0 patient had no problem in screening tests and detailed ultrasonography during pregnancy follow-up. Until the 30th week of gestation, the fetus was developing in accordance with its week of gestation, but after the 30th week, the fetus started to have small measurements compared to its week of gestation. The pregnancy was continued with strict ultrasonography and Doppler follow-up until 38 weeks, but due to the onset of contractions and breech presentation of the fetus, she was delivered by cesarean section as a small gestational age (SGA) baby. During cesarean section, it was observed that the uterus was unicorn. A rudimentary horn and attached right ovary and tuba were observed on the right (Figure 1). The patient was informed after the operation and told that she should come for follow-up. Written informed consent was obtained from the patient.

Figure 1



Congenital uterine anomalies include septate, bicornuate, didelfis and unicornuate uterus and are caused by abnormal formation, fusion or resorption of the müllerian ducts. Trans vaginal USG, HSG, 3D-USG and MRI can be used in the diagnosis of müllerian anomalies (Pellerito, McCarthy, Doyle, Glickman, & DeCherney, 1992). Combined laparoscopy/hysteroscopy may be required for definitive diagnosis and treatment of the detected anomaly is also possible. Since reproductive outcomes vary according to the type of anomaly, it is important to identify the anomaly. In the unicornuate uterus, one cavity is usually smaller than a normal uterus and has a fallopian tube, ovary, and cervix, while the failed müllerian duct has various configurations. The affected müllerian duct may not develop at all, or it may develop only partially as either a rudimentary horn on the uterus or an anlage (a cluster of embryonic cells). This horn (or anlage) may or may not communicate with the uterus. The diagnosis is typically based on imaging findings of a uterus deviated to one side of the pelvis with an inner contour demonstrating a tubular rather than triangular configuration; 3D-reconstructed images are particularly helpful. MRI can be useful to more reliably assess for the presence of a rudimentary horn with or without functional endometrium and an ectopic ovary. Most rudimentary horns are asymptomatic. Some contain functional, but not necessarily normal, endometrium that is shed cyclically (Jayasinghe, Rane, Stalewski, & Grover, 2005). If a rudimentary horn is obstructed (without communication to the other uterus or cervix), the patient may develop cyclic or chronic abdominopelvic pain. Patients with a unicornuate uterus are also at higher risk for endometriosis. A literature review of pregnancy outcomes in patients with unicornuate uteri reported the following adverse pregnancy outcomes: first-trimester pregnancy loss (24.3 percent), preterm birth (20.1 percent), second-trimester pregnancy loss (9.7 percent), fetal demise (3.8 percent), ectopic pregnancy (2.7 percent); over half (51.5 percent) of patients experienced a live birth

(Jayasinghe et al., 2005; Reichman, Laufer, & Robinson, 2009). An obstructed or rudimentary uterine horn is also associated with uterine rupture and/or placental attachment abnormalities (eg, accreta, increta, percreta) (Contreras, Rothenberg, Kominiarek, & Raff, 2008; Daskalakis, Pilalis, Lykeridou, & Antsaklis, 2002; Henriet et al., 2008; Jayasinghe et al., 2005). A study of 328 pregnancies in obstructed horns found that only 1 percent of such pregnancies were alive at term, and 89 percent of the horns ruptured (O'Leary & O'Leary, 1963). Both spontaneous rupture and rupture during labor or induction have been reported. Thus, pregnancies in an obstructed horn should be terminated. Unicornuate uterus can also be associated with an ectopic ovary (which is of clinical importance in patients undergoing ovulation induction or who develop ovarian neoplasms) (Dabirashrafi, Mohammad, & Moghadami-Tabrizi, 1994; Ombelet, Verswijvel, & de Jonge, 2003), and a particularly high incidence (40 percent) of renal abnormalities (Fedele, Bianchi, Agnoli, Tozzi, & Vignali, 1996). Patients with unicornuate uteri are generally not candidates for reconstructive procedures to improve pregnancy outcomes (Acién, Acién, & Sánchez-Ferrer, 2004). However, as a rudimentary horn with functioning endometrium can result in cyclic or chronic abdominopelvic pain or harbor an ectopic pregnancy, noncommunicating rudimentary horns with endometrium are sometimes surgically removed.
In our case, there was no pre-pregnancy symptom due to rudimentary horn and it was detected incidentally during caesarean section. Therefore, the preliminary diagnosis of our case may be noncominican rudimentary horn without functional endometrium. However, MRI was recommended for definitive diagnosis and to investigate whether there was an accompanying renal anomaly. The complications that rudimentary horns may cause in the future were explained to the patient and excision was offered as an option, but the patient refused. In retrospective evaluation, it was thought that SGA and breech presentation of the fetus may have been due to unicorn uterus.

DISCUSSION

Congenital uterine anomalies include septate, bicornuate, didelfis and unicornuate uterus and are caused by abnormal formation, fusion or resorption of the müllerian ducts. Trans vaginal USG, HSG, 3D-USG and MRI can be used in the diagnosis of müllerian anomalies (Pellerito, McCarthy, Doyle, Glickman, & DeCherney, 1992). Combined laparoscopy/hysteroscopy may be required for definitive diagnosis and treatment of the detected anomaly is also possible. Since reproductive outcomes vary according to the type of anomaly, it is important to identify the anomaly. In the unicornuate uterus, one cavity is usually smaller than a normal uterus and has a fallopian tube, ovary, and cervix, while the failed müllerian duct has various configurations. The affected müllerian duct may not develop at all, or it may develop only partially as either a rudimentary horn on the uterus or an anlage (a cluster of embryonic cells). This horn (or anlage) may or may not communicate with the uterus. The diagnosis is typically based on imaging findings of a uterus deviated to one side of the pelvis with an inner contour demonstrating a tubular rather than triangular configuration; 3D-reconstructed images are particularly helpful. MRI can be useful to more reliably assess for the presence of a rudimentary horn with or without functional endometrium and an ectopic ovary. Most rudimentary horns are asymptomatic. Some contain functional, but not necessarily normal, endometrium that is shed cyclically (Jayasinghe, Rane, Stalewski, & Grover, 2005). If a rudimentary horn is obstructed (without communication to the other uterus or cervix), the patient may develop cyclic or chronic abdominopelvic pain. Patients with a unicornuate uterus are also at higher risk for endometriosis. A literature review of pregnancy outcomes in patients with unicornuate uteri reported the following adverse pregnancy outcomes: first-trimester pregnancy loss (24.3 percent), preterm birth (20.1 percent), second-trimester pregnancy loss (9.7 percent), fetal demise (3.8 percent), ectopic pregnancy (2.7 percent); over half (51.5 percent) of patients experienced a live birth (Jayasinghe et al., 2005; Reichman, Laufer, & Robinson, 2009). An obstructed or rudimentary uterine horn is also associated with uterine rupture and/or placental attachment abnormalities (eg, accreta, increta, percreta) (Contreras, Rothenberg, Kominiarek, & Raff, 2008; Daskalakis, Pilalis, Lykeridou, & Antsaklis, 2002; Henriet et al., 2008; Jayasinghe et al., 2005). A study of 328 pregnancies in obstructed horns found that only 1 percent of such pregnancies were alive at term, and 89 percent of the horns ruptured (O'Leary & O'Leary, 1963). Both spontaneous rupture and rupture during labor or induction have been reported. Thus, pregnancies in an obstructed horn should be terminated. Unicornuate uterus can also be associated with an ectopic ovary (which is of clinical importance in patients undergoing ovulation induction or who develop ovarian neoplasms) (Dabirashrafi, Mohammad, & Moghadami-Tabrizi, 1994; Ombelet, Verswijvel, & de Jonge, 2003), and a particularly high incidence (40 percent) of renal abnormalities (Fedele, Bianchi, Agnoli, Tozzi, & Vignali, 1996). Patients with unicornuate uteri are generally not candidates for reconstructive procedures

to improve pregnancy outcomes (Acién, Acién, & Sánchez-Ferrer, 2004). However, as a rudimentary horn with functioning endometrium can result in cyclic or chronic abdominopelvic pain or harbor an ectopic pregnancy, noncommunicating rudimentary horns with endometrium are sometimes surgically removed. Uterine anomalies may cause fertility-related and obstetric problems or may be detected incidentally without any symptoms as in our case. Therefore, correct identification and appropriate management of uterine anomalies are important.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this case.

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EBFMC25-OP-61 · Management of Benign Anorectal Diseases in Primary Care: A Review Study

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ABSTRACT

Introduction: Benign anorectal diseases are commonly observed at all levels of healthcare and can greatly impact patients' quality of life. Both patients and healthcare providers often overlook and dismiss these conditions. However, prompt identification and appropriate treatment of these issues are essential for enhancing patients' comfort and well-being. Typical symptoms associated with anorectal diseases include alterations in bowel habits, discomfort, discharge, burning sensations, itching, and bleeding. In routine practice, conditions like hemorrhoids, anal fissures, anal fistulas, and perianal abscesses are frequently diagnosed. Many of these conditions can be accurately assessed through a thorough medical history and physical examination. Gathering a comprehensive history and conducting physical assessments are often as informative as more advanced diagnostic tools and can minimize the need for further testing in numerous patients (Cohee, Hurff, & Gazewood, 2020; Elagöz et al., 2023; Fargo & Latimer, 2012).

Materials and Methods: A narrative review was created for this review article after searching the Pubmed, Google Scholar, Medscape, and Uptodate databases.

Results: Anorectal disorders are characterized by pain, bleeding, itching, discharge, and discomfort. A diagnosis may typically be made and therapy initiated with anamnesis and physical examination after the patient's symptoms and related findings are thoroughly questioned. The only things that remain constant in anorectal disorders are dietary guidelines and lifestyle modifications. When patients apply to primary care, their doctors should advise them to avoid a sedentary lifestyle, develop healthy bathroom habits, and eliminate off spicy, acidic, and caffeine-containing substances from their diet (Cohee, Hurff, & Gazewood, 2020; Elagöz et al., 2023; Fargo & Latimer, 2012). About 40% of individuals with chronic anal fissures and the majority of patients with acute anal fissures heal with conservative and medical treatment (topical diltiazem, topical glyceryl trinitrate) (Menteş & Leventoğlu, 2011; Özdemir & Geçim, 2010; Zaghiyan & Fleshner, 2011). Medical treatments (flavonoids, calcium dobesilate, topical local anesthetic, local corticosteroid, and local vasoconstrictor) are successful in treating acute symptoms, but interventional techniques remain the gold standard for treating hemorrhoidal disease and perianal fistula (Akçal et al., 2011; Geçim, 2011; Yüceyar, 2010). Compared to general surgeons, primary care physicians are more likely to treat pruritus ani (Markell & Billingham, 2010; Siddiqi & Siddika, 2018).

Conclusion: Due to feelings of embarrassment, patients often delay voicing their concerns. This can lead to the progression of treatable conditions into more severe forms. Consequently, the approach taken by primary care physicians is crucial. In order to manage anorectal complaints and make sure these conditions are successfully treated in their early phases; this study attempts to evaluate the healthcare solutions accessible in primary care.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Hemorrhoids, anal fistula, fissure, pruritus ani, anorectal

CONFLICT OF INTEREST DECLARATION
The authors declare no conflict of interest.

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EBFMC25-OP-62 · The Relationship Between Polypharmacy and Malnutrition Risk in Patients Receiving Home Health Care

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ABSTRACT

Introduction: Multiple medication use, also known as polypharmacy, has significantly increased over the past 20 years, especially among individuals requiring care (Bardel, Wallander, and Svärdsudd, 2000; Charlesworth, 2015). This study aims to examine the relationship between polypharmacy and malnutrition risk in patients receiving home health care.

Materials and Methods: For this cross-sectional study, data from patients aged 18 years and older registered in the Home Health Care unit of a secondary-level state hospital were retrospectively analyzed between February and March 2025. Patient data including age, sex, total duration of home health care enrollment (in months), use of medical devices, number of chronic diseases, and number of medications used were obtained from medical records. Polypharmacy was defined as the simultaneous use of five or more medications (Mair, 2019). In addition, the following clinically validated assessment tools evaluated by trained physicians were extracted from patient files: Mini Nutritional Assessment-Short Form (MNA-SF), Katz Index of Activities of Daily Living, Clinical Frailty Scale, and Braden Pressure Ulcer Risk Assessment Scale (Bergstrom, Braden, Laguzza, and Holman, 1987; Guigoz, Vellas, and Garry, 1996; Pehlivanoğlu, Özkan, Balcıoğlu, Bilge, and Unluoglı, 2018; Theou, et al., 2018). For medical device use, the presence of percutaneous endoscopic gastrostomy (PEG), colostomy, nasogastric tube, urinary catheter, mechanical ventilator, and oxygen concentrator was evaluated.

Results: This study included data from a total of 72 patients. The median number of medications used was 6 [IQR: 4]. Polypharmacy was present in 53 patients (73.6%). The median MNA-SF score was 11 [IQR: 2].

According to the MNASF, 10 patients (13.9%) had malnutrition, 36 (50.0%) were at risk of malnutrition, and 22 (36.1%) had no malnutrition. The MNA-SF score was positively correlated with the Katz Index and Braden Scale scores (r=0.333 and 0.466, respectively; p=0.004 and <0.001). MNA-SF scores were negatively correlated with the number of chronic diseases and the number of medications used (r=-0.384 and -0.499, respectively; p=0.001 and <0.001). No significant association was found between MNA-SF scores and age, sex, total duration of home health care enrollment, medical device use, or Clinical Frailty Scale scores (p≥0.05). According to regression analysis, the number of medications used, and the Braden Scale score were significant predictors of the MNA-SF score (p<0.001, R^2=0.475).
Conclusion: According to our study, as the number of medications increases in patients receiving home health care, the risk of malnutrition also increases. A decrease in Braden Scale score contributes to the development of malnutrition.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Elderly patients, home health care, malnutrition, nutritional assessment, polypharmacy

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-63 · The Effects of Early Palliative Care on Quality of Life

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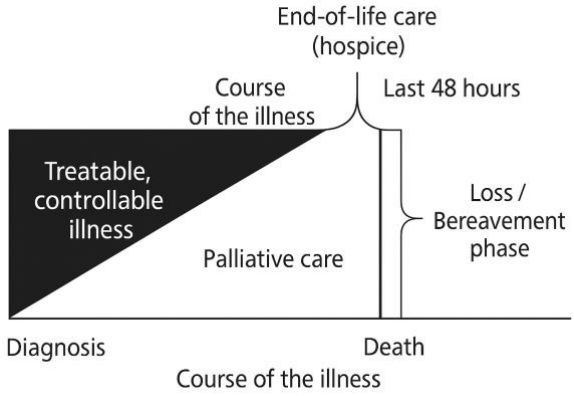
ABSTRACT

Introduction: Recent developments in medical technology, particularly in diagnostics and treatment, have prolonged life expectancy in chronic diseases and increased the demand for personalized care. Palliative care improves quality of life by relieving pain and addressing physical, psychosocial, and spiritual problems through early diagnosis and holistic evaluation (Fallon & Hanks, 2013; World Health Organization, n.d.). This study aimed to evaluate the quality of life and associated factors in individuals receiving early palliative care in a family medicine-led center (Figure 1).

Figure 1



Materials and Methods: This prospective cohort study was conducted at the Palliative Care Unit of Izmir University of Health Sciences Tepecik Training and Research Hospital between October 15, 2019, and March 15, 2020. Inclusion criteria were age over 18, cognitive competence, and consent to participate. A total of 142 inpatients were evaluated at admission and again 6 months later. Data collection involved three stages: baseline demographic and clinical data, the 36-Item Short Form Survey (SF-36) administered face-to-face, and a follow-up interview at 6 months including quality of life reassessment and post-discharge healthcare use. The study was completed with 91 participants.

Results: The mean age was 64.48±10.8 years; 76.8% were male. The most common admission reasons were fatigue (88.7%) and pain (52.8%). A cancer diagnosis was present in 92.2% of patients. The average illness duration was 17.54±25.50 months. At 6 months, 38.5% had one emergency/hospital visit, 5.5% had multiple visits, and 56% had none. SF-36 subscale scores increased in all domains at follow-up. Patients with post-discharge hospital/emergency admissions had lower physical and emotional role scores. The energy subscale improved significantly in patients with illness durations ≥12 months. A positive correlation was found

between illness duration and energy and pain subscales (Haun et al., 2017). No significant relationship was observed between time from diagnosis to palliative care and survival.
Conclusion: In the study there was a significant positive correlation between the time from diagnosis to palliative care application and the quality of life in the energy and pain subdimensions, no significant correlation was found between the time from diagnosis to palliative care application and survival. Although there is no consensus on the timing of palliative care (Şenel & Koçak, 2020), patients should be informed early about their right to access this service.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Palliative care, quality of life, home care, biopsychosocial approach

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial or personal conflict of interest in this study.

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EBFMC25-OP-64 · Trends and Determinants of the Fatal Occupational Injury Rate in Turkey

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ABSTRACT

Introduction: Each year, injuries at work cause the loss of over a third of a million lives globally, highlighting their significance as a major public health concern (Takala, 2019). The incidence of fatal occupational injuries appears to be influenced by several socio-economic factors (Gümüş & Gülsün, 2020; Richardson et al., 2024). The aim of this study was to determine the trends and determinants of the fatal occupational injury rate in Turkey between 2001 and 2022.

Materials and Methods: This study, employing a longitudinal ecological design, used data from the Social Security Institution (SGK) Statistical Yearbooks (2001–2022) to obtain the number of active insured individuals and deaths due to occupational accidents under the 4-1/a category. Fatal occupational injury rates (FOIR) per 100,000 individuals were calculated by dividing the number of deaths by the number of insured individuals. Following a literature review, eight relevant indicators (domestic general government health expenditure, unemployment, GDP growth, inflation, employment-to-population ratio, proportion of workers in the construction sector, human development index, and educational attainment) were chosen to assess the determinants of the FOIR. The association between the FOIR and the selected variables was determined using univariate and multivariate linear regression analysis. Statistical significance was considered at $p<0.05$.

Results: In Turkey, the number of actively insured workers was 6.1 million in 2001, with 1,002 occupational injury-related fatalities, whereas in 2022, the number of actively insured workers increased to 19.8 million, and occupational injury-related fatalities increased to 1,517. The fatal occupational injury rate decreased from 16.3 per 100,000 workers in 2001 to 7.6 per 100,000 workers in 2022, exhibiting a fluctuating trend over the study period. In the univariate analysis, a higher Human Development Index ($B=-36.73$, $R^2=0.503$, $p<0.001$) and higher education levels ($B=-0.161$, $R^2=0.323$, $p=0.011$) were associated with lower FOIR, while a higher proportion of workers in the construction sector ($B=+93.63$, $R^2=0.282$, $p<0.001$) was associated with an increased FOIR. In the multivariate analysis, the Human Development Index (HDI) emerged as the sole significant determinant of FOIR.

Conclusion: Over the 22-year period, although the number of occupational fatalities increased, the FOIR decreased due to a larger increase in active workers. The strongest determinant of this decline was the HDI, a composite measure of life expectancy, education, and gross national income. This finding highlights the need for a comprehensive approach to reducing FOIR, extending beyond healthcare services to include education and economic development.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Occupational health, occupational accidents, fatal occupational injury rate, Türkiye

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-65 · Bibliometric Analysis of Publications on Family Medicine in Turkey

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ABSTRACT

Introduction: This study aims to examine family medicine publications in Turkey using three widely utilized databases in the medical literature (Karakullukçu & Ardıç, 2023).

Materials and Methods: Data were collected on March 10, 2025, from the "Web of Science," "Scopus," and "PubMed" databases, which are commonly used in medical research. The search was conducted using the terms *"family medicine" AND ("Turkey" OR "Türkiye")* without any restrictions on date or document type, targeting the title, abstract, and keyword fields. The data were analyzed using the bibliometrix package and the Biblioshiny application developed by Aria and Cuccurullo (2017: 959) for the R programming language (Kocak, 2014).

Results: In the relevant field within Turkey, 646 records were identified in WoS, 238 in Scopus, and 127 in PubMed. After removing duplicates, 756 unique publications across 417 journals were found. The earliest publication appeared in 1989, and the number of publications gradually increased, peaking in 2021 with 66 publications (8.7%). The top three journals by publication count were the *Journal of Ethnopharmacology*, *European Journal of General Practice*, and *Konuralp Medical Journal*. The leading universities in terms of contributing authors were Istanbul University (11.2%), Hacettepe University (8.7%), and Ankara University (7.7%). A total of 5,759 keywords appeared across the 756 articles. The most frequently used keywords were "Turkey" (96; 1.7%), "human" (77; 1.3%), and "female" (75; 1.3%). The term "family medicine," which was the focal point of this study, ranked eighth (62; 1.1%). These publications have been cited a total of 11,217 times. The countries citing these works most frequently were Turkey (9,381; 83.6%), the USA (407; 3.6%), and the UK (323; 2.9%). Thematic analysis showed that research in family medicine mainly centers around "prevalence," referring to the distribution of diseases and their links to family medicine services. In contrast, areas like traditional medicine have emerged as more niche topics.

Conclusion: Bibliometric analyses provide a comprehensive overview of research in the field (Sutcu, Tabassi, Sencar, & Memon, 2013). Evaluating the current landscape through such analyses is crucial for shaping future research directions.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Turkey, family medicine, bibliometric analysis

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-66 · Estimation of Air Pollution-Attributable Mortality Rate in Iğdır Province

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Oral Presentation #66 *was presented at the 3rd International Eastern Black Sea Family Medicine Congress, held in Ordu, Türkiye, on May 22–24, 2025, and is part of the proceedings titled: Proceedings of the 3rd International Eastern Black Sea Family Medicine Congress.*

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ABSTRACT

Introduction: Air pollution exposure contributes to millions of deaths and a substantial loss of healthy life years annually. Long-term exposure to PM2.5 is a major risk factor for premature mortality. Iğdır was recorded as the most polluted city in Europe in terms of PM2.5 pollution in 2021 and 2022. In this study, we aimed to examine the PM2.5 concentrations in Iğdır for the year 2023 and assess air pollution-attributable mortality using the AirQ+ software.

Materials and Methods: This ecological study used 2023 PM2.5 data from Iğdır air quality monitoring station, provided by the National Air Quality Monitoring Network. The impact of long-term PM2.5 exposure on mortality in individuals was assessed using the AirQ+ software. Mortality and population data were sourced from the Turkish Statistical Institute. The cut-off value for the annual average PM2.5 concentration is set at 10 µg/m³, in accordance with the WHO guideline. Based on these data, the estimated attributable proportion, estimated number of attributable cases, and estimated number of attributable cases per 100,000 population at risk were calculated.

Results: In 2023, the annual average PM2.5 concentration in Iğdır was 47.55 ± 68.03 µg/m³, with the highest concentrations recorded in January (174.29 µg/m³) and December (113.58 µg/m³). The lowest levels occurred in June and July (12.46 µg/m³ and 12.85 µg/m³, respectively). According to AirQ+ software, 173 deaths among individuals aged 30 and above were attributable to air pollution, resulting in a mortality rate of 181.49 per 100,000 population.

Conclusion: In 2023, PM2.5 concentrations in Iğdır province remained notably high, resulting in a significant mortality rate linked to air pollution. To reduce the health impacts of air pollution, coordinated policies involving local governments, national authorities, and academic institutions are essential, along with promoting renewable energy sources and incentivizing the reduction of fossil fuel use. Furthermore, increasing air quality monitoring stations and conducting follow-up studies will provide valuable insights for managing health risks.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Air pollution, air quality, mortality rate, Iğdır, Türkiye

INTRODUCTION

Exposure to air pollution is associated with millions of deaths and a significant number of lost healthy life years each year. The health burden linked to air pollution is now considered comparable to other major global risk factors, including poor dietary habits and tobacco smoking. Moreover, air pollution is increasingly acknowledged as the leading environmental threat to human health (World Health Organization, 2021).

Epidemiological studies have demonstrated that long-term exposure to fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less (PM2.5) is a significant risk factor for premature mortality and adverse health effects (Pala et al., 2021). Outdoor air pollution poses a significant public health challenge for Türkiye. Iğdır, located in the eastern part of Türkiye, was recorded as the most polluted city in Europe in terms of PM2.5 pollution in 2021 and 2022 (Öztürk et al., 2023).

The AirQ+ software developed by the World Health Organization European Regional Office is designed to calculate the health effects of air pollution on a specific population. Based on evidence from epidemiological cohort studies that examine the relationship between environmental air pollution concentration levels and mortality risks in exposed populations, users can estimate the adverse health impacts attributable to exposure to a specific level of air pollution within a defined time period for the population of interest (World Health Organization, 2021).

In this study, we aimed to examine the PM2.5 concentrations in Iğdır for the year 2023 and assess air pollution-attributable mortality using the AirQ+ software.

MATERIALS AND METHODS

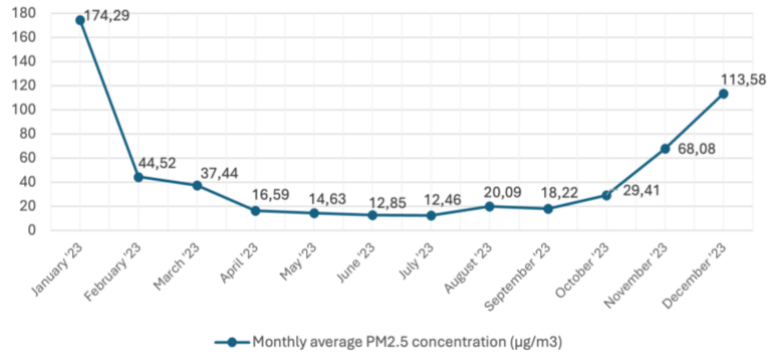
This ecological study was conducted using data from the air quality monitoring station located in Iğdır city center. The data on PM2.5 concentrations were obtained from the National Air Quality Monitoring Network of the Republic of Türkiye Ministry of Environment, Urbanization, and Climate Change for the period between January 1, 2023, and December 31, 2023 (National Air Quality Monitoring Network, 2025). Based on these data, the annual and monthly average PM2.5 concentrations (μg/m³) were calculated. Long-term exposure to PM2.5 and its association with mortality in the population aged 30 years and older was assessed using AirQ+ 2.2, a software tool developed by the World Health Organization for health risk assessment of air pollution (World Health Organization, 2025). For the year 2023, data on the total population of Iğdır province, the population aged 30 years and older, the number of deaths among individuals aged 30 years and older, and mortality data categorized by causes of death were obtained from the Turkish Statistical Institute (TÜİK, 2025). Deaths due to external injury causes and poisonings were excluded from the analysis. The cut-off value for the annual average PM2.5 concentration is set at 10 μg/m³, in accordance with the WHO guideline. Based on these data, the estimated attributable proportion, estimated number of attributable cases, and estimated number of attributable cases per 100,000 population at risk were calculated using the AirQ+ software. As this ecological study was based on publicly available data, ethical approval was not required.

RESULTS

According to the data from the air quality monitoring station in the center of Iğdır Province in 2023, the annual average PM2.5 concentration was 47.55 ± 68.03 μg/m³. The highest monthly average PM2.5 concentrations were recorded in January and December (174.29 μg/m³ and 113.58 μg/m³, respectively). The lowest monthly average PM2.5 concentrations occurred in July and June (12.46 μg/m³ and 12.85 μg/m³, respectively). An increase was observed in the first three and last three months of the year, with average concentrations exceeding 25 μg/m³ during these six months. The monthly average PM2.5 concentrations for the Iğdır air quality monitoring station in 2023 is presented in Figure 1.

Figure 1

Monthly average PM2.5 concentrations for Iğdır air quality monitoring station in 2023 (μg/m3)



According to the analysis conducted using the AirQ+ software, the estimated number of deaths attributable to air pollution among individuals aged 30 and above in Iğdır in 2023 was 173, accounting for 25.1% of total deaths in this age group. The air pollution-attributable mortality rate in Iğdır was found to be 181.49 per 100,000 population. The estimated attributable proportion, number of deaths, and mortality rate due to air pollution in Iğdır in 2023 are presented in Table 1.

Table 1

Estimated Attributable Proportion, Number of Deaths, and Mortality Rate Due to Air Pollution in Iğdır Province, 2023

Estimated Attributable Proportion (%)			Estimated Number of Attributable Deaths			Estimated Number of Attributable Deaths (per 100,000 Population at Risk)		
Central	Lower	Upper	Central	Lower	Upper	Central	Lower	Upper
25.1	19.65	27.65	173	136	191	181.49	142.11	199.91

DISCUSSION

PM2.5 is a hazardous outdoor air pollutant associated with a wide range of health problems, primarily affecting the cardiovascular and respiratory systems (Feng et al., 2016). Pope et al. emphasize that a 10 μg/m³ increase in particulate matter concentration is associated with a 4% increase in all-cause mortality and a 6% increase in deaths from cardiopulmonary diseases (Pope et al., 2002). Another study found that a 10 μg/m³ increase in PM2.5 levels led to a 15–27% rise in cancer-related mortality (Turner et al., 2011). In 2023, the average PM2.5 concentration in Iğdır was found to be significantly above the World Health Organization's recommended annual limit of 10 μg/m³. Despite being a low-population province in Türkiye with limited industrial activity and vehicle traffic, PM2.5 pollution in Iğdır is particularly severe during the winter months. This phenomenon is largely attributed to meteorological conditions and the widespread use of low-quality fuels. Although air quality improves somewhat in the summer, poor air quality is still observed, which may be due to local wind erosion (Öztürk et al., 2023).

In our study, the estimated attributable proportion related to long-term PM2.5 exposure was 25%, with a mortality rate of 181 per 100,000 population in Iğdır. A previous study with a similar methodology, which assessed all cities in Türkiye for the year 2018, reported a higher attributable proportion of 28.17% for Iğdır, ranking it first among all provinces. The mortality rate in that study was 214 per 100,000 population (Pala et al., 2021). Although a slight decline was observed, the persistently high air pollution-related mortality in Iğdır in both studies underscores the urgent need for effective air quality management strategies and targeted public health interventions to mitigate the adverse health effects of air pollution.

In a study conducted in Konya, similar calculations for the years 2017, 2018, and 2019 estimated the attributable proportion as 20.77%, 15.44%, and 12.02%, respectively (Filiz, 2023).

Additionally, Pala et al. identified 28 provinces in Türkiye where this proportion was below 10% (Pala et al., 2021). These regional variations underscore the heterogeneous nature of air pollution exposure and its associated health impacts across different regions of the country. Differences in attributable proportions may be influenced by various factors, including local air quality conditions, demographic characteristics, healthcare access, and environmental policies. However, the findings of our study indicate a substantial public health burden attributable to long-term PM2.5 exposure in Iğdır.

CONCLUSION

In our study, it was found that PM2.5 concentrations in Iğdır province remained significantly high in 2023, leading to a considerable mortality rate associated with air pollution. To mitigate the adverse health effects of air pollution, coordinated policies should be developed among local governments, national authorities, and academic institutions. The adoption of alternative and renewable energy sources should be encouraged, and incentives should be provided for the gradual reduction of fossil fuel use. In regions like Iğdır, which are topographically sensitive to air pollution, urban planning should be conducted with careful consideration of

environmental factors. Additionally, the number of air quality monitoring stations should be increased, and the regional distribution of these stations should be expanded to provide more comprehensive coverage. Well-designed follow-up studies are also needed to monitor the long-term health effects of air pollution and its impact on public health.

With the joint contributions of primary care providers, especially family physicians and public health specialists, significant progress can be made in early diagnosis of air pollution-related health problems and in raising environmental health awareness. Integrating an environmental health perspective into routine family medicine practices will be invaluable in strengthening community resilience to air pollution.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-67 · Multidisciplinary Approach and Integrated Care for an Immobile Homeless Patient with Impaired Consciousness and Malnutrition

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ABSTRACT

Introduction: Neurological disorders and cognitive impairments resulting from chronic alcohol use significantly reduce the quality of life, especially among homeless individuals (Sahu, Verma, & Bhaskar, 2025; Stone, Dowling, & Cameron, 2019). In this vulnerable group, where physical, nutritional, and psychosocial problems overlap, a comprehensive and holistic approach is essential (Klop et al., 2018). This case report presents the multidisciplinary management and integrated care process of a homeless, immobile male patient with impaired consciousness and malnutrition, followed up in a palliative care unit affiliated with a family medicine department. The case also emphasizes the positive outcomes achieved through the biopsychosocial model, a fundamental principle in family medicine (Molina, 1983).

Case Presentation: A 45-year-old homeless male with a history of chronic alcoholism, no known comorbidities, and no family support was admitted to the emergency department with impaired consciousness. After initial stabilization in the ICU, he was transferred to the family medicine–based palliative care unit. On admission, his Glasgow Coma Scale (GCS) was 11 (E3M5V3), muscle strength was 2/5 in the lower extremities, and laboratory results revealed hypoalbuminemia and anemia. A biopsychosocial care plan was implemented, including a nutritional regimen of 2500 kcal/day, vitamin supplementation, physiotherapy, pain and symptom management, and preventive care for pressure ulcers. Social services initiated a search for family contact and long-term care planning.

Discussion: The patient's clinical condition improved significantly during the follow-up: consciousness level increased to GCS 15, pain decreased, communication improved, and he gradually regained mobility. At discharge, he was able to walk without assistance. Due to the lack of familial support, institutional placement was arranged in coordination with the social services unit.

Conclusion: This case illustrates how palliative care, when guided by the biopsychosocial model within a family medicine framework, can promote not only symptom control but also functional recovery and enhanced quality of life. Early integration of social services is essential for discharge planning and the success of integrated care practices in vulnerable populations.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Family medicine, integrated care, palliative care, biopsychosocial approach

INTRODUCTION

Neurological disorders and cognitive impairments caused by chronic alcohol use can lead to significant disability and decreased quality of life, particularly among homeless individuals (Sahu, Verma, & Bhaskar, 2025; Stone, Dowling, & Cameron, 2019). Homeless patients with alcohol dependency are at higher risk of morbidity and mortality at younger ages compared to the general population, due to complex physical and psychosocial problems (Gaber et al., 2024).

Palliative care practices aim to improve quality of life through a holistic approach that addresses multifaceted issues such as pain and malnutrition (Barawid et al., 2015; Wittry et al., 2018). In Turkey, palliative care services have been developing in recent years, and multidisciplinary palliative care approaches have played a critical role in achieving a state of "well-being" in patients (Can, 2023). The integrated care model, which has recently gained attention, seeks to ensure that the patient centered care model is carried out in a coordinated and continuous manner across hospital, home, and institutional care settings (Koehler et al., 2020). In this study, we present the multidisciplinary approach and integrated care process provided at a palliative care center for an immobile homeless case admitted with impaired consciousness and malnutrition.

CASE PRESENTATION

A 45-year-old male homeless patient, with a history of chronic alcoholism and no other comorbidities, was initially admitted to the anesthesia intensive care unit from the emergency department due to altered consciousness. He was then transferred to the palliative care center with diagnoses of impaired consciousness, malnutrition, and immobility. At the time of admission, his vital signs were stable. On physical examination, he was unconscious, disoriented, and uncooperative. His Glasgow Coma Scale (GCS) score was 11 (E3M5V3). Neurological examination revealed responses with meaningless sounds. The patient was immobile, with a muscle strength of 2/5 in the lower extremities. Laboratory results showed negative acute phase reactants and elevated ALT and AST levels. Albumin and hemoglobin levels were found to be low. It was learned that the patient had no known relatives. Due to inadequate oral intake, a dietary consultation was requested, and a nutritional support plan providing 2500 kcal/day was initiated.

A stage 1 pressure ulcer measuring 2 cm × 2 cm was observed on the sacral region. Regular repositioning and a preventive care approach were implemented with the assistance of clinical support staff, along with pain palliation. Given the patient's history of chronic alcoholism, investigations for Wernicke's encephalopathy and hepatic failure were conducted. Vitamin supplementation was provided, and nutritional support, pain palliation, and physiotherapy sessions were continued. During this period, social workers attempted to contact the patient's relatives.

During palliative care service follow-up, it was observed that the patient's consciousness improved; he was able to form complex sentences, his pain had decreased, and his facial expressions became more relaxed. Although he was immobile upon admission, he began mobilization with a walker during his stay in the unit, and by the time of discharge, he was able to walk without the need for a walker.

By the end of the palliative care process, the patient showed significant improvements in consciousness and nutritional status (E4M6V5), and effective pain and symptom management was achieved.

Due to the inability to reach his relatives and his status as homeless, although his overall condition had improved, institutional placement was arranged. Following the completion of reporting and consultations regarding follow-up in institutional care settings, he was placed in a care facility under the coordination of the social services unit.

DISCUSSION

In our palliative care unit, a multidisciplinary team composed of physicians, nurses, physiotherapists, nutritionists, and social workers collaborates in patient management (Barawid et al., 2015; Wittry et al., 2018). The multidisciplinary teamwork conducted in the palliative care center, guided by the biopsychosocial approach that is fundamental in family medicine, contributes significantly to improving the quality of life of patients (Molina, 1983).

CONCLUSION

This case demonstrates that physiological stabilization can be achieved through palliative care and that individuals can attain a state of well-being through effective pain and symptom management (Teoli, Schoo, & Kalish, 2025).

In terms of integrated care practices, it is crucial that social service units initiate placement planning into institutional care settings, if necessary, from the early stages of hospitalization in order to ensure a well-structured discharge process (Koehler et al., 2020). Palliative care practices not only address end-of-life care but also focus on the management of chronic illnesses by alleviating symptom burden, enhancing patient functionality, and supporting access to social support networks (Klop et al., 2018; Teoli, Schoo, & Kalish, 2025).

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-68 · An Unusual Clavicle Metastasis in a Patient with Colorectal Cancer

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ABSTRACT

Introduction: Colorectal cancer is the third most common cancer and mostly spreads to liver and lung. Isolated bone metastases are rare and associated with progressed disease.
Case Presentation: A 37-year-old female who was diagnosed with rectal adenocarcinoma developed bone metastasis to clavicle and thoracic vertebra during follow-up. A palliative radiotherapy was applied, but she deceased within 10 months.
Discussion: Young age of patient and absence of an organ metastasis do not eliminate the risk of bone metastasis.
Conclusion: Anamnesis and whole-body examination are important at the time of diagnosis and during the follow-up. It must be considered that bone metastasis may develop at any time.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Young adult, colorectal neoplasms, bone metastasis, pathologic fracture

INTRODUCTION

Colorectal cancer (CRC) is the third most common cancer in men and women (Siegel, Miller, & Jemal, 2019). Distant metastasis is most commonly observed in the liver and lungs, while bone metastases are rare. Isolated bone metastases are even rarer and are generally associated with advanced disease. This case report presents unexpected clavicle metastasis in a young female patient diagnosed with primary CRC without any other distant metastases.

CASE PRESENTATION

Palliative intersphincteric rectal resection and anastomosis were performed to eliminate rectal obstruction that developed during follow-up. Histologic examination of the specimen revealed mucinous adenocarcinoma. Metastases were found in 6 of the 11 removed lymph nodes. The surgical margin was positive on the ventral side of the rectum with perirectal adipose tissue invasion and perinodal spread. Postoperatively, the patient received capecitabine and oxaliplatin chemotherapy and additional radiotherapy for bone metastases. FDG PET-CT performed nine months after the initial diagnosis revealed widespread skeletal metastases and sub-

centimetric metastases in the right lung. The patient died 10 months after the first detection of bone metastasis and 12 months after the initial diagnosis.

DISCUSSION

CRC is one of the most common fatal cancers in the world (Siegel, Miller, & Jemal, 2019). Although metastases are often observed in liver and lungs, bone metastasis is a rare condition and occurs in advanced stages (2 -6%) (Besbeas & Stearns, 1978; Hsu & Wu, 2021). Katoh et al. examined the autopsy results of CRC patients and reported a bone metastasis rate of 23% in 118 patients (Katoh et al., 1995). Bone metastases frequently occurred in the vertebrae, sternum, and ribs, and there were no cases of isolated bone metastasis (Katoh et al., 1995). Bonheim et al. reported the rate of bone metastasis was 4% and the rate of isolated bone metastasis was 1.3% in 1406 cases (Bonnheim, Petrelli, Herrera, et al., 1986). Bone metastasis occurs via the Batson venous plexus and usually appears in the vertebrae, pelvis, sacrum, skull, ribs, femur and humerus (Batson, 1940; Hsu & Wu, 2021; Katoh et al., 1995; Nozue et al., 2002). Some cases were reported with unusual areas of bone metastases such as the mandible, scapula and phalanx (Anoop et al., 2010; Onesti et al., 2011; Sheen et al., 2002;).

To the best of our knowledge, there are only three previously reported cases of CRC that metastasized to the clavicle. One of them involved a 92-year-old woman with additional metastases in the lung and adrenal gland (Doughan, Bennett, & Sagias, 2013). Another case involved a 68-year-old male patient who had a 5-cm mass in the right clavicle and a mass in the left colon (Patel et al., 2007). The third case involved a 67-year-old male who underwent hemicolectomy and hemihepatectomy due to a synchronous hepatic metastasis to the right colon and developed metastases in the left clavicle, pelvis and vertebrae after one year (Sheen, Drake, Langton, et al., 2002).

The prominent feature of our case was skeletal metastasis to an atypical region in a young patient without any other organ involvement. Isolated bone metastasis in primary CRC is extremly rare (less than 2%) (Bonnheim et al., 1986; Nozue et al., 2002). In a study by Roth et al. PET-CT images performed on 252 primary CRC patients with metastases were reevaluated, patients with bone metastasis were reported to have necessarily accompanying lung or liver involvement, and there were no cases of isolated bone metastasis (Roth et al., 2009). In contrast, there was no organ metastasis on the PET-CTs initially performed in our study.

In the literature, survival is poor after bone metastasis in patients with colorectal adenocarcinoma (6-13 months) (Besbeas & Stearns, 1978; Bonnheim et al., 1986; Nozue et al., 2002). In a study by Bonheim et al., the main duration of survival of patients with isolated bone metastasis (10 months) was longer than that of patients with bone and other organ metastases (6 months) (Bonnheim, Petrelli, Herrera, et al., 1986). Similarly, the dutaion of survival for the patient in our case was 9 months after the first detection of bone metastasis.

Bone involvement is a finding of advanced disease in patients with CRC and the treatment is mostly palliative (Besbeas & Stearns, 1978; Bonnheim et al., 1986; Hsu & Wu, 2021). Radiotherapy is currently the most preferred method for pain relief in patients with CRC. Mcdonald et al. found a significant increase in quality of life in the early period with single dose radiotherapy in their study of 298 cancer patients with bone involvement (McDonald, Ding, Brundage, et al., 2017). They emphasized that radiotherapy should be offered even to those with a limited expected survival duration (McDonald, Ding, Brundage, et al., 2017). Surgical resection of boney metastasis from CRC may be performed in cases with a solitary metastasis (Onesti et al., 2011). In our case, there was additional involvement in the 10th thoracic vertebral body. Therefore, palliative radiotherapy was used instead of surgical resection. Patients with bone involvement may develop multiple problems that may adversely affect their quality of life, such as pathological fractures, severe bone pain, spinal cord compression and hypercalcemia (Chengling et al., 2021). Determination of the presence of bone metastasis in early stages of the disease is important, especially in younger patients, to improve prognosis so that planned treatment can be performed in a timely fashion (Nozue et al., 2002).

CONCLUSION

This case report presents a phenomenon of a non-metastatic CRC with an isolated bone metastasis that occurred shortly after the diagnosis, which normally rarely poses a problem for patients with bone involvement. Young age of the patient and an absence of a distant organ metastasis should not mean that there is going be no bone metastasis. In conclusion, anamnesis and whole-body examination are important at the

time of diagnosis and follow-up of the patients, and it should be kept in mind that bone metastasis may develop at any time.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-69 · Evaluation of General Attitudes of Assistant Physicians Towards Artificial Intelligence

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ABSTRACT

Introduction: Artificial intelligence (AI) has become increasingly significant in the healthcare sector, offering advancements in diagnostics, treatment planning, and patient management. Understanding physicians' perspectives on AI is crucial for its successful integration into medical practice. This study aims to assess assistant physicians' awareness, acceptance, and concerns regarding AI, highlighting their knowledge levels, willingness to adopt AI technologies, and ethical considerations.

Materials and Methods: A descriptive, cross-sectional survey was conducted among assistant physicians from various specialties. Data were collected through an online questionnaire via Google Forms, comprising a sociodemographic section and the General Attitudes Toward Artificial Intelligence Scale. This scale was originally developed by Schepman and Rodway (2020) and later adapted into Turkish by Kaya et al. (2022). Statistical analyses were performed to evaluate trends in AI perception and acceptance.

Results: Among the participants, 54.8% are male, 57.3% are married, and the majority (78.3%) work in internal medical sciences. While 37.6% have been practicing medicine for more than six years, 36.3% have been working as residents for over two years. A total of 45.9% reported possessing fundamental knowledge of artificial intelligence (AI), whereas 29.9% indicated familiarity with AI technologies. The proportion of individuals incorporating AI into their daily lives is 42%, while its professional utilization stands at 30.6%. AI is predominantly employed for information acquisition (80.3%), knowledge updating (42.6%), and patient assessment processes. Regarding perceptions of AI, 56.1% of participants believe it offers beneficial applications, and 48.4% perceive it as an exciting innovation. However, 29.3% consider AI to pose potential dangers, while 43.9% express concerns about ethical risks associated with its use. Additionally, 18.5% speculate that AI might eventually surpass human control.

Conclusion: Assistant physicians generally demonstrate a positive attitude towards AI, yet concerns persist regarding its ethical implications and potential risks. The application of AI in healthcare is expected to enhance early disease detection and optimize treatment efficiency, thereby contributing to the sustainability of healthcare services. Supporting positive perceptions of AI and encouraging its effective use in medical practice are essential. Increased AI education and awareness programs can help address ethical concerns and ensure that AI technologies are integrated safely and effectively into clinical settings. Additionally, the findings of this study may serve as a foundation for future research and contribute to the development of policies that facilitate AI adoption in healthcare.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Artificial intelligence, physicians' attitude, ethic

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-70 · Investigation of Treatment's Impact on Quality of Life and Psychosocial Effects in Patients with Psoriasis

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ABSTRACT

Introduction: The aim of this study was to evaluate the relationship between change in treatment and change in quality of life in people with psoriasis who applied to family medicine and dermatology outpatient clinics.
Materials and Methods: 100 patients who applied to the Dermatology and Venereal Diseases Clinic of Giresun Training and Research Hospital were included in the study. Sociodemographic form, Psoriasis Area Severity Index (PASI), Dermatologic Life Quality Index (DLQI), Psoriasis Quality of Life Scale (PQLS) were applied to these patients.
Results: In our study, the posttest scores of the patients who received systemic conventional therapy in their subsequent treatment on the PASI, DLQI, PQLS scale and sub-dimensions of the PQLS scale decreased significantly compared to the pretest scores. The posttest scores of the patients who used biological agents in their subsequent treatment in terms of PASI, DLQI, PQLS scale and sub-dimensions of the PQLS scale decreased significantly compared to the pretest scores. Biological agent treatment method was more effective than systematic conventional treatment and PUVA treatment methods in terms of DLQI and PQLS.
Conclusion: In our study, when the effects of the methods used in the treatment of psoriasis on quality of life were evaluated, it was shown that biological agents were significantly more effective than other treatment methods. However, it should be taken into consideration that individual patient characteristics and treatment responses may vary.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Psoriasis, quality of life, topical treatment, systemic treatment, biological treatment, PUVA

INTRODUCTION

Psoriasis is a chronic inflammatory disease affecting the skin, characterized by periods of remission and relapse, and is mediated by the immune system. In this disease, lesions are typically distributed symmetrically and are defined by sharply demarcated, red inflammatory plaques. Psoriasis is a common chronic inflammatory disease with prevalence of 0.33%-0.6% in different races, and affects around 125 million people worldwide. The age of onset follows a bimodal pattern, with peaks occurring between 30–39 and 60–69 years in men, whereas in women, these peaks tend to occur about a decade earlier. Psoriasis is a complex disease influenced by a variety of both external and internal factors. Genetic predisposition is viewed as a significant

contributor, particularly among those who experience the condition's onset at a younger age (before 40 years). Psoriasis is a persistent inflammatory skin disorder that leads to the formation of scaly, hardened, and reddish plaques on the skin's surface. The primary histological features of psoriasis include increased epidermal cell production, an expansion of blood vessels in the dermis, and an inflammatory infiltration of leukocytes, predominantly found within the dermal layer. Recognizing the biological nature of psoriasis, it is now classified as an autoimmune disease that has profound health implications extending well beyond the skin. Psoriasis is linked to a higher risk of various comorbidities, such as cardiovascular disease, psoriatic arthritis, mental health issues, and other immune-mediated conditions. Studies have demonstrated that only 25% of patients are satisfied with their treatment, while more than 50% find the treatment moderately sufficient, and 20% deem it insufficient. This study investigates the effectiveness of different treatment types and their impact on quality of life in individuals who have either not started treatment or have had their treatment regimen changed.

MATERIALS AND METHODS

This study was conducted in accordance with the ethical standards defined by the Institutional Research Committee and the 1964 Helsinki Declaration. Before the study, approval was received from the local ethics committee of the university (decision number and data: 01/28-03-2024). The research population consists of individuals diagnosed with psoriasis who applied to the Dermatology and Venereal Diseases Department of Giresun Training and Research Hospital between May 14, 2024, and August 1, 2024. In the study, a pre-test was administered to patients with psoriasis before the treatment change. Data were collected by applying a post-test at least one month after the treatment change. The pre-treatment and post-treatment questionnaires were conducted using a face-to-face interview technique. The sample size of the study is represented by 400 adult individuals who applied to the Dermatology and Venereal Diseases outpatient clinic and were diagnosed with psoriasis within a year. Using Epi Info™ (CDC), the required number of individuals was determined to be 70 with a 2% prevalence, 5% margin of error, and 99.9% confidence interval. In this study, data were collected from 100 individuals.

The data were analyzed using SPSS software version 27.0. Descriptive statistics are presented as counts and percentage values. The analyses included the Wilcoxon signed-rank test, paired samples t-test, and one-way ANOVA. These tests were used to assess the changes in patients' quality of life scores on the PASI, DLQI, and PQLS scales before and after treatment. A p-value of less than 0.05 was considered statistically significant.

RESULTS

When examining Table 1, it is found that the PASI difference scores vary statistically significantly according to the treatment method. According to the results of the Scheffe test, which was conducted to determine which treatment groups showed differences, the difference scores for topical treatment are lower compared to systemic conventional and biological agent treatments. Therefore, in terms of the effectiveness of the PASI scores, the topical treatment method is less effective than the systemic conventional and biological agent treatment methods. The DLQI difference scores also vary statistically significantly according to the treatment method. Based on the Scheffe test results, the difference scores for biological agent treatment are higher compared to systemic conventional and PUVA treatments. Accordingly, the biological agent treatment method is more effective in terms of the DLQI compared to the systemic conventional and PUVA treatment methods. The PQLS difference scores show statistically significant variation according to the treatment method as well. The Scheffe test results indicate that the difference scores for biological agent treatment are higher than those for systemic conventional and PUVA treatments. Thus, the biological agent treatment method is more effective in terms of the PQLS than the systemic conventional and PUVA treatment methods (Table 1).

Table 1

Results of One-Way ANOVA by Treatment Method

Scales	Treatment Method	n	Mean	Std. Dev.	F	p	Significant Difference
PASI Difference	Topical	3	-2,8000	1,24900	2,975	,035	Topical vs. Systemic Conventional Topical vs. Biological Agent
	Systemic Conventional	42	-7,2690	3,02110			
	PUVA	10	-6,9400	3,55878			
	Biological Agent	45	-8,3244	3,69847			
	Total	100	-7,5770	3,47403			
DLQI Difference	Topical	3	-4,3333	2,51661	8,956	,000	Biological Agent vs. Systemic Conventional Biological Agent vs. PUVA
	Systemic Conventional	42	-7,3095	4,59845			
	PUVA	10	-3,3000	1,88856			
	Biological Agent	45	-10,8444	5,50601			
	Total	100	-8,4100	5,38816			
PQLS Difference	Topical	3	-5,0000	2,00000	9,080	,000	Biological Agent vs. Systemic Conventional Biological Agent vs. PUVA
	Systemic Conventional	42	-11,5952	6,78973			
	PUVA	10	-5,2000	3,55278			
	Biological Agent	45	-16,4889	8,30012			
	Total	100	-12,9600	8,08655			

DISCUSSION

Mabuchi et al., aimed to assess the quality of life in psoriasis patients in Japan using the Dermatology Life Quality Index (DLQI) and analyze the relationship between this index and the clinical severity of the disease. Among the 102 Japanese patients who participated in the study, no significant difference was found in terms of gender, PASI, and itch VAS scores. However, the average DLQI scores were significantly higher in women compared to men. In our study, there was no significant relationship between gender and quality of life scales. This discrepancy may be due to the research being conducted in different geographic regions and the influence of varying environmental factors.

In the study conducted by Norris et al., the impact of biological treatments on the DLQI (Dermatology Life Quality Index) in psoriasis patients and the differences in DLQI score changes between different biological therapies were examined. The results revealed that patients with moderate to severe chronic plaque psoriasis who were treated with biological therapies showed the largest decrease in DLQI scores compared to other treatments. Our research supports these findings.

In Gelfand et al.'s study, it was noted that quality of life was more significantly affected in women than in men. However, in our study, no significant relationship was found between gender and quality of life scales.

In the study conducted by Solmaz et al., it was determined that approximately 32% of psoriasis patients had a family history of psoriasis and/or PsA. In our study, the presence of psoriasis in the family was found to be 40%, yielding a similar result.

A study conducted by Muştu Koryürek et al. (2015) reported that psoriasis significantly affects individuals' quality of life due to its chronic nature, accompanying comorbidities, intensive treatment requirements, and the negative perceptions it creates in society. No significant relationship was found between disease severity, gender, demographic and socioeconomic factors, and the DLQI score ($p>0.05$). Similarly, in our study, no significant relationship was found between patients' sociodemographic characteristics and their quality of life scale scores.

Owczarek and Jaworski (2016) evaluated the effects of the chronic nature of psoriasis and skin changes on patients' psychological health, self-esteem, and body image. The findings indicated that the severity of psoriatic changes, the duration since the last relapse, and gender had the most significant impact on quality of life. The severity of psoriatic changes negatively affected patients' somatic, psychological, environmental, and social functions, while the duration since the last relapse had a negative impact on social functionality.
Weiss et al. (2002) aimed to evaluate the impact of psoriasis on health in comparison to other primary medical conditions using three different health-related quality of life scales. Among the patients, 82.9% reported frequently feeling the need to conceal their psoriasis, while 74.3% stated that their self-confidence was affected by the disease. The EQ-5D health utility score was found to be 13.0% lower than that of healthy individuals ($P < .001$), and the general health and social functioning scores on the SF-36 were 13.2% ($P < .005$) and 18.7% ($P < .005$) lower, respectively.

CONCLUSION

One-way ANOVA and Scheffe post-hoc tests conducted to evaluate the comparative effectiveness of treatment methods revealed that topical treatment was less effective compared to other treatment options, whereas biological agents were found to be the most effective treatment method. Independent samples t-tests indicated that the difference scores obtained from the PASI, DLQI, and PQLI scales did not vary by gender, age, or family history of psoriasis, demonstrating that treatment outcomes were independent of these demographic factors.
One of the limitations of our study is that it was conducted in only one city and one center, which may have negatively affected the sample size and diversity.
In the selection of treatment methods, it should be considered that biological agents provide significant benefits; however, individual patient characteristics and treatment responses may vary.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-71 · Evaluation of the Impact of Education Provided in a Family Health Center on Attitudes Towards Early Diagnosis of Cervical Cancer

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ABSTRACT

Introduction: Cancers are increasing worldwide and are the 2nd most common cause of death. The 4th most common cancer in women is cervical cancer. In Turkey, cervical cancer ranks 10th among female cancers. The incidence of cervical cancer has more than halved since the mid-1970s with the widespread use of screening. The aim of this study was to determine how women's attitudes towards early diagnosis of cervical cancer changed after information training on cervical cancer by a primary care physician.

Material and Methods**:** The study was an educational intervention study with a one-group pretest-posttest design. The population of the study consisted of 670 women aged 30-65 years registered to Tirebolu Family Health Center (FHC) numbered 28.15.002. With G*PowerVersion 3.1.7 program, a sample size of at least 54 patients was calculated to represent the population. Face-to-face education about cervical cancer was given to 54 participants. Pre- and post-training evaluation was performed with the questionnaire form created by the researchers and the "Attitude Scale for Early Diagnosis of Cervical Cancer". Data were analyzed with IBM SPSS V23.

Results**:** The mean age of the participants was 45.73±8.98 years and most of the participants were housewives (72.7%). Although the rate of those who were aware of cervical cancer screening tests was quite high (96.4%), only 12.7% of the participants had received training on cervical cancer before. The mean total score of the women before the training was 100.76±11.23 and the mean total score after the training was 102.47±12.36 (p=0.121). The pre-training perceived sensitivity score was 29.20±5.22 and the post-training perceived sensitivity score was 30.78±6.67 (p=0.012). The pre-training perceived severity score was 27.09±4.85 and the post-training perceived severity score was 26.38±6.00 (p=0.101). The pre-training perceived barriers score was 21.00±4.11 and the post-training perceived barriers score was 21.45±4.51 (p=0.346), while the pre-training perceived benefits score was 23.27±3.09 and the post-training perceived benefits score was 23.84±3.93 (p=0.065).

Conclusion: An education program for cervical cancer screening should include cultural knowledge and communication skills. Health workers should provide opportunities for patients to provide women with adequate information and opportunities for screening tests. Since primary care is a place that patients can easily reach, healthcare professionals should be aware that they can provide the best service that patients can get from primary care and that patients are open to education and guidance. It is clear that with education, patients' awareness will increase and participation rates in screening will increase.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Cervical cancer, health beliefs, education, attitudes

INTRODUCTION

Cancers are increasing worldwide and are the 2nd most common cause of death. The 4th most common cancer in women is cervical cancer. Approximately 570,000 women in the world were diagnosed with cervical cancer in 2018 and approximately 311,000 women died due to this disease (World Health Organization, n.d). In Turkey, cervical cancer ranks 10th among female cancers (Özkan et al., 2023). The incidence of cervical cancer has more than halved since the mid-1970s as screening became more widespread. The incidence remained generally stable between 2015 and 2019, but varies by age, race and ethnicity (Siegel et al., 2023). Most cervical cancer is caused by the Human Papillomavirus. Most people are exposed to the virus at some point in their lives and are usually asymptomatic and recover spontaneously. In some women, however, cervical cancer develops (Centers of Disease Control and Prevention, n.d). The HPV vaccine provides 90% protection against cervical cancer and other HPV-related cancers and diseases. At the same time, screening to prevent cervical cancer can lead to early detection so that treatment can be more successful. However, half of those diagnosed with cervical cancer have never been screened (American Cancer Society, 2022). It is very important that family physicians and healthcare professionals, who have an important position in protecting the health of individuals, inform and guide patients about screening for early diagnosis and treatment. Our aim in this study was to determine the attitudes of women towards the diagnosis of cervical cancer and the factors affecting them, and to determine how their attitudes changed after they were given information about cervical cancer by a primary care physician.

MATERIALS AND METHODS

The study is an educational intervention study with a one-group pretest-posttest design. The population of the study consisted of 670 women aged 30-65 years registered in Tirebolu Family Medicine Center (FHC) numbered 28.15.002. With the help of the G*PowerVersion 3.1.7 program, a sample size of at least 54 patients was calculated to be representative of the population, based on a medium effect size (d=0.50) difference being clinically significant (Dawson-Sander & Trapp, 1994; Hulley et al., 2013). Data were obtained with a questionnaire including sociodemographic information and the "Attitude Scale for Early Diagnosis of Cervical Cancer". The scale suggests that relevant health behavior will occur if individuals perceive the disease as sensitivity for themselves, believe in the consequences related to the severity of the disease, are aware of both the benefits and barriers of screening, and have positive motivators to take action regarding screening. The scale includes nine items for the 'Perceived Sensitivity' subscale; eight items for the 'Perceived Severity' subscale; seven items for the 'Perceived Barriers' subscale; and six items for the 'Perceived Benefits' subscale (Özmen & Özsoy, 2009). The questionnaire and scale were administered to the participants face-to-face by the physician both before and after the training. For the training, the Ministry of Health's cervical cancer screening brochures for the public and Başkent University's “Is the elimination of cervical cancer in the world and in Turkey a dream or realizable?” resources were used (Akın & Topal, 2021). Participants were between the ages of 30-65, who applying to the family health center for any reason, had the cognitive ability to speak and understand Turkish, and agreed to participate in the study. Those who received training on cervical cancer screening or had a screening test in the last 3 months were not included in the study. Ethics committee approval was granted by Giresun Training and Research Hospital Clinical Research Ethics Committee with the decision number 27.02.2023/ 09 (KAEK no: 43). Study permission was obtained from Giresun Provincial Health Directorate (E-41544352-799-212127112).

Data were analyzed with IBM SPSS V23. Mann-Whitney U test was applied for non-normally distributed data between groups, and Independent two sample t-test for normally distributed data. Paired two-sample t-test was used for within group comparisons of normally distributed data and Wilcoxon test for non-normally distributed data. Results were presented as mean ± SD and median (minimum-maximum) for quantitative, and frequency (percentage) for categorical data. Significance level was taken as $p<0.050$.

RESULTS

The mean age of the women who participated in the study was 45.73±8.98 years. The majority of participants are housewives (72.7%) and have nuclear families (83.6%).

Although the rate of those who were aware of cervical cancer screening tests was quite high (96.4%), only 12.7% of the participants received education about cervical cancer.

The mean total score of the patients before the training was 100.76±11.23 and the mean total score after the training was 102.47±12.36 (Table 1).

Table 1

Descriptive statistics of scale scores

	Before		After		p
	Mean ± SD	Median (min. - max.)	Mean ± SD	Median (min. - max.)	
sensitivity	29,20±5,22	30,00 (17,00 - 41,00)	30,78±6,67	32,00 (8,00 - 44,00)	***0,012***
severity	27,09±4,85	27,00 (13,00 - 37,00)	26,38±6,00	26,00 (11,00 - 40,00)	0,101
barriers	21,00±4,11	22,00 (12,00 - 31,00)	21,45±4,51	21,00 (13,00 - 36,00)	0,346
benefits	23,27±3,09	23,00 (15,00 - 29,00)	23,84±3,93	24,00 (8,00 - 30,00)	0,065
Total	100,76±11,23	102,00 (72,00 - 123,00)	102,47±12,36	103,00 (60,00 - 133,00)	0,121

t: Paired two-sample t-test statistic, Z: Wilcoxon test statistic,

As a result of the comparison of sociodemographic data and perceived sensitivity scores, there was a difference in perceived sensitivity scores before and after the training for those with large families, non-smokers, those who did not have regular gynecological examinations, those who had no previous education and those who had no family history of cancer ($p<0.05$).

When analyzed in terms of perceived severity scores, median perceived severity scores differed according to educational status ($p=0.012$). The mean perceived severity scores of high school graduates, those with nuclear family structure, and those with no family history of cancer differed before and after the training ($p<0.050$). There was no significant difference between the demographic data before and after the training in terms of barriers scores ($p>0.05$).

When the perceived benefits scores were compared with demographic data, the mean perceived benefits score after the training differed according to family type ($p=0.048$). While the median score of those living in large families was 26.00, the median score of those with nuclear family structure was 24.00. The median scores after education differed according to the status of regular gynecological examination ($p=0.03$). There was no significant difference between and within demographic characteristics in the comparison of total scale scores ($p>0.05$).

DISCUSSION

In this study, the total scale score of the patients before the training was above the average and the total scale score increased after the training. In the study conducted by Shojaeizadeh (2011), there was a significant increase in scale scores after training. Women with positive attitudes and high level of knowledge are more likely to show the necessary behavior (Enyan et al., 2022). In our study, the majority of women accepted the screening test after the training and stated that they would go to have the test, which aligns with the study conducted in Turkey (Bal & Şahiner, 2020).

One study shows that women whose family physicians recommend a pap-smear test are about 3 times more likely to have one than those who do not. The most important barriers to screening include not going to the doctor, lack of advice and lack of information (Ghazi et al., 2023).

In our study, although perceived sensitivity scores were high before the training, a significant difference was observed after training ($p<0.05$). Previous studies support this finding (Abdelmonsef Ahmed et al., 2023.; Logaraj, 2023). Post-training sensitivity is affected by educational level, family history of cancer and other sociodemographic characteristics. It has been observed that women with low educational level have high sensitivity to cancer. This coincides with the study by Aldohaian et al. (2019).

In our study, perceived severity scores decreased after the training. This suggests that the presence of a screening test for cervical cancer, which is a serious disease, may have led to a decrease in its severity by providing psychological relief (Mardani et al., 2024).
It is desirable to decrease perceived barriers and increase perceived benefits, but perceived barriers did not always decrease significantly in most studies. In our study, the fact that the pre-training barrier scores were at a moderate level and did not decrease after the training, although we expected it to decrease after the training, is in line with the studies conducted by Ampofo (2020), Samami (2021), and their colleagues. This may be due to cultural or socioeconomic factors that cannot be easily changed by education.

CONCLUSION

Demographic factors such as education level, family type, smoking status and family or family history of cancer are related to the impact of education. Health care providers should be aware of barriers to screening. An education program for cervical cancer screening should include cultural knowledge and communication skills. Health workers should provide opportunities for patients to receive adequate information and opportunities to provide women with screening tests. Since primary care is easily accessible to patients, health workers should see that they can provide the best service that patients can get from primary care and that patients are open to education and referral. It should not be ignored that with education, patients' awareness will increase and participation rates in screening will also increase.

CONFLICT OF INTEREST DECLARATION

No conflict of interest was declared by the authors.

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EBFMC25-OP-72 · BRCA1 Mutation and Advanced Stage Ovarian Cancer Due to Prophylactic Surgery Refusal

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ABSTRACT

Introduction: Epithelial ovarian cancer is typically diagnosed at an advanced stage and has the highest mortality rate among gynecological cancers. Although population-based screening methods have proven ineffective, molecular genetic approaches offer promising strategies for early diagnosis and prevention (Lheureux, Gourley et al. 2019). BRCA mutations play a critical role in ovarian cancer.

Case Presentation: In our case, a 51-year-old female patient underwent genetic testing due to a family history of cancer, revealing a BRCA1 exon 18-19 heterozygous deletion. Prophylactic surgery was recommended but refused by the patient, who also did not continue follow-up.

Discussion: Later, the patient developed peritonitis carcinomatosa. Following surgery and adjuvant chemotherapy, olaparib treatment was initiated, achieving a complete response.

Conclusion: This case highlights the crucial role of genetic risk factors such as BRCA mutation positivity in cancer prophylaxis and treatment strategies.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Ovarian cancer, BRCA Mutations, PARP Inhibitors

INTRODUCTION

Ovarian cancer is the fifth most common cancer and the fourth leading cause of cancer-related death in women. Due to the lack of specific symptoms, 75% of cases are diagnosed at an advanced stage. Most of these cases involve aggressive tumors of serous histology, originating from the fimbrial end of the fallopian tubes (Obstetricians and Gynecologists 2017). The lifetime risk of developing ovarian cancer in the general population is approximately 1 in 54, but it is significantly higher in individuals carrying BRCA mutations (Ledermann, Raja et al. 2013). However, 44% of patients with BRCA mutations report no family history of cancer (Alsop, Fereday et al. 2012). The prevalence of BRCA1 mutations is approximately 1 in 300, while BRCA2 mutations occur in about 1 in 800 individuals, though these rates are higher in certain ethnic groups (Goetsch, Wicklund et al. 2016). In populations with increased genetic predisposition, particularly in regions with higher rates of consanguineous marriages, the frequency of these mutations may be elevated.

Although ovarian cancer is typically diagnosed after the age of 50, patients with BRCA mutations tend to develop the disease at an earlier age and have a higher estimated lifetime risk (Bolton, Chenevix-Trench et al. 2012). While BRCA1-associated ovarian cancers tend to be more aggressive, some studies suggest that they respond better to first-line taxol-carboplatin chemotherapy compared to sporadic cases (Vencken, Kriege et al. 2011).

BRCA1 mutations impair homologous recombination, a key DNA repair mechanism, leading to genomic instability and malignant transformation. BRCA1 and BRCA2 mutations are inherited in an autosomal dominant pattern, with a 50% chance of being passed on to offspring. These mutations increase the risk of breast and ovarian cancers, as well as pancreatic, prostate, and melanoma cancers (Mutch and DiSaia 2007).

In ovarian cancer patients, approximately 15-20% of pathogenic BRCA mutations are somatic, while 80-85% are germline (Ledermann, Harter et al. 2014). BRCA mutation testing can be performed on blood and saliva samples (germline) or on tumor tissue (somatic) (Vergote, Banerjee et al. 2016).
Prophylactic mastectomy and oophorectomy significantly reduce cancer risk in BRCA mutation carriers. These preventive strategies are crucial for reducing cancer incidence before it develops. In BRCA-mutated ovarian cancer patients, standard surgical and chemotherapy protocols are complemented by the use of PARP inhibitors, such as olaparib, which target DNA repair deficiencies in cancer cells, thereby exploiting their vulnerability (Vergote, Banerjee et al. 2016). Although prophylactic surgery refusal does not necessarily reduce mortality risk, early detection and monitoring strategies are essential.
Thus, identifying BRCA mutations is a key step in risk assessment and treatment planning, making genetic screening recommended for all epithelial ovarian cancer patients.

CASE PRESENTATION

A 51-year-old unmarried female patient, a university graduate, was diagnosed with ovarian cancer at an external center and was referred to our clinic after surgery. Her medical history revealed that in 2019, her sister was diagnosed with ovarian cancer, leading to BRCA testing for both siblings. The patient was found to have a heterozygous deletion in BRCA1 exon 18-19, while BRCA2 was normal. At that time, prophylactic mastectomy and total abdominal hysterectomy with bilateral salpingooophorectomy (TAH-BSO) were recommended, but the patient declined due to concerns about psychological distress. She also did not undergo regular follow-up.
In May 2023, she presented with abdominal pain and bloating. Imaging studies revealed peritonitis carcinomatosa, leading to her referral to Ondokuz Mayıs University Hospital. Abdominal MRI confirmed peritoneal carcinomatosis with ascites but no ovarian mass. The tumor was suspected to be of tubal origin. Cytological analysis of ascitic fluid (OMÜ-3290/23) confirmed high-grade serous carcinoma, with 60% ER positivity and diffuse p53 positivity. The patient underwent TAH-BSO, splenectomy, total omentectomy, low anterior resection (LAR), diaphragmatic excision, total peritonectomy, and tumor excision from the bowel serosa and mesentery. Pathology confirmed serous carcinoma, FIGO stage IIIC, with malignant peritoneal washings. Postoperatively, she received six cycles of carboplatin-paclitaxel chemotherapy, followed by maintenance therapy with olaparib due to her BRCA mutation status. The patient remains under follow-up with no evidence of recurrence.

DISCUSSION

Ovarian cancer lacks specific symptoms or physical examination findings and is often diagnosed at an advanced stage. Routine screening methods have not been effective in reducing ovarian cancer mortality (Jacobs, Menon et al. 2016). Identifying at-risk individuals and implementing preventive interventions remain the most effective strategies. Therefore, genetic testing for BRCA mutations is recommended for newly diagnosed epithelial ovarian cancer patients.
BRCA mutations compromise DNA repair, increasing the risk of malignancy. The cumulative lifetime risk for ovarian cancer is 35-46% for BRCA1 mutation carriers and 11% for BRCA2 carriers (Selçuk, Özel et al. 2018). A large study analyzing 8,139 ovarian cancer cases identified BRCA mutations in 500 patients, revealing that while BRCA1 carriers had a decreasing risk of breast cancer with age, BRCA2 carriers did not exhibit the same trend (Antoniou, Pharoah et al. 2003).
For BRCA1 carriers, risk-reducing surgery is recommended between ages 35-40 or after childbearing is complete, whereas BRCA2 carriers may delay surgery until ages 40-45. In patients refusing prophylactic surgery, transvaginal ultrasonography and CA-125 monitoring may be performed, though these measures have not been proven to reduce mortality (Hermsen, Olivier et al. 2007). In advanced ovarian cancer, standard treatment includes cytoreductive surgery and platinum-based chemotherapy. Unfortunately, disease recurrence occurs in 70% of cases within three years. PARP inhibitors have emerged as a significant therapeutic option, particularly in BRCA-mutated cases, by inducing DNA damage accumulation and promoting cancer cell death (O'Connor 2015). Olaparib is FDA and EMA-approved for maintenance therapy in platinum-sensitive relapsed ovarian cancer and is also indicated for advanced-stage cases after multiple chemotherapy regimens (Stewart, George et al. 2018).
Ovarian cancer remains the most lethal gynecological malignancy. Screening programs, genetic analyses, and preventive interventions are essential for reducing mortality rates. Genetic counseling and testing should be

provided to all high-risk individuals. Moreover, targeted therapies such as PARP inhibitors improve treatment outcomes in BRCA-mutated patients.

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CONFLICT OF INTEREST DECLARATION
The authors declare no conflict of interest.

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ABSTRACT

Introduction: The primary objective of this study was to evaluate the clinical, laboratory, and histological characteristics of solitary rectal ulcer syndrome (SRUS) and assess the outcomes associated with various management strategies.

Material and Methods: This retrospective observational study was conducted at Giresun Education and Research Hospital. This study included patients diagnosed with SRUS between January 2020 and January 2024. Demographic information, clinical presentation, primary diagnosis, and laboratory parameters were obtained from electronic medical records. Statistical analysis was performed using SPSS software, and the chi-square test was used to compare categorical variables.

Results: A total of 36 patients diagnosed with SRUS were included, with the majority being male (80.6%), and the mean age of participants was 75.6 years. Hematochezia was identified as the most common initial symptom (61.1%), followed by abdominal pain (16.7%) and constipation (11.1%). Laboratory findings revealed significant abnormalities, including mean hemoglobin levels of 10.0 ± 2.4 g/dL and mean CRP levels of 56.7 ± 65.4 mg/L. Histopathological analysis showed that 38.9% of patients had normal biopsy results, whereas inflammation and dysplasia were observed in 41.7% and 2.8% of cases, respectively. Additionally, a statistically significant difference in age was observed between the patients presenting with different initial symptoms ($p = 0.028$). The study also found that biopsy results varied significantly across symptom groups ($p = 0.012$), and although differences in hemoglobin and hematocrit levels across biopsy groups were noted, they were not statistically significant.

Discussion: Consistent with previous studies (Abid et al., 2012; Ejaz et al., 2023; Shafig, 2023), our findings showed that hematochezia was the most prevalent symptom among SRUS patients. For instance, Ejaz et al. (2023) and Shafiq (2023) reported hematochezia as the most common presenting complaint in their cohort. Additionally, we observed a predominance of SRUS in older adults with a mean age of 75.6 years, in contrast to the study by Zhu et al. (year), which reported a higher incidence of SRUS in younger adults in the third and fourth decades of life. This discrepancy may be attributed to regional differences, lifestyle factors, or

variations in the population demographics. The findings of this study are consistent with those reported in previous SRUS studies (Abid et al., 2012; Shafig, 2023).
Conclusion: This study offers a comprehensive analysis of SRUS, emphasizing the importance of detailed clinical and laboratory evaluation. Hematochezia emerged as the most prevalent symptom, and ulcerative colitis was identified as the primary diagnosis. Significant associations were observed between various clinical parameters and patient outcomes, highlighting the necessity of a multidisciplinary approach in managing SRUS.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference. The discussion section reflects the content presented during the discussion phase of the congress presentation.

KEYWORDS
Colorectal disorder, SRUS, hematochezia, ulcerative colitis, endoscopic submucosal dissection

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-74 · Evaluation of the Relationship Between the Leukocyte Glucose Index (LGI) and Disease Stage in Patients with Metabolic Dysfunction Associated Fatty Liver Disease (MASLD)

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ABSTRACT

Introduction: Metabolic dysfunction-associated fatty liver disease (MASLD) is diagnosed with the presence of at least one of the cardiometabolic risk factors such as hepatic steatosis and diabetes mellitus, obesity, hyperlipidemia. It is seen in 20-30% of the world's population and its incidence is increasing. It is expected to be the most common cause of cirrhosis and liver transplantation in 2030. The leukocyte glucose index (LGI), calculated from blood leukocyte and glucose values, has been shown to have predictive values in acute MI, acute CVO and pneumonia in studies (Ishihara et al., 2006; Modan et al., 1975; Seoane et al., 2018; You et al., 2019). In this study, we aimed to show whether LGI predicts the stage of the disease in MASLD.

Material and Method: Between 15.03.2025 and 01.02.2025, patients diagnosed with MASLD at the Ministry of Health and Ordu University Education and Research Hospital were retrospectively screened. 41 patients were included in the study. Age, gender, chronic diseases, hemogram and biochemical parameters of the patients and hepatosteatosis stages from abdominal ultrasound results were recorded. LGI was calculated with the formula: leukocyte (103 µl) X glucose (mg/dl) /1000. Patients were divided into two groups because they had stage 1 and 2 MASLD. The distribution of data was done with the Kolmogorov Smirnov test. In the comparison of groups, Mann Whitney U test was used for data that were not normally distributed, and Student T test was used for data that were normally distributed. Chi square was used for the comparison of nonparametric data.

Results: The mean age of Stage 1 MASLD was 56.4±9.6, and the mean age of Stage 1 MASLD was 52±13.7. 60.7% of the Stage 1 MASLD group was female (n=17), and 31.3% of the Stage 2 MASLD group was female (n=5). When the groups were compared in terms of gender and chronic diseases, no difference was found between the groups. When compared in terms of hemogram and biochemical parameters, higher Fasting plasma glucose (P=0.006), GGT (P=0.005), T. Cholesterol (p=0.04), TG (P=0.008), LGI (P=0.003) and lower HDL (P=0.006) were found in the Stage 2 MASLD group.

Conclusion: Leukocyte glucose index was found to be higher in the Stage 2 MASLD group than in the Stage 1 patient group. LGI index can be used to estimate the MASLD stage in clinical practice.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Leukocyte glucose index, metabolic dysfunction-associated fatty liver disease, MASLD

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-75 · Content and Quality Analysis of YouTube Videos on Gestational Hypertension

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ABSTRACT

Introduction: The educational needs of people with gestational hypertension during pregnancy are increasing day by day. This is because effective health management requires the transformation of knowledge about gestational hypertension management into behavioral changes. It is becoming increasingly common for individuals to seek online resources to access quality and readily available information on health management. YouTube, a widely accessible and free platform, may be particularly valuable for people with limited health literacy or barriers to receiving high-quality medical care. However, the quality and accuracy of YouTube videos varies considerably, and little is known about content relevant to gestational hypertension.

Objective: This study aimed to systematically assess the quality, content and reliability of YouTube videos addressing gestational hypertension.

Methods: A comprehensive YouTube search was conducted in February 2025 using the following keywords: 'gestational hypertension', 'pregnancy and hypertension', 'gestational hypertension treatment' and 'gestational hypertension management'. Search results were sorted by relevance to simulate a typical user experience. The first 60 videos (n=240) from each keyword were screened (Birch, 2022). Exclusion criteria included videos not related to gestational hypertension, those in languages other than English, duplicate videos, and videos without sufficient audio and video quality for analyses. Each unique video was assessed for accuracy and comprehensiveness using the gestational hypertension content score, while the DISCERN tool and Global Quality Score scale were used to measure reliability and quality (Yılmaz, 2024). We classified the videos in the study into three quality subgroups according to the scores they received on all three scales. Descriptive analyses were performed to compare video characteristics between different sources and quality ratings.

Results: The distribution of the 147 unique videos included between the groups is as follows: Low quality group included 49 videos with a total score between 3 and 6, medium quality group included 49 videos with a total score between 7 and 10, and high quality group included 49 videos with a total score between 11 and 15. The median number of views of the videos included in our study was 34002 (interquartile range (IQR): 4598 - 118680) and the median video duration was 262 (IQR: 188 - 738) seconds. The median popularity score was 32.5 (IQR: 5.4 - 121) and the median power index was 48339 (12019 - 201026). Views, upload day, and video duration were significantly higher for High Quality group ($p = 0.001$, $p = 0.004$, and $p < 0.001$, respectively). Likes and dislikes were not significantly different between groups. The popularity score was significantly higher for Low Quality group (37 (IQR: 6 - 119), $p = 0.023$), while the power index was significantly higher for High Quality group (72066 (IQR: 9879 - 217004), $p = 0.002$).

Conclusions: Although some high-quality videos on gestational hypertension are available on YouTube, the overall reliability, accuracy, and comprehensiveness remain limited. Notably, higher quality information is not associated with higher levels of popularity. It is important for healthcare providers to direct patients to reliable sources and promote awareness on how to discern the quality of online health information.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
YouTube, hypertension, gestational hypertension, social network, pregnancy.

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-76 · Evaluation of Health Workers' Knowledge Levels and Attitudes About HPV Infection and HPV Vaccine

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ABSTRACT

Introduction: Human papillomavirus (HPV) is the leading cause of cervical cancer, one of the most common cancers in women (Wakeham & Kavanagh, 2014). HPV vaccination is a highly effective preventive tool, but its use depends on the knowledge and attitudes of healthcare professionals. This study aims to identify gaps and improve vaccination efforts by assessing the awareness and perspectives of healthcare professionals in Erzincan about HPV and its vaccine.

Materials and Methods: Healthcare workers working in Erzincan province were asked to fill out a 19-question survey created by scanning the literature on HPV infection and vaccination, including sociodemographic data, via Google Surveys.

Results: This study evaluated 110 healthcare workers in Erzincan province and provided important information about HPV knowledge and prevention practices. 70% of the participants were female, 67.2% were married and 61.8% were physicians. It was determined that 100% of the participants had not had a sexually transmitted disease before and 80.9% had no warts on their bodies before. The data showed that 64.5% had sufficient knowledge about HPV infections and 90% saw cervical cancer as preventable, while there was a significant deficiency in disease prevention behaviors.

Especially despite the fact that the vaccine is considered effective (73.6%), HPV vaccination rates are significantly low at only 7.3%. Cervical cancer screening rates are similarly inadequate and 75.3% of female healthcare workers reported that they had never had a Pap smear test. 62.7% of the participants reported that they would vaccinate their children if the HPV vaccine was added to Türkiye's national immunization schedule and was free of charge. 50.9% of the participants thought that the HPV vaccine had very few side effects, yet vaccine hesitancy remained widespread. 70% of the participants rejected the idea that the vaccine was merely a profit-making scheme for pharmaceutical companies.

Conclusion: Despite healthcare workers' awareness of HPV risks, low vaccination and screening rates in Erzincan underscore the need for free national HPV vaccine programs and targeted education to bridge knowledge-practice gaps.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

HPV, HPV vaccine, cervical cancer, healthcare worker

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-77 · Evaluation of Applications to the University of Health Sciences Tepecik Training and Research Hospital Maternity School Following the Legislative Amendment

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ABSTRACT

Introduction: Maternal, neonatal, and infant mortality rates are among the most important indicators of a successful healthcare system. In this context, educational programs targeting pregnant women and their families can lead to significant improvements. Informing families about pregnancy preparation, the gestational process, childbirth, and the postpartum period plays a crucial role in public health. Effective education provided by healthcare professionals helps pregnant women better recognize potential complications. These trainings raise awareness on topics such as the pregnancy process, normal vaginal delivery (NVD) and breastfeeding (Tuna, Karataş, Bilge, & Çelik, 2021). To serve this purpose, maternity schools have been established across the country. With the legislative amendment in December 2024, the promotion of vaginal birth and the strengthening of maternity schools were prioritized (Uğuz & Karaçam, 2022). In this regard, data from the maternity school in our hospital were evaluated.

Materials and Methods: Between January and March, 58 pregnant women enrolled in the program. The average age was 28.2, with 57.9% under the age of 30. Of the participants, 46.43% were in their first pregnancy, while 28.57% were in their second. Based on previous birth mode, 51.85% had a cesarean section, 25.93% had a NVD, and 22.22% had a history of abortion. Among those who gave birth during follow-up, 59.3% delivered via cesarean section, and 40.6% had a normal vaginal delivery. The training consisted of three sessions; 49.12% of participants attended all three. At the time of registration, 84.5% were in the third trimester, and 12.1% in the second. Partner participation was recorded at 12.07%.

Results: Data analysis revealed that nearly half of the participants attended all training sessions. The high participation rate among third-trimester women suggests that education is more frequently sought in later stages of pregnancy. This may indicate increased awareness due to repeated antenatal visits (Tuna et al., 2021).

Conclusion: The Prenatal Education Program has shown valuable contributions in informing and preparing pregnant women for childbirth, as reflected by the high attendance and continuity across all three sessions. The distribution of participants by age and gestational week indicates that the training successfully reaches a diverse population. However, the low rate of partner involvement points to the need for strengthening family-centered support structures. Starting maternity school programs earlier in pregnancy may lead to more effective knowledge and behavioral changes (Uğuz & Karaçam, 2022).

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Maternity school, prenatal education, maternal health

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-78 · The Knowledge, Attitudes, and Practices of Family Physicians Regarding Adult Vaccination

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ABSTRACT

Introduction: The recommendations of family physicians, who are the primary physicians for preventive and therapeutic adult health, play an important role in the attitudes and behaviors of patients regarding vaccination. This study aimed to contribute to the increase in adult vaccination rates by examining the knowledge, attitudes, and behaviors of family physicians.

Materials and Methods: This research is a cross-sectional, observational, and descriptive survey study. Data were collected using a questionnaire form using a face-to-face survey method. The SPSS 26.0 package program was used for the data. Kolmogorov-Smirnov test, Chi-Square Test, Mann-Whitney U test, Kruskal-Wallis test, and Games-Howell test were used in the statistical analysis of the data.

Results: The average age of the participating physicians was 46, 35.7% were female, 64.3% were male, 88.4% were married, 31.7% had chronic diseases, 70% were general practitioners, an average of 20 years of experience in the profession and an average of 11 years of experience in family medicine. Among the adult vaccines that physicians know the most, 87.9% diphtheria-tetanus, 83.4% influenza, 72.9% COVID-19, 94% Hepatitis A, and 89.4% Hepatitis B stand out, while 19.1% chickenpox, 29.1% shingles, and 29.6% MMR vaccines are less known. While 90% of the participants used sources, 84.42% Ministry of Health (asi.gov.tr), 24.1% EKMUD guide, and 5.03% CDC guides were cited as sources. Half of the physicians sometimes recommend and question vaccines to patients. It is seen that their attitudes towards information about vaccines are quite positive. One third of the participants have received in-service training and prefer inservice training and scientific meetings to access up-to-date information. Hepatitis A vaccine is the least known reimbursable vaccine. The study found that physicians did not fully vaccinate with the recommended vaccines, and the rate of influenza vaccination, especially in the 2023-2024 season, was 40%. 97% of the participants had been vaccinated as adults, 86.4% of whom had received the Tetanus-diphtheria vaccine, 85.4% the COVID-19 vaccine, 59.3% the influenza vaccine, and 57.3% the hepatitis B vaccine.

Conclusion: Increasing the knowledge and awareness of family physicians through in-service training and scientific meetings on adult vaccination will also increase vaccination recommendations. Vaccination for healthcare professionals should also be completed according to the guidelines. Integrating adult vaccination guidelines into warning systems in a way that physicians can most easily use will increase awareness.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Adult vaccination, family medicine, knowledge, lifelong immunization, vaccine preventable diseases

INTRODUCTION

Immunization represents a cornerstone of global public health, preventing millions of deaths annually. Vaccines stimulate the body's immune system to recognize and combat pathogens, significantly reducing the risk of infectious disease. Upon administration, a vaccine elicits an adaptive immune response, facilitating immunological memory and long-term protection (Jones, 2024). The COVID-19 pandemic placed immense strain on health systems and led to significant disruptions. The most recent data on DTP (diphtheria-tetanus-pertussis) immunization coverage underscores the ongoing need for catch-up efforts, recovery, and system strengthening. Although immunization is one of the most successful public health interventions, global coverage had stagnated in the decade preceding COVID-19. The pandemic and its associated disruptions severely challenged immunization efforts in 2020 and 2021. Data from 2023 indicate that performance has not yet returned to pre-pandemic levels seen in 2019 (Barqawi 2024). Childhood immunizations are routinely included in standard healthcare services worldwide and are successfully implemented through structured programs. While significant reductions in vaccine-preventable diseases have been observed among children, immunization in adults—and the associated morbidity and mortality from infectious diseases—continues to be overlooked. Unlike children, adults often lack structured vaccination programs. Even in developed Western countries, adult immunization coverage remains below targeted levels. Consequently, adults still die from diseases that are preventable by vaccination. Family physicians, who serve as primary care providers in both preventive and therapeutic aspects of adult health, play a crucial role in shaping patients' attitudes and behaviors toward vaccination through their recommendations. This study aims to collaborate with family physicians, who are central to preventive healthcare, to generate data at the primary care level that could contribute to structured programs, with the ultimate goal of raising adult immunization rates to levels comparable to those of childhood vaccinations. The increase in childhood immunizations under the Expanded Program on Immunization (EPI) has led to a reduction in the incidence of vaccine-preventable diseases; however, it has also resulted in a rise in case numbers among adolescents and adults. This increase can be attributed to factors such as waning immunity over time, lack of booster doses, and the presence of individuals with incomplete vaccination. As a result, adolescents, adults, and the elderly are at higher risk for these diseases (Toprak, 2018). Immunization practices highlight the importance of high vaccination coverage within the target population. Even in developed countries, low vaccination coverage rates among adults and the elderly contribute to the continued circulation of infectious agents and increase the risk of infection among susceptible individuals. Therefore, increasing vaccination rates among adults and the elderly is essential for their protection. Adult and elderly immunization efforts often focus solely on high-risk groups, which is insufficient for achieving herd immunity. For this reason, adopting a 'Life-Course Immunization' approach, restructuring immunization programs to cover the entire lifespan, and delivering these services through primary healthcare institutions are of great importance (Uzuner, 2018).

MATERIALS AND METHODS

This descriptive cross-sectional study was conducted face-to-face with 199 family physicians between June 15 and August 15, 2024. The study population consisted of 423 family physicians actively working in Family Health Centers (FHCs) in Samsun Province as of April 2024, including 152 women and 271 men. The sample size was calculated using the OpenEpi program, with a 5% margin of error and 95% confidence interval, resulting in a target sample size of 193 physicians.

The data were collected using a questionnaire titled 'Assessment of Knowledge, Attitudes, and Practices of Family Physicians Working in Family Health Centers in Samsun Regarding Adult Vaccination.' The questionnaire included 44 questions. The first 9 questions assessed sociodemographic characteristics. The subsequent questions focused on the physicians' perspectives on the necessity of recommending vaccines to adults, frequency of inquiring about adult vaccination status during outpatient visits, frequency of recommending vaccines to adults, vaccines administered in FHCs, vaccines included in the adult immunization program, self-assessed sufficiency of knowledge regarding adult immunization, awareness of the existence of an adult immunization guide, status of receiving in-service training on adult immunization, difficulties in accessing up-to-date information, preferred sources for current information on adult immunization, and knowledge about adult vaccines reimbursed by the Social Security Institution (SGK).Only family physicians actively working in FHCs during the specified dates were included in the study.

This research project was approved by the Samsun University Non-Interventional Clinical Research Ethics Committee on 28.11.2023, with the decision number 2024/08/05.

RESULTS

Immunization practices highlight the importance of achieving high vaccination coverage within the target population. Even in developed countries, low vaccination coverage rates among adults and the elderly contribute to the continued circulation of infectious agents and increase the risk of infection among susceptible individuals. Therefore, increasing vaccination rates among adults and the elderly is essential for their protection. Adult and elderly immunization efforts often focus solely on high-risk groups, which is insufficient for achieving herd immunity. For this reason, adopting a 'Life-Course Immunization' approach, restructuring immunization programs to cover the entire lifespan, and delivering these services through primary healthcare institutions are of great importance."

The vaccines most commonly recognized by physicians as adult vaccines were diphtheria-tetanus, influenza, COVID-19, hepatitis A, and hepatitis B. Only 10% of the participating physicians stated that they did not use any information source. Although the rate of resource use has increased compared to previous years, it can be suggested that the effective use of resources would benefit from updated information being regularly delivered to each family physician via medical associations or public health directorates, or by integrating it into the software they use, thus ensuring continuous updates. Approximately one-third of the participating physicians reported having received in-service training on adult immunization. The rate of recommending vaccines to high-risk groups was generally low among the family physicians in our study. The most frequently recommended vaccines were hepatitis B, pneumococcal, and influenza vaccines. It can be stated that increased follow-up of patients with chronic diseases, improved access to vaccine-preventable disease serology through laboratories, the absence of vaccine supply issues, and the reduction of barriers to adult vaccination will contribute to higher vaccine recommendation rates.

DISCUSSION

Preventive measures that begin at every stage of life and continue throughout the lifespan have gained increasing importance due to the aging of the global population. The concept of 'healthy aging' not only includes balanced nutrition and regular physical activity, but also encompasses the reduction of infectious diseases and their potential complications through vaccination. Therefore, increasing adult immunization rates is of critical importance. The strengths of this study include its implementation with primary care physicians, specifically family physicians who play a central role in immunization, and its distribution across the entire province. The study's limitations include the inability to reach a larger number of participants and the relatively high number of survey questions.

CONCLUSION

The majority of participating family physicians stated that the biggest barrier to vaccination is the patients' lack of knowledge about vaccines. They also considered patients' refusal of vaccines or their belief that they do not need them as obstacles and reported that patients have concerns regarding the safety of vaccines.

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CONFLICT OF INTEREST DECLARATION

There is no conflict of interest.

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EBFMC25-OP-79 · Karyotype Results of Patients with a History of Habitual Abortion in Ordu Province

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ABSTRACT

Introduction: Habitual abortion, also referred to as recurrent pregnancy loss (RPL), is defined as the occurrence of two or more consecutive pregnancy losses before the 20th week of gestation (Practice Committee of ASRM, 2012). The estimated prevalence of habitual abortion is about 1–2% of all couples trying to conceive (Ford & Schust, 2009). It represents a significant emotional and medical challenge for affected individuals and often requires a multidisciplinary diagnostic and therapeutic approach. The most common causes of RPL are genetic abnormalities, anatomical uterine abnormalities, endocrine disorders, thrombophilic conditions, and immunological factor. In the general population, the prevalence of balanced chromosomal translocations is estimated to be about 0.2–0.3% (Braekeleer & Dao, 1990). However, in couples with habitual abortion, this rate increases significantly, ranging from 4% to 8%, depending on the population and diagnostic methods used (Franssen et al., 2005; Stirrat, 1990). A roughly 20- to 40-fold increase in the rate of chromosomal abnormalities makes peripheral blood karyotype analysis the first-line test in patients with habitual abortion.

Materials and Methods: A total of 242 patients who presented to the medical genetics outpatient clinic due to habitual abortion were evaluated. Pedigrees were drawn, and detailed pregnancy histories were recorded. Peripheral blood samples were obtained from all patients using heparinized tubes. The collected samples were referred to a contracted laboratory for lymphocyte culture (72-hour long-term culture) and subsequent chromosomal analysis. Metaphase spreads were prepared and stained with Giemsa, and karyotypes were generated at a resolution of 450–550 bands. All karyotypes were digitized and systematically analyzed. Cytogenetic results were interpreted and reported in accordance with the International System for Human Cytogenomic Nomenclature (ISCN 2021) guidelines.

Results: Among the 242 patients (121 females and 121 males), chromosomal abnormalities explaining the clinical findings were identified in 6 individuals (2.5%) (Table 1).

Table 1

Patient	Karyotype
1	46,XY,t(2;7)(q31;q21.2)
2	46,XY,t(3;17)(q22;q23)
3	46,XY,t(8;14)(q13;q24)
4	46,XY,t(1;5)(p12;p12)
5	46,XX,t(9;12)(p24;q22)
6	46,XY,t(3;5)(p23;p15.33)

All detected anomalies were balanced chromosomal translocations. Of the affected individuals, 5 were male and 1 was female.

Conclusion: Recurrent pregnancy loss is a common complication of gestation, affecting approximately 2% of couples attempting to conceive. An increased risk of chromosomal abnormalities has been reported in this patient group. Consistent with the literature, our study identified chromosomal anomalies in 2.5% of cases.

To our knowledge, this is the first study in our region investigating the relationship between habitual abortion and chromosomal abnormalities.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Habitual abortion, chromosomal translocation, karyotype, medical genetic

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-80 · Genetic Analysis Results of Marfan Syndrome in Ordu Province

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ABSTRACT

Introduction: Marfan syndrome (MFS) is a systemic, autosomal dominant connective tissue disorder. It typically presents with features such as tall stature, long limbs, scoliosis, lens dislocation, and aortic root dilatation. The prevalence of Marfan syndrome is estimated to be approximately 1 in 5,000 to 1 in 10,000 live births. About 75% of cases are familial, while 25% arise from de novo mutations (Judge & Dietz, 2005). The most commonly implicated gene in Marfan syndrome is FBN1 (*Fibrillin-1*). Mutations in *FBN1* disrupt microfibril integrity and lead to increased TGF-β activity, resulting in weakened connective tissue (Ramirez & Sakai, 2010). More than 3,000 different *FBN1* mutations have been reported in the literature, with common pathogenic variants including c.7558C>T (p.Arg2520Cys), c.5788G>A (p.Cys1930Tyr), and c.1453C>T (p.Arg485Cys) (Comeglio et al., 2002; Faivre et al., 2007; Loeys et al., 2010). The most widely used diagnostic system for Marfan syndrome is the revised Ghent nosology (Ghent-2 criteria), which assigns points based on clinical findings across organ systems. A systemic score of ≥7 is considered the diagnostic cutoff (Loeys et al., 2010).

Materials and Methods: Blood samples were collected in EDTA tubes from 10 patients who scored ≥7 points. The entire coding region of the *FBN1* gene was sequenced using next-generation sequencing (NGS).

Results:

Patient 1: Male patient with tall stature, aortic root dilatation, and myopia. Family history revealed similar findings in the father. Ghent-2 score>7. Family testing could not be performed. *FBN1*: c.6680C>T, p.Ser2227Leu

Patient 2: Female patient with tall, marfanoid appearance and myopia. Her father presented with a similar phenotype and had a history of spontaneous pneumothorax. Ghent-2 score>7. *FBN1*: c.288del, p.Arg96Serfs*12).

Patient 3: Male patient with tall stature and aortic root dilatation. No relevant family history. *FBN1*: c.5003_5004delinsCT, p.Ile1668Ala

Conclusion: Among 70 patients examined in our outpatient clinic with suspicion of Marfan syndrome, 3 of the 10 patients who underwent genetic testing were found to carry mutations consistent with their clinical presentation. A correlation between genotype and phenotype was achieved. To our knowledge, this is the first study conducted in Ordu Province focusing on the genetic background of Marfan syndrome. Moreover, the variants identified in our study have not been previously reported in the literature, making this study significant for contributing three novel mutations to the spectrum of *FBN1* mutations associated with Marfan syndrome.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Marfan syndrome, FBN1 gene, genetic testing

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-81 · Diagnosis and Treatment Rates of Chronic Hepatitis C in Anti-HCV Positive Patients in Ordu

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ABSTRACT

Introduction: According to the World Health Organization's (WHO) Global Hepatitis Report 2024, approximately 50 million people worldwide are living with hepatitis C virus (HCV) infection. In 2022 alone, nearly 1 million new HCV infections were projected, with about 1% of the global population expected to suffer from chronic HCV infection. In Turkey, the prevalence of HCV infection ranges between 0.3% and 3.1%. The development of direct-acting antiviral (DAA) drugs has revolutionized treatment, making Chronic Hepatitis C (CHC) curable in up to 95% of cases. Consequently, a disease that was once fatal has become curable for individuals who have access to treatment. The WHO aims to reduce new hepatitis infections by 80% and hepatitis-related deaths by 65%, and to increase the diagnosis and treatment rate to 90% by 2030.

Materials and Methods: This study aimed to determine the rate of HCV-RNA (PCR) testing among patients with positive anti-HCV results in Ordu province between January 1, 2021, and December 31, 2024. Additionally, the study assessed the treatment rate among patients with confirmed CHC and the cure rate in those who received therapy. Data were collected from all healthcare centers in Ordu during the specified period.

Results: A total of 2,695 positive anti-HCV test results were identified. Of these, 784 (29%) were repeat tests, leaving 1,911 unique anti-HCV positive patients. Among these patients, 1,038 (54.3%) were female. Only 873

patients (45.6%) underwent further testing with HCV-RNA PCR, while 1,038 (54.3%) did not. Of the tested patients, 60 were found to be HCV-RNA positive and were diagnosed with CHC. Of those, 59 (98.3%) received treatment with DAA therapy. The sustained virologic response (SVR) rate among treated patients was 100%.
Conclusion: DAA therapies have significantly altered the clinical course of chronic hepatitis C, transforming it into a manageable and curable disease for those who receive treatment. However, this study revealed that more than half of the patients with anti-HCV positivity did not undergo confirmatory HCV-RNA testing. Among those who did and received treatment, the cure rate reached 100%. These findings emphasize the importance of improving access to diagnostic and treatment services to reach global elimination targets.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
HCV, hepatitis C, direct-acting antivirals

INTRODUCTION

According to the 2024 Global Hepatitis Report by the World Health Organization (WHO), approximately 50 million people worldwide are living with hepatitis C virus (HCV) infection. In 2022, about one million new HCV infections were reported, and it is estimated that roughly 1% of the global population suffers from chronic HCV infection (Assoumou et al., 2020). The distribution of HCV is uneven globally, with the European and Eastern Mediterranean regions being more heavily affected. However, there are notable differences in HCV prevalence between countries. In Turkey, the prevalence of HCV infection ranges from 0.3% to 3.1% (Feld & Ward, 2021; Kose et al., 2014; Lazarus et al., 2018; Ozer et al., 2012). Chronic HCV infection (CHC) can lead to cirrhosis, hepatocellular carcinoma, and death. Fortunately, the recent introduction of direct-acting antiviral (DAA) medications has made it possible to cure CHC in up to 95% of cases. To eliminate hepatitis, the WHO set goals for the 2016–2030 period to reduce new hepatitis infections by 80% and hepatitis-related deaths by 65%, while increasing diagnosis and treatment rates to 90% (Safreed-Harmon et al., 2019). However, achieving elimination requires identifying infected individuals and initiating their treatment. Despite the availability of effective treatment, HCV remains underdiagnosed and undertreated, with significant gaps in the care cascade. According to WHO's 2024 report, between 2015 and 2022, only 36% of people living with hepatitis C were diagnosed, and only 20% received curative treatment. By the end of 2022, approximately 12.5 million people had received treatment, which is far below the target required to meet the 2030 elimination goals (Assoumou et al., 2020).

Closing the gaps between diagnosis and treatment is therefore essential for HCV elimination. The WHO has emphasized the importance of micro-elimination strategies - defined as elimination within a specific population. The rationale behind this approach is that elimination on a smaller scale is more tangible and realistic and can serve as a pilot model for national programs aiming for macro-elimination (Thomas et al., 1994). Micro-elimination is less intimidating, complex, and costly than nationwide efforts, making it a feasible strategy.

In Turkey, until recently, CHC treatment was reimbursed only in tertiary care hospitals, according to the Healthcare Implementation Communiqué (SUT). In Ordu province, CHC patients are treated solely at Ordu University Training and Research Hospital. Patients identified as anti-HCV positive at primary healthcare centers must be referred to Infectious Diseases or Gastroenterology clinics for HCV PCR confirmation. However, a lack of awareness among other specialties regarding the curability of CHC, or oversight of anti-HCV positive test results, may delay treatment. Such delays can result in fibrosis progression, cirrhosis, or hepatocellular carcinoma.

In this study, we aimed to determine the referral rate of anti-HCV positive patients to the only tertiary hospital in Ordu, the rate of HCV PCR testing among these patients, and the treatment rate among those with confirmed HCV PCR positivity. Additionally, we sought to evaluate sustained virologic response (SVR) rates among treated patients and assess the correlation between anti-HCV titers and HCV PCR results to estimate a basal titer threshold that may help identify false positives. If we find that many patients were not referred or treated, we plan to establish an alert system via the hospital information system and provide training and awareness

initiatives across district hospitals and family health centers in Ordu to support micro-elimination and reach WHO targets.

MATERIALS AND METHODS

This was a non-interventional, observational, cross-sectional, retrospective study encompassing data from all hospitals in Ordu capable of performing anti-HCV testing. Ethics approval was obtained from the Non-Interventional Clinical Research Ethics Committee of Ordu University. During the study period, HCV PCR testing was available exclusively at the molecular microbiology laboratory of Ordu University Training and Research Hospital. CHC treatment was likewise only available at the Infectious Diseases Department of the same institution. Therefore, all anti-HCV positive patients in Ordu were expected to be referred to this hospital for testing and treatment. Primary data sources included the laboratory databases of the Ordu Provincial Health Directorate and Ordu University Training and Research Hospital. Lists of anti-HCV positive patients and those who underwent HCV PCR testing were compared. Treatment information was obtained from patient records.

The study included all patients who tested anti-HCV positive between January 1, 2021, and December 31, 2024. Collected variables included demographics (e.g., gender, residence), laboratory results (anti-HCV and HCV RNA), time from positive anti-HCV result to treatment initiation (if any), the specialty of the physician ordering the HCV RNA test, and treatment responses. The proportion of anti-HCV positive patients who received HCV PCR testing and the treatment rate among HCV RNA positive individuals were calculated.

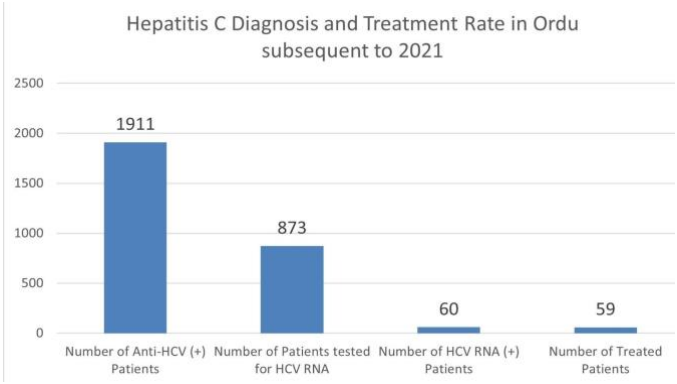
Data were analyzed primarily using descriptive statistics. Normality was assessed using the Kolmogorov-Smirnov and Shapiro-Wilk tests. For non-normally distributed variables, medians and interquartile ranges (IQRs) were reported. The Mann-Whitney U test was used to compare non-normally distributed quantitative variables. A p-value of <0.05 was considered statistically significant. All analyses were conducted using IBM SPSS V23.

RESULTS

Between January 1, 2021, and December 31, 2024, a total of 2695 anti-HCV positive test results were recorded in Ordu. After excluding 784 duplicate tests from the same patients, the number of unique anti-HCV positive patients was 1911. Of these patients, 1038(54.3%) were female. It was determined that only 873 (45.6%) of the anti-HCV positive patients were tested for HCV-RNA, while 1038 (54.3%) patients were not tested for HCV-RNA. Among the patients who were tested for HCV-RNA, 60 patients were positive and diagnosed with CHC. Of the patients diagnosed with CHC, 59 (98.3%) were treated with DAE drugs, and the sustained viral response rate was 100% among the treated patients (Figure 1).

Figure 1

Illustrates the rate of Hepatitis C diagnosis and treatment in Ordu province subsequent to 2021.



DISCUSSION

Prior to 2015, CHC was a challenging infection to treat, with limited efficacy and the risk of progression to end-stage liver disease. With the advent of DAAs, CHC has become a curable condition with high SVR rates (Thomas et al., 1994). The accessibility of these treatments has brought Turkey closer to achieving WHO's 2030 elimination goals.

Despite the efficacy of DAAs, patient attrition occurs at multiple points in the HCV care cascade. Lack of awareness regarding CHC curability, failure to investigate anti-HCV positive results, and inadequate referral to treatment are major barriers. In our study, only 45.6% of anti-HCV positive patients underwent HCV PCR testing. Similarly, U.S.-based studies have shown that 72% of antiHCV positive individuals were tested for HCV RNA (World Health Organization, 2017; World Health Organization, 2022), while others reported that only 7–18% received confirmatory testing.

Among those tested in our study, 98.3% of patients (59/60) with a positive HCV RNA test were referred for treatment. Sustained viral responses were achieved in all patients receiving treatment. Increasing testing, improving linkage to care, and ensuring universal access to treatment are key strategies for achieving elimination. WHO's cascade of care includes four milestones: infected, diagnosed, treated, and cured (Yildirim et al., 2014). A consensus group of experts from Europe, Australia, and North America has expanded this into seven steps, including disease staging and post-SVR follow-up (Zucker et al., 2018). Countries are advised to analyze their cascade data, identify gaps, and strengthen inter-stage connections (Assoumou et al., 2020).

Our data indicate that the proportions of diagnosed, treated, and cured patients in Ordu fall short of elimination targets. A nationwide study screening 1,000 anti-HCV positive patients found that 78.5% underwent HCV PCR testing, of whom 54% were HCV RNA positive; among those, 72.8% received treatment. The study also showed that non-surgical specialties ordered HCV PCR more frequently than surgical ones. The lack of HCV RNA testing among many anti-HCV positive patients leaves a substantial portion of the infected population untreated, representing a major obstacle to elimination.

CONCLUSION

Although CHC is a curable and manageable infection, lack of awareness and inadequate referral hinder elimination efforts. Underdiagnosis remains a critical barrier. For successful micro-elimination, strategies such as awareness campaigns, educational initiatives, integration of alert systems into health information networks, and improving test-to-treatment linkage must be implemented.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-82 · A Case of CMV Mononucleosis Presenting with Prolonged Fever in an Immunocompetent Patient

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ABSTRACT

Introduction: Cytomegalovirus (CMV) is a double-stranded DNA virus belonging to the Herpesviridae family Primary CMV infections in immunocompetent individuals are usually asymptomatic or present with mild clinical symptoms. However, in rare cases, they may manifest with prolonged fever, hepatitis, or mononucleosis-like syndromes. Mononucleosis-like illness typically presents with fever, pharyngitis, lymphadenopathy, fatigue, and lymphocytosis characterized by atypical lymphocytes. The diagnosis of acute CMV infection is based on the detection of specific anti-CMV IgM antibodies by serological methods or the identification of viral DNA via CMV DNA PCR testing. In this report, we aim to highlight the importance of considering acute CMV infection in the differential diagnosis of a case presenting with prolonged fever and hepatitis in an immunocompetent individual.

Case Presentation: A 37-year-old immunocompetent male patient presented with complaints of fever, chills, sweating, fatigue, loss of appetite, and approximately 4 kg weight loss persisting for three weeks. On physical examination, the patient was in good general condition, with no lymphadenopathy, pharyngeal hyperemia, abnormal breath sounds, cardiac murmur, or abdominal tenderness. Hepatosplenomegaly was absent. Initial laboratory findings revealed a white blood cell count (WBC) of $14.16\times10^3/\mu L$, lymphocyte count (LYM) of $9.33\times10^3/\mu L$ (66%), hemoglobin (Hb) of 14.8 g/dL, C-reactive protein (CRP) of 56.93 mg/dL, ALT: 168.7 U/L, AST: 104.7 U/L, and LDH: 451 U/L. Lymphocytic leukocytosis and elevated liver enzymes were noted. Thoracic and abdominal CT scans were unremarkable. Differential diagnoses including Brucella, EBV, HIV, hepatitis viruses, toxoplasmosis, endocarditis, leukemia, and lymphoma were investigated and all results were within normal limits or negative. Peripheral blood smear demonstrated 50% atypical lymphocytes. Anti-CMV

IgM was found to be positive. EBV infection was ruled out based on negative EBV VCA IgM serology and the absence of classical clinical features.
Discussion: The patient was diagnosed with acute CMV infection and was managed with symptomatic supportive care. During follow-up, liver function tests normalized, fever resolved, and his overall condition improved. In cases of prolonged fever accompanied by lymphocytosis, CMV infection should be considered in the differential diagnosis of infectious mononucleosis alongside EBV In this case, the absence of lymphadenopathy and pharyngitis, along with negative EBV serology, supported the diagnosis of CMV.
Conclusion: It is essential to consider CMV infection in the primary care setting when evaluating patients with unexplained prolonged fever and elevated transaminases.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Cytomegalovirus, CMV, prolonged fever, mononucleosis, immunocompetent, differential diagnosis

INTRODUCTION

Cytomegalovirus (CMV) is a double-stranded DNA virus belonging to the *Herpesviridae* family. It most commonly causes clinical manifestations such as viremia, pneumonia, esophagitis, colitis, and retinitis in immunosuppressed and organ transplant patients. Primary CMV infections in immunocompetent individuals are usually asymptomatic or present with mild clinical symptoms. However, in rare cases, they may manifest with prolonged fever, hepatitis, or mononucleosis-like syndromes. Severe presentations of CMV in otherwise healthy individuals have also been documented (Rafailidis et al., 2008). Mononucleosis-like illness typically presents with fever, pharyngitis, lymphadenopathy, fatigue, and lymphocytosis characterized by atypical lymphocytes. Acute cytomegalovirus hepatitis cases in healthy adults have also been reported (Güler et al., 2013). The diagnosis of acute CMV infection is based on the detection of specific anti-CMV IgM antibodies by serological methods or the identification of viral DNA via CMV DNA PCR testing. In immunocompetent patients, supportive care is usually sufficient, and antiviral therapy is rarely required. A recent review emphasized the clinical spectrum of CMV infections, including their atypical presentations (Kocaman, 2022). In this report, we aim to highlight the importance of considering acute CMV infection in the differential diagnosis of a case presenting with prolonged fever and hepatitis in an immunocompetent individual.

CASE PRESENTATION

A 37-year-old immunocompetent male patient presented with complaints of fever, chills, sweating, fatigue, loss of appetite, and approximately 4 kg weight loss persisting for three weeks. On physical examination, the patient was in good general condition, with no lymphadenopathy, pharyngeal hyperemia, abnormal breath sounds, cardiac murmur, or abdominal tenderness. Hepatosplenomegaly was absent. Initial laboratory findings revealed a white blood cell count (WBC) of $14.16\times10^3/\mu L$, lymphocyte count (LYM) of $9.33\times10^3/\mu L$ (66%), hemoglobin (Hb) of 14.8 g/dL, C-reactive protein (CRP) of 56.93 mg/dL, ALT: 168.7 U/L, AST: 104.7 U/L, and LDH: 451 U/L (Table 1). Lymphocytic leukocytosis and elevated liver enzymes were noted. Thoracic and abdominal CT scans were unremarkable. Differential diagnoses including Brucella, EBV, HIV, hepatitis viruses, toxoplasmosis, endocarditis, leukemia, and lymphoma were investigated, and all results were within normal limits or negative. Peripheral blood smear demonstrated 50% atypical lymphocytes. Anti-CMV IgM was found to be positive. EBV infection was ruled out based on negative EBV VCA IgM serology and the absence of classical clinical features. The patient was diagnosed with acute CMV infection and was managed with symptomatic supportive care. During follow-up, liver function tests normalized, fever resolved, and his overall condition improved.

Table 1

Test	18.02.2025	28.02.2025
WBC (10^3/µL)	14.16	19.38
HGB (g/dL)	14.8	14.0
PLT (10^3/µL)	382	331.0
AST (U/L)	104.7	50.8
ALT (U/L)	168.7	60.3
CRP (mg/dL)	56.93	37.05
Erythrocyte Sedimentation Rate (mm/h)	–	48.0
Anti-CMV IgM (COI)	2.36 (Positive)	–
EBV VCA IgM	Negative	–
Anti-HCV (COI)	0.194 (Negative)	–
Anti-HIV (COI)	0.189 (Negative)	–
Brucella (Rose Bengal + Tube Agglutination)	Negative	–

DISCUSSION

In cases of prolonged fever accompanied by lymphocytosis, CMV infection should be considered in the differential diagnosis of infectious mononucleosis alongside EBV. While EBV infection typically presents with prominent pharyngitis and lymphadenopathy, these findings are often milder or absent in CMV infection. Distinction between EBV and CMV can be made using specific serological tests such as EBV VCA IgM, and this diagnostic approach is supported by recent clinical reviews (Naughton et al., 2021). In this case, the absence of lymphadenopathy and pharyngitis, along with negative EBV serology, supported the diagnosis of CMV. Additionally, workup for endocarditis and malignancy, including blood cultures, peripheral smear, and imaging studies, were negative. The absence of rash, arthritis, or serositis ruled out autoimmune diseases, and the lack of recurrent neurological symptoms made demyelinating diseases such as multiple sclerosis unlikely. It is important for primary care physicians to be familiar with the clinical spectrum of CMV (Taylor, 2003).

CONCLUSION

It is essential for family physicians and primary care providers to consider CMV infection in the differential diagnosis when encountering patients with unexplained prolonged fever and elevated liver enzymes. Early recognition of CMV in such cases can help prevent unnecessary diagnostic procedures, reduce healthcare costs, and avoid inappropriate treatments such as unnecessary antibiotics or empirical antiviral therapies. In primary care settings, where initial evaluations for more common causes of fever often begin, maintaining clinical suspicion for CMV is crucial-especially when standard workups yield inconclusive results. Enhancing awareness of CMV's clinical presentation in immunocompetent individuals can contribute significantly to timely diagnosis, appropriate management, and improved patient outcomes in general practice.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-83 · The Relationship Between Media and Awareness of an Infectious Disease

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ABSTRACT

Introduction: This study evaluates the relationship between media coverage and public awareness of HIV/AIDS using Google Trends data. Despite significant advancements in HIV care, HIV/AIDS continues to be a critical public health concern globally.

Materials and Methods: Using Google Trends data from January 2004 to January 2025, this study examined the impact of media reports on public interest in HIV in Turkey, focusing on specific spikes in search interest during key events in 2018 and 2024.

Results: The results revealed significant increases in search interest following media coverage of events such as a controversy involving a hospital's refusal to treat an HIV-positive patient in 2018, and a rise in HIV cases among university students in 2024. Regional variations in search interest mirrored the geographic areas where these events were reported.

Conclusion: This study highlights the effectiveness of media in driving public awareness and the potential of online tools like Google Trends to monitor shifts in public interest in health-related issues. These findings underscore the importance of using media proactively to increase health literacy and raise awareness of infectious diseases, with implications for public health policy and communication strategies.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

HIV/AIDS, public awareness, media influence, google trends, infodemiology

INTRODUCTION

Despite extensive efforts to combat the disease over many years, HIV/AIDS remains a major global public health issue (UNAIDS, 2020). It is estimated that approximately 37.9 million people (ranging from 32.7 to 44.0 million) worldwide are living with the human immunodeficiency virus (HIV), which causes acquired immunodeficiency syndrome (AIDS) (World Health Organization [WHO], 2020). Significant progress has been made in HIV care with the advent of the Highly Active Antiretroviral Therapy (HAART) era. Particularly among individuals who are aware of their infection and initiate treatment early, health outcomes have improved considerably (Palella et al., 2014). In this context, the first and most critical step in accessing care services is timely HIV testing and early diagnosis (CDC, 2019). Nevertheless, according to 2017 data from developed countries, approximately 21–45% of HIV diagnoses were made at an advanced stage of infection (defined as a CD4+ cell count <350 cells/μL or the presence of an AIDS-defining clinical condition) (Smith et al., 2018). A global meta-analysis has demonstrated that behavioral interventions are effective in reducing sexual risk behaviors and in preventing the transmission of both HIV and other sexually transmitted infections (Kohler et al., 2019). These interventions typically deliver consistent messages that can reach broad segments

of at-risk populations. Through the integration of television, radio, outdoor advertisements, and information and communication technologies, they aim to disseminate knowledge regarding HIV transmission routes and prevention strategies (Brown et al., 2020). In this study, Google Trends data are utilized to objectively evaluate the contribution of a news story related to HIV, which gained attention on national media platforms, to public awareness. Additionally, the study aims to highlight the necessity of encouraging a more effective and proactive use of media channels in the context of raising awareness about infectious diseases (Eysenbach, 2011).

MATERIALS AND METHODS

In this study, Google Trends data -commonly used in digital epidemiological research- were utilized to assess public awareness of HIV/AIDS. Google Trends is an analytical tool that displays the frequency and regional trends of specific keyword searches over time. Using data from January 2004 to January 2025, search interest related to the keyword "HIV" was examined both globally and specifically for Turkey. The data were obtained in the form of monthly, normalized search volume indices (on a scale of 0–100) within the "web search" category. Temporal trends were analyzed, and potentially associated factors were evaluated.

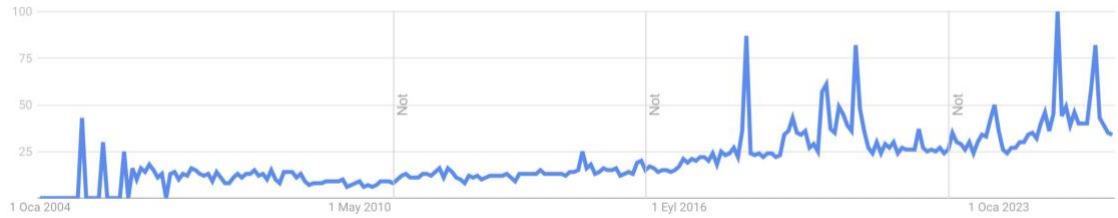
RESULTS

The trends for the keyword "HIV" in Turkey were examined from 2004 to the present, across "all categories" and specifically within the "health" category.

An analysis of Google Trends data reveals two distinct peak periods in HIV-related search interest in Turkey between 2004 and the present: in 2018 and 2024 (Figure 1).

Figure 1

Change in the search interest for "HIV" in Turkey over time from 2004 to the present



A more detailed examination shows that these increases occurred specifically in January 2018 and March 2024, respectively (Figures 2 and 4). During the surge in early 2018, a noticeable increase in search interest was observed particularly in the Southeastern Anatolia region. In contrast, the heightened interest in 2024 was especially concentrated in the province of Karabük (Figures 3 and 5). Across the entire study period, the most frequently asked question was "What is HIV?"

Figure 2

Change in the interest in searching for "HIV" in Turkey over time in 2024

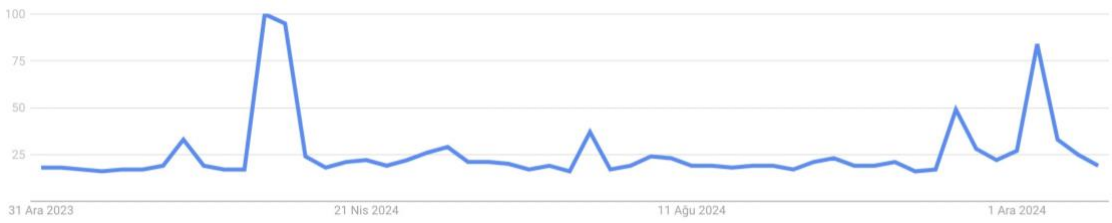


Figure 3

Change in the search interest for "HIV" in Turkey in 2024 by province

Figure 4

Change in the search interest for "HIV" in Turkey over time in 2018

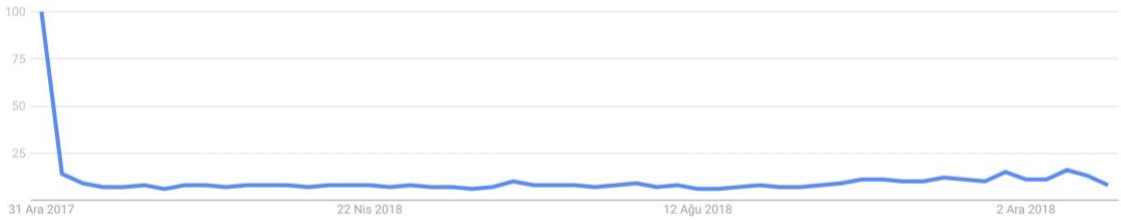
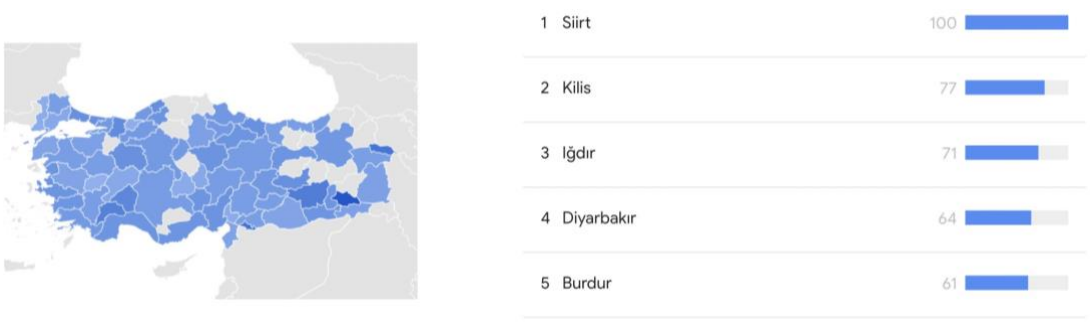


Figure 5

Change in the search interest for "HIV" in Turkey in 2018 by province



DISCUSSION

Investigating online health information-seeking behavior and utilizing monitoring tools such as Google Trends (GT) is known as infodemiology—a well-established, practical, and informative method for analyzing and predicting various disease patterns (Eysenbach, 2011). Numerous infodemiological studies have demonstrated the value of real-time data in health assessment (Preis et al., 2012). The analysis of online search queries has become a significant focus of academic research within the field of big data analytics. This study utilized Google Trends data to assess the impact of media on public awareness of HIV/AIDS at both temporal and regional levels. The findings revealed significant increases in internet search volumes during periods when media reports related to HIV were published. Notably, sharp rises in search interest were observed following events in 2018 and 2024, indicating that media content can directly influence the public's information-seeking behavior. The internet is a powerful tool for informing the public about health issues. The increase in search interest during the relevant periods was found to coincide with media coverage that captured widespread public attention. In January 2018, reports about doctors at Dicle University Hospital allegedly refusing to operate on an HIV-positive patient received widespread national media coverage, sparking public debates. Similarly, in March 2024, news about an increase in HIV cases among students at Karabük University gained significant media attention. The rise in search volume during these periods was not only notable in terms of time but also at the regional level. Changes in search behavior by province mirrored the geographic regions where the news was reported (Figures 3 and 5).

In the literature, several studies have been conducted to assess web searches related to HIV/AIDS. One study in Hong Kong, examining a 10-year period of web queries, found that news coverage had a positive impact on online search behavior concerning HIV/AIDS and men who have sex with men (Ling & Lee, 2016). Additionally, the authors observed that such search patterns tended to peak 2 to 10 weeks after the publication of related news stories. Furthermore, significant correlations have been reported between patterns of chronic diseases, including HIV, and online activity over a 10-year period (Seifter et al., 2010). In another study, Seifter and colleagues demonstrated a seasonal and geographic correlation between increased interest in Google Trends data and the incidence of Lyme disease (Seifter et al., 2010). Similarly, Bragazzi et al. (2017) found a significant correlation between public interest—measured through search queries and interactions across various web-based platforms—and Zika virus outbreaks, using big data analytics. Segev and Baram-Tsabari (2012) discussed the impact of media and education on web search behavior, concluding that media coverage—often focused on current events that raise public concern—can lead to an educational effect by motivating individuals to independently seek relevant information. Consistent with the literature, our study also demonstrated through Google Trends data that media content generating significant public attention can contribute to raising awareness about an infectious disease.

CONCLUSION

This study demonstrates the utility of online search data in assessing public health awareness. Significant increases in internet search interest were observed during periods when media reports related to HIV/AIDS were published, indicating that media content can influence public information-seeking behavior. The findings suggest that the interaction between media and the public may serve as a valuable tool in the context of public health. The field of infodemiology offers an innovative contribution to traditional epidemiological methods by enabling the integration of digital data sources into public health. Infodemiological analyses using tools such as Google Trends hold significant potential for the future, particularly in terms of rapid data collection, measuring public interest, and tracking sudden shifts in awareness. In this context, the broader use of online data analytics should be encouraged both for the development of public health policies and for shaping media strategies aimed at improving health literacy. Furthermore, establishing stronger collaboration between health authorities and media organizations is of critical importance to ensure the delivery of accurate and guiding health information to the public.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial or personal conflict of interest in this study.

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EBFMC25-OP-84 · Evaluation of the Relationship Between Reflux and Oral and Dental Health in Pregnant Women

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ABSTRACT

Introduction: During pregnancy, physiological changes occur in both the oral cavity and the gastrointestinal system. Gastroesophageal reflux disease (GERD) is a common condition during pregnancy and may negatively impact oral and dental health (Bai et al., 2013; Body & Christie, 2016). This study aims to evaluate the effects of GERD on oral health-related quality of life in pregnant women.

Materials and Methods: This single-center, cross-sectional study was conducted with 178 pregnant women in their second and third trimesters who presented to the Family Medicine Clinic of Gaziosmanpaşa Training and Research Hospital. Ethical approval was obtained from the Clinical Research Ethics Committee of the University of Health Sciences, Gaziosmanpaşa Training and Research Hospital (Decision No:325, Date: 08.09.2021). Face-to-face interviews were conducted to collect sociodemographic data. The Gastroesophageal Reflux Disease Questionnaire (GERD-Q) was used to assess reflux risk, the Oral Health Assessment Tool (OHAT) to evaluate oral health status, and the Oral Health Impact Profile-14 (OHIP-14) to measure oral health-related quality of life. Additionally, the Decayed, Missing, and Filled Teeth (DMFT) Index was determined. Data were analyzed using IBM SPSS Statistics 22, with statistical significance set at $p<0.05$.

Results: The mean age of the participants was 27.62±5.39 years, and the average gestational week was 31±7.04 weeks. A significant association was found between the necessity for referral to a dentist and the presence of reflux risk ($X^2=4.251$, $p=0.050$). Based on OHAT scores, 69.03% (n=78) of the pregnant women requiring a dental referral had a low reflux risk (GERD-Q score <8). Pregnant women at risk for reflux had significantly poorer oral health-related quality of life, as indicated by their OHIP-14 scores ($U=1648.0$, $p<0.001$). A statistically significant positive correlation was observed between DMFT scores and OHAT scores ($r=0.428$, $p<0.001$) as well as OHIP-14 scores ($r=0.413$, $p<0.001$). Additionally, GERD-Q reflux risk scores were correlated with OHIP-14 scores ($r=0.222$, $p=0.003$). Pregnant women identified by OHAT as requiring a dental referral had approximately three times higher DMFT scores than those not requiring a referral (OR: 3.112 (1.875-5.165); $p<0.001$).

Conclusion: This study demonstrated that gastroesophageal reflux negatively affects oral health-related quality of life in pregnant women and that more than half of the participants required referral to a dentist. The findings highlight the importance of emphasizing oral hygiene and dental health in pre-pregnancy counseling, as well as the necessity for timely interventions during pregnancy.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Oral health, pregnancy, gastroesophageal reflux

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-85 · Burnout Levels and Associated Factors Among Physicians in Türkiye: A Questionnaire Based Study

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ABSTRACT

Introduction: Physicians face a high risk of burnout due to heavy workloads, long hours, and high responsibility (West, Dyrbye, & Shanafelt, 2018). Burnout consists of three components: emotional exhaustion (EE), depersonalization (DP) and reduced personal accomplishment (PA) (Maslach & Jackson, 1981). This study aims to determine burnout levels among physicians in Türkiye and examine the demographic, occupational and environmental factors associated with burnout (Günay & Taşkaya, 2013).

Materials and Methods: This cross-sectional study was conducted among physicians in Türkiye. The sample was selected randomly and participants completed a survey including demographic data, researcher-prepared questions and the Maslach Burnout Inventory (MBI) (Ergin, 1992). Data were analyzed using SPSS, with burnout-related factors assessed via chi-square tests, t-tests, and logistic regression.

Results: Between February 01, 2024, and June 20, 2024, 1312 physicians completed the survey, representing all regions of Türkiye. A significant proportion of physicians reported moderate to high burnout. Physicians experienced moderate EE and DP but had high PA scores. Nearly half had high EE levels, while DP and PA remained moderate. Factors associated with EE and DP included age, marital status, parenthood, years in practice, sector, legal cases, administrative duties, exposure to violence, and patient load. Additionally, job dissatisfaction, shift work, workplace conditions, support from healthcare staff, and perceived income affected both EE and DP as well as PA.

Conclusion: Burnout is a widespread problem among physicians in Türkiye, impacting professional performance, patient care quality, and healthcare system sustainability (Shanafelt et al., 2012). Addressing burnout requires improving working conditions, enhancing support systems and balancing workloads (West et al., 2018). Physicians with lower burnout and higher job satisfaction contribute to a more effective healthcare system. Preventing burnout strengthens physician-patient relationships and improves healthcare quality. A sustainable approach should focus on both individual and institutional strategies to support physicians and enhance system efficiency.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Burnout, burnout professional, physicians

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-86 · One-Year Evaluation of Adult Immunization Unit: Patient Profiles and Vaccination Data

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ABSTRACT

Introduction: The low immunization rates among adults in Turkey contribute to the increased prevalence of vaccine-preventable diseases (Karaoğlu, Taş, & Toprak, 2022). The growing elderly population and the rising prevalence of chronic diseases make it imperative to expand adult immunization services. In this study, the one-year data of the adult immunization unit established in a tertiary hospital were analyzed to examine patient demographics, the distribution of chronic diseases, and the characteristics of the administered vaccines.

Materials and Methods: In this cross-sectional descriptive study, electronic records of patients who applied to the adult immunization unit within the family medicine clinic in 2024 were retrospectively reviewed. Age, gender, chronic diseases, administered vaccines (type and dose), number of visits, and consultation data were analyzed.

Results: A total of 274,653 short message invitations were sent to individuals who were either 65 years or older or aged 18-64 with a disease that required immunization. A total of 2,445 unique patients responded to the invitation, resulting in 2,741 visits. Immunization counseling was provided in all visits. Of the patients, 72.6% (n=1,776) were male, and 79.8% (n=1,952) were aged 65 and above. The most common chronic diseases were diabetes mellitus (n=379), chronic heart disease (n=169), and chronic kidney failure (n=117). A total of 2,232 doses of vaccines were administered. Among these, the most frequently administered vaccines were conjugate pneumococcal with 975 doses (43.7%), tetanus with 644 doses (28.8%), seasonal influenza with 448 doses (20.1%), and hepatitis B with 156 doses (7.0%).

Conclusion: The majority of patients applying to the adult immunization unit were male and over 65 years old. Diabetes mellitus was the most prominent chronic disease. Pneumococcal and tetanus vaccines were the most frequently administered vaccines. These findings emphasize the importance of targeting risk groups in adult immunization programs.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Adult immunization, chronic disease, pneumococcal vaccine, tetanus vaccine

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-87 · Evaluation of Hepatitis B Vaccination Status and Post-Vaccination Anti-HBs Response in HIV Patients

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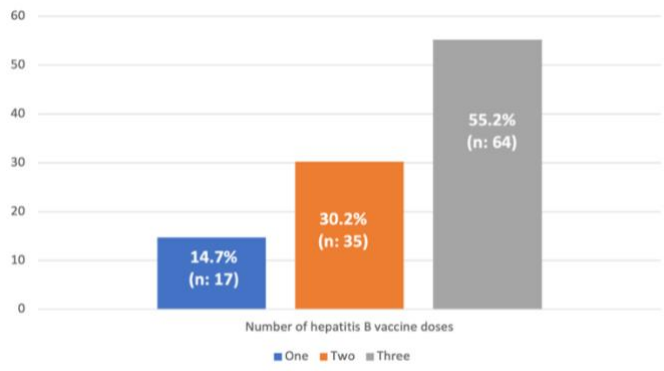
ABSTRACT

Introduction: HBV is a major global cause of chronic liver disease and hepatocellular carcinoma. In people living with HIV, the risk of progression to severe liver outcomes is higher, making HBV vaccination essential (Zerdali, 2023). This study aims to evaluate the HBV immunization and vaccination status of individuals living with HIV.

Materials and Methods: This retrospective and observational study included individuals who visited the Adult Vaccination Polyclinic at Şişli Hamidiye Etfal Training and Research Hospital's Family Medicine Clinic within the last year and were eligible to complete all vaccine doses. The HBV serology results of HIV-positive individuals, vaccination rates among those with negative serology, adherence to the vaccination schedule, and vaccine responses were retrospectively reviewed. SPSS 25.0 was used for data analysis, and statistical significance was accepted at p<0.05.

Results: A total of 184 individuals were included in the study. The mean age of the participants was 39.8. The majority were male (n=164,89.1%). The mean time since diagnosis was 3.97 years. At the time of diagnosis, 67 individuals (36.4%) had positive Anti-HBs results, while 117 individuals (63.6%) had negative results. Among those with negative Anti-HBs results who required vaccination, one person had never received the vaccine. Distribution of the number of Hepatitis B vaccine doses administered to participants were given in Figure 1. Among those who received three vaccine doses, 32.8% (n=21) had no Anti-HBs test performed post-vaccination.

Figure 1



Among those who received three vaccine doses, 32.8% (n=21) had no Anti-HBs test performed post-vaccination. Among those who had the Anti-HBs test, 34 individuals (53.1%) had a positive result, while 9 individuals (14.1%) had a negative result. Among the individuals with negative results, 6 started the vaccination series again, and only one of them completed all three doses. After the second vaccination series, this individual's Anti-HBs level was positive. There was no significant difference between the completion of all three doses of the Hepatitis B vaccine and factors such as age, gender, or the year of diagnosis (p>0.05). Additionally, there was no significant difference between the Anti-HBs positivity in individuals who received all three doses of the vaccine and factors such as age, diagnosis year and gender (p>0.05).
Conclusion: This study shows that although the majority of HIV-infected individuals with negative HBV serology started vaccination, their adherence to the vaccination schedule remained low. Furthermore, it was found that approximately half of those who completed all three doses of the vaccine had an adequate Anti-HBs response. For individuals who did not develop an adequate response, additional doses contributed to achieving a positive response.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Vaccine response, vaccination, hepatit B vaccine

CONFLICT OF INTEREST DECLARATION
The authors declared no conflicts of interest.

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EBFMC25-OP-88 · Herpes Zoster Misdiagnosed as Irritant Contact Dermatitis and Treated with Steroids: A Case Report

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ABSTRACT

Introduction: Herpes zoster ophthalmicus (HZO) is defined as the involvement of the ophthalmic branch (V1) of the fifth cranial nerve by herpes zoster.
Case Presentation: Although an HZO diagnosis does not always indicate ocular involvement, approximately 50% of cases develop ocular complications. It is typically characterized by a unilateral dermatomal distribution of erythematous and vesicular rashes, often accompanied by severe neuropathic pain.
Discussion: Ocular complications may include conjunctivitis, keratitis, episcleritis, scleritis, uveitis, secondary glaucoma, cataract, and retinal necrosis. HZO is often mistaken for conditions with similar skin findings, such as irritant contact dermatitis (ICD).
Conclusion: Misdiagnosis can lead to delayed treatment in HZO or unnecessary and potentially harmful therapy in ICD.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Herpes zoster, steroid, contact dermatitis

INTRODUCTION

Varicella-zoster virus (VZV) is a member of the Herpesviridae family and possesses an envelope and double-stranded deoxyribonucleic acid (DNA) (Davis & Sheppard, 2019). VZV is highly contagious and can be transmitted via the respiratory route or through direct contact with vesicular lesions, leading to the primary infection known as chickenpox (Newman & Jhaveri, 2019; Patik, Goldust, & Wollina, 2022). The primary disease presents with cutaneous lesions in various stages of development. Vesicular lesions remain contagious until they crust over; the host is also considered contagious from 24–48 hours before the onset of the rash (Davis & Sheppard, 2019; Newman & Jhaveri, 2019). After the initial infection, the virus remains latent in sensory ganglia for an indeterminate period (Davis & Sheppard, 2019). Reactivation may occur due to immunosuppression caused by factors such as advanced age, physical trauma, psychological stress, malignancy, radiation therapy, transplantation, steroid treatment, and HIV infection, resulting in symptoms

characterized by unilateral radicular pain and vesicular rash in a dermatomal distribution (Joo, Lee, & Kim, 2019; Vineet et al., 2013).

Herpes zoster ophthalmicus (HZO) is defined as the herpes zoster involvement of the ophthalmic branch (V1) of the fifth cranial nerve. While an HZO diagnosis does not always include ocular findings, approximately 50% of cases present with ocular complications (Kedar, Jayagopal, & Berger, 2019). Ocular manifestations can be acute, chronic, or recurrent and may include conjunctivitis, keratitis, episcleritis, scleritis, uveitis, secondary glaucoma, cataract, and retinal necrosis (Liesegang, 2008). Contact dermatitis caused by plants or local topical medications may mimic HZO (Tuft, 2020). Therefore, differential diagnosis and treatment must be approached with caution. With early diagnosis and antiviral therapy, postherpetic neuralgia and ocular sequelae can be prevented; however, misdiagnosis or treatment delay may result in poor visual prognosis (Liesegang, 2008; Werner et al., 2017).

In this study, we present a case of HZO that worsened following steroid treatment administered after a misdiagnosis of irritant contact dermatitis.

CASE PRESENTATION

An 88-year-old male patient presented to the dermatology clinic with complaints of redness and painful, watery blisters around the left eye, one week after undergoing cataract surgery in the same eye. The pain was described as burning and sharp, radiating to the scalp. The patient reported marked cutaneous sensitivity in the affected area.

Considering the patient's recent surgical history and the use of a sterile ophthalmic drape over the left eye during phacoemulsification surgery (Figure 1), the dermatology clinic evaluated the lesions as irritant contact dermatitis.

Figure 1

The patient was administered 1 mg/kg intramuscular (IM) steroid and was prescribed a topical corticosteroid ointment to be applied twice daily to the lesions. Due to worsening of symptoms and progression of the skin lesions following treatment, the patient was referred to the ophthalmology department.

Grouped vesicular lesions with serous fluid and crusting were observed around the left eye, extending to the forehead. The severe pain in the area of the lesions radiated to the forehead and ear (Figure 2).

Figure 2

Best corrected visual acuity (BCVA) was 0.8 in both eyes. Intraocular pressure (IOP) was 18 mmHg in the right eye and 16 mmHg in the left eye. Anterior segment examination revealed normal conjunctiva and clear cornea in both eyes; both eyes were pseudophakic, and the anterior chambers appeared normal. Fundus examination showed normal optic discs and retinal findings bilaterally.

A diagnosis of herpes zoster was established, the existing topical corticosteroid therapy was discontinued, and the steroid ointment was gently removed from the skin without causing trauma. Following confirmation of normal renal function tests, the patient was started on oral valacyclovir 1000 mg three times daily, along with an oral non-steroidal anti-inflammatory drug (NSAID), a vitamin complex, and proton pump inhibitor (PPI) therapy. Intravenous (IV) treatment was planned in case of non-response to oral therapy.

At the follow-up visit in the second week of treatment, the patient's symptoms had regressed, and the vesicles and crusting extending from the left periocular area to the forehead had completely resolved (Figure 3).

Figure 3

Oral valacyclovir therapy was continued at 1000 mg three times daily for a total of three weeks. The patient was closely monitored for a potential iridocyclitis episode following lesion resolution. As iridocyclitis did not develop, the patient was advised to return to the ophthalmology clinic if any new symptoms occurred.

DISCUSSION

Herpes zoster ophthalmicus (HZO) occurs in approximately 10–25% of herpes zoster cases (Shaikh & Ta, 2002), and ocular complications are estimated to develop in about 50% of these cases (Kedar, Jayagopal, & Berger, 2019). HZO typically presents as a unilateral, dermatomal distribution of erythematous and vesicular lesions, often accompanied by severe neuropathic pain (Liesegang, 2008; Vrcek, Choudhury, & Durairaj,

2017). Ocular complications can range from keratitis and anterior uveitis to scleritis and, in rare cases, panophthalmitis (Alkan Çeviker et al., 2019). In our case, the presentation was limited to cutaneous lesions, and no ocular involvement was observed.

Dermatological and infectious diseases affecting the periorbital region constitute an important aspect of ophthalmic practice. Among these, HZO and irritant contact dermatitis (ICD) may present with similar initial clinical features, making differential diagnosis challenging (Ergönül, 2017; Liesegang, 2008).

Particularly during the prodromal phase or when lesions present atypically in the early stages, HZO may be misdiagnosed as ICD, which shares similar cutaneous findings (Werner et al., 2017). ICD is a non-immunologic inflammatory response to environmental chemical, physical, or biological irritants. Due to its thin skin and exposure to external factors, the periorbital region is especially susceptible to ICD. Clinically, ICD presents with erythema, edema, burning sensation, and occasionally vesicular eruptions, which may resemble HZO (Papier, Tuttle, & Mahar, 2007).

In this case, the patient initially presented to the dermatology clinic with erythematous and edematous lesions in the periorbital area. Based on a preliminary diagnosis of irritant contact dermatitis, topical steroid therapy was initiated. However, due to a lack of improvement in symptoms, the patient was referred to the ophthalmology clinic, where a diagnosis of HZO was established. The delayed diagnosis of HZO led to a postponement in antiviral therapy, prolonging the disease course and intensifying the symptoms. Furthermore, the uncontrolled use of topical steroids in herpes virus infections may suppress the immune response, promote viral replication, and increase the risk of ocular complications (Liesegang, 2008; Werner et al., 2017).

Certain key features are critical in making the differential diagnosis. HZO typically presents unilaterally in a dermatomal pattern, often with vesicles, intense burning pain, and involvement of the nasociliary branch (Hutchinson's sign) (Alkan Çeviker et al., 2019; Vrcek, Choudhury, & Durairaj, 2017). This sign, which includes lesions on the tip of the nose, is considered a predictor of ocular involvement. On the other hand, ICD is usually bilateral or associated with a history of direct contact, and symptoms such as itching and stinging are more prominent (Papier, Tuttle, & Mahar, 2007). For diagnosis, Tzanck smear, polymerase chain reaction (PCR), or serologic testing may be used in suspected HZO, while the diagnosis of ICD is typically based on clinical evaluation and a history of exposure to irritants (Papier, Tuttle, & Mahar, 2007; Werner et al., 2017). Failure to make an accurate differential diagnosis may lead to delayed treatment in HZO or unnecessary and potentially harmful therapies in ICD.

This case highlights the importance of carefully assessing ocular involvement in patients presenting with dermatologic symptoms and considering viral etiologies in cases with unilateral, dermatomal rashes. In particular, a multidisciplinary approach enhances the accuracy and effectiveness of diagnosis and treatment in cases presenting with ophthalmic signs.

CONCLUSION

Herpes zoster ophthalmicus and irritant contact dermatitis are two conditions that may pose diagnostic challenges due to overlapping clinical features. However, an accurate diagnosis can be achieved through a thorough medical history, comprehensive dermatological and ophthalmological examination, and the use of appropriate laboratory tests. It is essential to recognize that delayed diagnosis and treatment of HZO may result in serious ocular complications, while ICD can be effectively managed with proper barrier precautions and topical therapy.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-89 · Approach to Patients with Dementia in Primary Care

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ABSTRACT
Introduction: Dementia is a disease that is not a memory disorder alone but is often accompanied by other mental disorders such as language, motor skills and executive dysfunction. The person loses acquired abilities and, as a result, deterioration in daily life activities develops.
Materials and Methods: A literature search was conducted in PubMed and Web of Science databases using the keywords "Family Medicine and Dementia". Systematic reviews were included if they involved primary care or family medicine settings managing patients with dementia, and addressed topics such as the detection, diagnosis, treatment, and/or management of dementia.
Results: Dementia patients often first consult their family physicians, with 39% of patients consulting specialist physicians. Family physicians are the first physicians to observe patients with possible dementia. Five out of six studies found that the rate at which family physicians suspected dementia increased after attending a training seminar. Another study demonstrated that the duration of the training seminar had an impact on the level of knowledge regarding dementia management. Clinically, there are three stages of dementia: early, moderate and severe. In the early stage, it is important to be able to distinguish between normal aging and dementia. In the physiology of aging, a slight loss of memory can be observed, but this can be compensated when executive functions are preserved. Mild cognitive impairment is the step between normal aging and dementia. If we list the warning symptoms of dementia; memory loss, language problems, decreased reasoning ability, decreased abstract thinking, impaired perception of space and time, behavioral and personality changes, difficulty in previously performed tasks, and not being able to find things where they were put. The patient can be tested with simple questions. Personal information, current information such as whether there is important news, time and place can be questioned. Three different words are said and repeated, then another topic is mentioned, and the patient is asked to remember the three words said again.
Conclusion: For successful patient management, it is important to establish an early diagnosis while cognitive decline is still mild, to foster a good relationship between the family physician and the patient-caregiver dyad, and to enable advanced care planning. Although the patient should be referred to a neurologist for further examination and treatment, the competence of the primary care physician is very valuable in early diagnosis.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Dementia, primary care, family physicians

INTRODUCTION
Dementia is not solely characterized by memory impairment. It is frequently accompanied by other cognitive deficits, including language dysfunction, motor skill impairments, and executive function disturbances. The condition leads to a decline in previously acquired abilities, resulting in impairment in daily living activities (Visser, Vos, van Rossum, & Scheltens, 2012).
A diagnosis of dementia requires the patient to be conscious and alert, and other neuropsychiatric disorders that may present with similar clinical features must be excluded.
According to national studies conducted in Turkey, the prevalence of dementia among individuals aged 65 and older ranges between 8% and 22% (Gurvit et al., 2008; Keskinoglu et al., 2006).

Patients with dementia often initially present to primary care physicians, with only approximately 39% seeking consultation with specialist physicians (National Institutes of Health and Clinical Excellence, 2012). Family practitioners are typically the first to observe potential signs of dementia in their patients (van Hout, Vernooij-Dassen, & Stalman, 2007).

MATERIALS AND METHODS

A literature search was conducted in PubMed and Web of Science databases using the keywords "Family Medicine and Dementia". Systematic reviews were included if they involved primary care or family medicine settings managing patients with dementia, and addressed topics such as the detection, diagnosis, treatment, and/or management of dementia. All full-text articles were reviewed using a standardized data extraction form. In the reviewed studies, the participation of family physicians in dementia-related training seminars was evaluated separately. The recognition rates of dementia patients by family physicians who attended these training programs were assessed at the time of their presentation to primary healthcare centers, in comparison to the overall group. Additionally, a comparison was made based on the duration of the training received. Physicians who participated in training were compared with those who did not, and further comparisons were conducted among the trained physicians according to the length of the training they received.

RESULTS

Half of the mild dementia cases were diagnosed by family physicians (Dungen et al., 2011). In a separate review, undiagnosed dementia accounted for 50–66% of all dementia cases in three primary care settings examined (Boustani et al., 2003; Eefsting et al., 1996; Olafsdóttir et al., 2000; Valcour et al., 2000). Five out of six studies found that the rate at which family physicians suspected dementia increased after attending a training seminar (Mukadam et al., 2015; Perry et al., 2011). Another study demonstrated that the duration of the training seminar had an impact on the level of knowledge regarding dementia management (Perry et al., 2011).

DISCUSSION

Alzheimer’s disease (AD) is the most common cause of dementia, accounting for approximately 60–70% of cases. The prevalence of AD increases logarithmically with age, affecting 3–11% of individuals aged 65 and older, and 25–47% of those aged 85 and above (Boustani et al., 2003, 2005).

Risk factors associated with Alzheimer's disease include advanced age, a positive family history, female gender, lower educational attainment, history of head trauma, carriage of the ApoE4 allele, elevated serum cholesterol levels, and tobacco use.

In Lewy body dementia (LCD), there is a fluctuating course in terms of cognition and behavior. In addition, mild parkinsonism, where rigidity is in the foreground while tremor is in the background, REM sleep behavior disorder, where there is excessive movement during sleep, and hallucinations accompany (Boeve, 2006; Förstl et al., 1993). There is a slowdown in both cognitive areas and movements. In LCD, the loss of skills in daily activities is more pronounced than in AD.

In the early stages of frontotemporal lobar degeneration (FTLD), behavioral abnormalities such as disinhibition, apathy, or hyperactivity are frequently observed. Language disturbances may also manifest, presenting either as non-fluent (agrammatic) or fluent aphasia (Grossman, 2002; Mesulam, 1987).

In vascular cognitive impairment, the clinic varies according to the location of the ischemic lesion. Cognitive impairment is predominantly executive function. It is also frequently accompanied by gait disturbance and urinary incontinence (Mesulam, 1987). Clinically, dementia can be classified into three stages: early, moderate, and severe. Differentiating between normal aging and early-stage dementia is crucial. While mild memory decline may be observed in physiological aging, it is typically compensated for by preserved executive functions, allowing individuals to mentally plan and execute their daily tasks.

Mild cognitive impairment (MCI) represents an intermediate stage between normal aging and dementia. Individuals in this category are capable of performing daily activities independently yet report subjective memory complaints and demonstrate deficits on detailed cognitive assessments. The annual conversion rate from MCI to dementia is approximately 15%.

In the early stage of Alzheimer’s disease, typically observed within the first 3–4 years, memory impairment is the primary clinical feature. Patients begin to struggle with daily tasks and often exhibit impaired insight, including forgetting that they have forgotten. Spatial disorientation and disturbances in time perception may

occur. Difficulties arise in performing calculations, managing finances, supervising household or occupational responsibilities, and operating complex appliances. While patients may still handle routine activities, impaired judgment complicates problem-solving. Comorbid depression is also common during this stage.

In the moderate stage, indoor activities become increasingly difficult and outdoor activities become nearly impossible. Language deficits impair communication, and loss of functional abilities—such as dressing—leads to growing dependence. Patients may display agitation, psychomotor hyperactivity, and delusional thoughts.

In the advanced stage, patients become entirely dependent on caregivers. Self-care abilities are lost, and gait and postural disturbances become apparent. Urinary incontinence is frequently observed (Waldemar et al., 2007).

In Alzheimer's disease (AD), symptomatic treatment options include cholinesterase inhibitors (e.g., donepezil, rivastigmine) and N-methyl-D-aspartate (NMDA) receptor antagonists such as memantine.

Regular physical exercise has been shown to reduce the risk of Alzheimer's disease, and physical activity is associated with improved cognitive performance scores (Larson et al., 2006; Weuve et al., 2004). Moreover, maintaining social engagement and participating in cognitively stimulating activities have been shown to mitigate cognitive decline in older adults (Schaie, 1996).

Risk factors for Alzheimer's disease include a positive family history, advanced age, female gender, and low educational attainment. Reversible conditions that may mimic dementia—such as depression, hypothyroidism, and vitamin B12 deficiency—should also be considered. Additionally, attention should be paid to potentially modifiable contributors to cognitive decline, such as hearing and visual impairments.

Prior to the clinical onset of dementia, patients may exhibit physical signs such as rapid weight loss, gait disturbances, and generalized motor slowing (Johnson et al., 2006; Borson et al., 2005; Buchman et al., 2008). Warning signs indicative of dementia include memory loss, language difficulties, impaired judgment, diminished abstract thinking, disorientation in time and space, changes in behavior and personality, difficulty performing previously manageable tasks, and frequently not being able to find things where you put them.

Patients who can no longer manage their medication regimen, show noticeable decline in previously competent cooking skills, have difficulty managing finances and payments, struggle with operating household devices, confuse dates, or withdraw from social activities they once attended regularly should be evaluated for dementia.

Patients can be assessed using simple screening questions targeting orientation and recent memory. These include inquiries regarding personal information, recent news events, and awareness of time and place. A three-word recall test may be utilized—examples include "table-flag-dress" or "blue-hawk-tulip." After initial repetition of the words, the patient is distracted with unrelated conversation, then asked to recall the words. Inability to recall any of the words, or recalling only one, should prompt referral for further cognitive evaluation.

Cognitive functions can be assessed using brief screening instruments in primary care settings. The Mini-Mental State Examination (MMSE) is simple and quick to administer, while the Montreal Cognitive Assessment (MoCA) provides a more complex but sensitive evaluation of cognitive deficits (Borson et al., 2005; Cummings et al., 2002; deSouza et al., 2009).

Patients with dementia may exhibit a range of behavioral symptoms, including anxiety, agitation, depression, and apathy (Craig et al., 2005; Lyketsos & Lee, 2004; Steffens et al., 2005).

For behavioral and neuropsychiatric symptoms, selective serotonin reuptake inhibitors (e.g., sertraline, citalopram, escitalopram), low-dose atypical antipsychotics (e.g., quetiapine), and sedating antidepressants such as mirtazapine or trazodone may be employed, particularly in the management of sleep disturbances.

CONCLUSION

For successful patient management, it is important to establish an early diagnosis while cognitive decline is still mild, to foster a good relationship between the family physician and the patient-caregiver dyad, and to enable advanced care planning (Tilburgs et al., 2018).

Although referral to a neurologist is necessary for advanced diagnostic evaluation, differential diagnosis, and treatment of suspected dementia, the competence of the primary care physician plays a crucial role in early detection. It is essential to recognize that dementia is not limited to memory impairment alone; behavioral and functional assessments should also be integrated into the clinical evaluation process.

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CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OP-90 · Multidisciplinary Care Experience in Tracheotomized Palliative Patients with ENT-Origin Malignancy and Neurological Comorbidities

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ABSTRACT

Introduction: This study aims to evaluate the care processes, encountered complications, and the impact of multidisciplinary approaches in 14 palliative care patients who underwent tracheotomy due to malignancy or advanced-stage diseases.

Materials and Methods: Medical records of 14 patients who underwent tracheotomy and were followed in the palliative care unit of a tertiary university hospital between 2022 and 2024 were retrospectively reviewed. Patients' demographic characteristics, primary diagnoses, indications for tracheotomy, complications, nutritional methods, communication abilities, end-of-life care decisions, and the medical and nursing approaches applied during the care process were assessed.

Results: The mean age of the patients was 63.4 (±8.1) years, and 71% were male. The most common diagnoses were laryngeal (50%) and hypopharyngeal (21%) cancers. The leading indications for tracheotomy were airway obstruction (79%) and aspiration risk (21%). The most frequently observed complications included stomal infection (36%), secretion retention (29%), and granulation tissue formation (21%). Nutrition was primarily provided through percutaneous endoscopic gastrostomy (PEG) (n=10) or nasogastric tube(n=4). Communication disorders developed in 86% of the patients, with written communication and close family support becoming prominent. A multidisciplinary team approach (including palliative care, ENT, neurosurgery, nutrition, and nursing services) was employed in all patients to ensure symptom control. The mean survival duration following tracheotomy was 38 days.

Conclusion: Care for palliative patients with tracheotomy is a multidimensional process encompassing airway and secretion management, nutrition, infection control, and communication support. In this patient group, a multidisciplinary team approach and individualized care planning play a crucial role in improving quality of life (Cocks, Ah-See, Capel, & Taylor, 2016). This 14-patient case series highlights the clinical challenges in managing tracheotomized palliative patients and provides valuable insights into the care process.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Tracheotomy, palliative care, ENT malignancy

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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Cocks, H., Ah-See, K., Capel, M., & Taylor, P. (2016). Palliative and supportive care in head and neck cancer: United Kingdom National Multidisciplinary Guidelines. *The Journal of Laryngology & Otology, 130*(S2), S198–S207. https://doi.org/10.1017/S0022215116000502

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EBFMC25-OP-91 · Palliative Support Approaches in Patients with Severe Head and Maxillofacial Trauma

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ABSTRACT

Introduction: This study aims to evaluate the role of palliative support therapy in patients with severe head and maxillofacial trauma (HMT) and to examine the relationship between clinical course, end-of-life care decisions, and prognosis.

Materials and Methods: Between January 2022 and December 2024, 16 patients diagnosed with severe head and maxillofacial trauma and having a Glasgow Coma Score ≤8 were retrospectively
analyzed in a tertiary care center. Palliative interventions such as advanced life support, pain management, ventilator therapy, and symptom control were assessed in all patients. Demographic data, trauma mechanism, CT findings, timing of palliative intervention, and intensive care unit duration were recorded.

Results: The mean age of the patients was 54.6±18.3 years, and 68.7% were male. The most common trauma mechanism was falling from height (43.7%). The average Glasgow Coma Score was5. In patients where palliative support decisions were made within the first 72 hours of intensive care, analgesia, sedation, and limitation of invasive procedures were prioritized. End-of-life care was planned for 62.5% (10 out of 16) patients. The mean duration of intensive care was 8.7±3.4 days, with a survival rate of 18.7%.

Conclusion: Palliative support therapy plays a critical role in ensuring non-invasive symptom control and patient comfort in severe HMT patients (Fernando & Hughes, 2019). Early multidisciplinary evaluation and end-of-life care planning in this patient group are crucial in preventing unnecessary interventions.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Head trauma, maxillofacial trauma, palliative care, end-of-life, intensive care, symptom management

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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Fernando, G., & Hughes, S. (2019). Team approaches in palliative care: A review of the literature. *International Journal of Palliative Nursing, 25*(9), 444–450. https://doi.org/10.12968/ijpn.2019.25.9.444

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ONLINE ORAL PRESENTATIONS

EBFMC25-OOP-01 · Approach to Growth and Short Stature in Family Medicine Practice

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ABSTRACT

Introduction: In family medicine practice, the correct definition of normal growth, frequency of follow-up and short stature enables the correct cases to be referred to pediatric endocrinology clinics (Nichols, 2025). This study aims to evaluate the approaches of family physicians to normal growth and short stature.

Materials and Methods: This study was conducted through a questionnaire sent electronically to family physicians, SAHU residents and family medicine specialists. The questionnaire, which was answered by 165 people in total, consisted of 25 questions, 7 of which were about demographic data and the rest were about evaluating the approach to normal growth and short stature. Participants were divided into three groups according to their years of professional experience: Group 1 with <5 years (34), Group 2 between 5-10 years (58), and Group 3 with >10 years (73), and were evaluated in terms of their approaches to growth and short stature.

Results: The mean age of the participants was 37±8.1 years, 62% (102) were male, 26% (43) were SAHU residents, 54% (89) were family physicians, and 20% (33) were family medicine specialists. All participants agreed that normal growth monitoring has an important place in family medicine practice. In growth velocity monitoring, only 46% (75) of the participants stated that the frequency of evaluation should be every six months. For the definition of short stature, 57% (94) of the participants thought that the child should be <2.3p for age and gender. Only 38% (63) thought that children with a height >2.3p, who did not lose their height percentile during follow-up, who did not have findings suggesting systemic disease or who did not show characteristics such as growth below their genetic potential, did not require additional evaluation. When the participants were evaluated according to their professional years, 98% of Group 3, 100% of Group 2 and 85% of Group 1 agreed that children with a height <2.3p had short stature and should be referred to a pediatric endocrinologist, and there was a statistically significant difference between the groups (p:0.001).

Conclusion: Although the participants' approaches to normal growth monitoring are appropriate, it is seen that the level of knowledge about growth monitoring intervals, the definition of short stature, and the fact that height is normal when there are no other pathological findings when it is >2.3p should be increased (Padilla & Rogol, 2025). It is seen that the physicians in Group 2 are more knowledgeable in some areas, although there is no major difference.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Short stature, growth monitoring, family medicine

CONFLICT OF INTEREST DECLARATION

The authors have no conflicts of interest to report and no financial interests to disclose.

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EBFMC25-OOP-02 · Rational Drug Use and Related Factors in Patients Applying to Chest Diseases Hospital

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ABSTRACT

Introduction: Rational drug use (RDU) is an approach that enables individuals to use the most appropriate medication for their clinical needs, at the appropriate dose, for a sufficient duration and at the lowest cost. In this study, it was aimed to evaluate the level of RDU in patients admitted to a chest diseases hospital and to determine the factors associated with RDU (Smith et al., 2020; World Health Organization, 2021).

Methods: The population of the study, which was conducted in Giresun Dr. Ali Menekşe Chest Diseases Hospital between February.2023-May.2023, consisted of patients who applied to this institution for any reason during the specified period. Local ethics committee approval and institutional permission were obtained for the study. In the power analysis, reliability was 95%, power was 90% and effect level was 0.25 and the minimum sample size was calculated as 207. As a result of the study, 317 participants were reached. The study data were collected face-to-face with a form consisting of questions on sociodemographic characteristics and general health status and a rational drug use scale consisting of 21 questions prepared by the researchers by reviewing the relevant literature. Analyses were performed with IBM SPSS Statistics version 24 package program. Significance level was accepted as <0.05.

Results: Women constitute 59.6% of the participants. The mean age of these participants was 50.0± 13.0 years, 78.9% had chronic diseases, and 38.8% were taking 5 or more medications. In the study, it was found that the RUDQ scores of individuals aged 45 years and younger were significantly higher than those of individuals aged 46-55 years and individuals aged 65 years and older (p=0.007). Factors such as younger age, higher education level and living in a city center were found to be associated with higher awareness of rational drug use. However, no significant relationship was found between the presence of chronic disease and medication use status and RUDQ scores. Analyses according to the type of chronic disease showed that the RUDQ scores were significantly lower in individuals with chest disease (p=0.007).

Conclusion: In general, factors such as younger age, higher education level and living in a city center were associated with higher awareness of rational drug use. However, no significant correlation was found between the presence of chronic disease and medication use status and RDU scores.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Rational drug use, polypharmacy, health literacy

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial or personal conflict of interest in this study.

REFERENCES
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EBFMC25-OOP-03 · Evaluation of University Students' Perspectives on Adult Immunization

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Online Oral Presentation #3 *was presented at the 3rd International Eastern Black Sea Family Medicine Congress, held in Ordu, Türkiye, on May 22–24, 2025, and is part of the proceedings titled: Proceedings of the 3rd International Eastern Black Sea Family Medicine Congress.*

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ABSTRACT

Introduction: Adult immunization is one of the most important public health practices to ensure the sustainability of community health. The 18-25 age range is a period when immunity acquired during childhood begins to decline. The decrease in immunity among university students can also affect community immunity (Shon et al., 2021; Srivastava et al., 2024). Therefore, this study aimed to evaluate university students' knowledge and attitudes regarding adult immunization.

Materials and Methods: This descriptive cross-sectional study was conducted with students at Yozgat Bozok University and currently ongoing. A survey prepared by the researchers based on literature data was administered to students who voluntarily agreed to participate in the study. The survey measured students' knowledge and attitudes towards adult immunization. Numerical data were analyzed using descriptive statistical methods such as standard deviation, mean, and categorical variables expressed as numbers and percentages. The chi-square method was used to evaluate categorical variables, while the student's t-test and one-way ANOVA were applied for numerical variables.

Results: A total of 217 university students participated in the study. Of these, 37.3% (n=81) were between the ages of 18-20, 52.5% (n=114) were between 21-23 years old, and 10.1% (n=22) were 24 years or older. Regarding their faculties, 8.8% (n=19) were from the Faculty of Economics and Administrative Sciences, 15.7% (n=34) from the Faculty of Communication, 10.1% (n=22) from the Faculty of Theology, 33.2% (n=72) from the Faculty of Engineering and Architecture, 13.8% (n=30) from the Faculty of Agriculture, and 18.4% (n=40) from the Faculty of Education. Of the students 88.9% (n=193) reported that they had not received any education about adult immunization during their university education. About 49.8% (n=108) of the students knew that adult vaccines could be administered at family health centers, while 42.4% (n=92) were undecided about getting vaccines that they would have to pay for themselves. Students who believed that vaccines should only be given to the elderly in emergency situations had lower average attitude scores, which was statistically significant. Similarly, students who thought that no vaccines should be administered during pregnancy had lower average attitude scores, which was also statistically significant ($p<0.05$).

Conclusion: University students lack sufficient knowledge about immunization. Providing information about adult immunization during university education and in healthcare settings will contribute to raising awareness among university students about acquiring individual immunity. It will also help increase the number of immunized individuals in society, thereby supporting the sustainability of community immunity.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Adult immunisation, university student, preventive medicine

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial or personal conflict of interest in this study.

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Shon, E.-J., Choe, S., Lee, L., & Ki, Y. (2021). Influenza vaccination among U.S. college or university students: A systematic review. *American Journal of Health Promotion, 35*(5), 708–719. https://doi.org/10.1177/0890117120985833

Srivastava, T., Chavda, B., Brien, K., Kuter, B., Feemster, K., & Shen, A. (2024). A systematic review of student vaccine attitudes and vaccine policy on college and university campuses, 2000–2022. *Journal of American College Health*, 1–13. https://doi.org/10.1080/07448481.2024.2409687

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EBFMC25-OOP-04 · What Affects the Severity of Cyberchondria?

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ABSTRACT

Introduction: The internet has become a crucial source of health information, surpassing traditional sources (Wang et al., 2012). However, online information carries the risk of being incomplete, inaccurate, or outdated. Relying on such information without medical guidance may lead individuals to make incorrect health decisions and may harm the doctor-patient relationship (Norr, Capron, & Schmidt, 2014). The phenomenon, where repetitive online searches for medical information result in increased health anxiety, is termed "cyberchondria" (Starcevic & Berle, 2013; Starcevic et al., 2020). This study aims to identify the factors influencing the level of cyberchondria, contributing to mitigating its negative effects on the healthcare system and managing health anxiety in individuals.

Materials and Methods: This cross-sectional study was conducted with voluntary participants consecutively visited our department's facilities in a six-month-period and was approved by the Non-Interventional Ethical Committee of Aydın Adnan Menderes University Faculty of Medicine on the 27th of February 2024 (Protocol number 2024/38, Decision number 03). The survey consists of two sections. The first section includes a total of 44 questions assessing participants' sociodemographic characteristics, general health status, healthcare utilization, communication with their doctor, and perspectives on health-related publications. The second section included the Cyberchondria Severity Scale Short Form (CSS-12). The CSS-12 scoring range is between 12 and 60 points, with higher total scores indicating higher levels of cyberchondria (McElroy et al., 2019). Statistical analysis was performed using SPSS 25.0. Significance level of $p<0.05$ was considered as statistically significant.

Results: The study included 323 individuals with a mean age of 39.8±14.2 years (18-72). Of the participants, 59.8% were female. The mean total score of CSS-12 was found to be 27.3±8.9, with a minimum score of 12 and a maximum score of 52. A significant positive correlation was identified between the total CSS-12 score and both the average daily internet usage time ($p<0.001$) and the daily time spent searching for health-related information online ($p<0.001$). Additionally, a statistically significant difference was found between the CSS-12 total score and both researching symptoms online before and/or after consulting a doctor ($p<0.001$) and feeling comfortable asking their doctor about health-related issues ($p=0.029$).

Conclusion: The findings of this study indicate that the duration of online health information searches increases the level of cyberchondria. Additionally, individuals who have a positive communication with their physicians exhibit lower levels of cyberchondria and this shows the importance of the doctor-patient relationship in this process. To mitigate the negative effects of cyberchondria, individuals should be encouraged to rely on credible health sources.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Cyberchondria, health anxiety, online health information

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial or personal conflict of interest in this study.

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EBFMC25-OOP-05 · A Current Public Health Issue: Vaccine Hesitancy

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ABSTRACT

Introduction: Vaccination, a fundamental component of healthcare services and a primary responsibility of healthcare professionals, remains one of the most effective public health interventions for safeguarding community health (Gür, 2019; Yüksel & Topuzoğlu, 2019). In Türkiye, the "Expanded Immunization Program, initiated in 1981 following the World Health Organization's guidelines, aims to protect individuals and societies from preventable infectious diseases and reduce mortality rates (Turkish Ministry of Health, 2009). Non-vaccinated individuals can hinder herd immunity and increase the risk of outbreaks (Orhon, 2020). This study evaluates the level of vaccine hesitancy and its underlying reasons. The findings aim to enhance awareness and inform preventive health policies.

Materials and Methods: This analytical cross-sectional study recruited all consenting participants aged 18 and older who presented to the Family Medicine Department outpatient clinics at Aydın Adnan Menderes University over six months. The entire accessible population was included. Data were collected using a questionnaire on sociodemographics, vaccination status, and adverse effects associated with vaccines, alongside the "Vaccine Hesitancy Scale (VHS)." Statistical analyses were conducted using SPSS 22, with a p value smaller than 0.05 was considered as statistically significant.

Results: Of the total 318 individuals, 61% (n=194) were women and 45.8% had children (mean age=37.2±15.6, range=18–82). Regarding vaccine information sources, 44.5% (n=271) learned from healthcare professionals, while 30.7% (n=187) used the internet. Overall, 73.3% (n=233) completed adult vaccinations, and 40.3% (n=128) completed children's infant vaccinations. The mean Vaccine Hesitancy Scale (VHS) score was 42.9±15.2. Among healthcare workers, the mean VHS was 34.4±13.7, whereas those outside the health sector scored 44.3±15.0 ($p<0.001$). A significant relationship was observed between total VHS score and marital status, number of children, chronic neurological disease, education level, and place of residence ($p<0.05$). Participants informed by healthcare professionals displayed lower VHS scores, while those relying on television had higher scores ($p<0.001$ for both). Adults who did not vaccinate themselves had lower rates of vaccinating their children ($p=0.034$). Vaccine-related side effects in participants or their children were not associated with VHS ($p=0.729$, $p=0.674$).

Conclusion: Vaccine hesitancy is influenced by sociodemographic factors and sources of vaccine information. Individuals' own vaccination choices appear to influence decisions regarding their children. Misinformation from non-scientific sources heightens hesitancy, whereas guidance from physicians lowers it. Side effects do not seem to drive hesitancy. Targeting relevant factors during health education programs could elevate public awareness and facilitate the control of infectious diseases.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Vaccine refusal, health policy, vaccine hesitancy

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OOP-06 · Smartphone Addiction: Does It Affect Life Satisfaction?

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ABSTRACT

Introduction: Communication tools have played a significant role in human life since ancient times. While phones were initially used solely for communication, they are now preferred for personal, social, and even professional purposes, facilitating daily life through various applications (Arslan, 2016; Yusufoğlu, 2017). There is limited research on how this transformation in communication affects individuals' life satisfaction. This study aims to identify smartphone addiction among individuals visiting our units and determine the factors influencing life satisfaction, thereby raising awareness on this issue.

Materials and Methods: This descriptive cross-sectional study was conducted with all volunteer patients, consecutively visited our department's facilities in a six-month-period. The survey form consists of three sections. The first section includes 36 questions addressing participants' sociodemographic characteristics, smartphone and internet usage, and factors affecting life satisfaction. The second section contains the 10-question Smartphone Addiction Scale-Short Form (SAS-SF), and the third section includes the 5-question Satisfaction with Life Scale (SWLS). A higher score on the SWLS indicates greater life satisfaction. Statistical analysis was conducted using SPSS 25.1 software.

Results: The study included 363 participants with a mean age of 38.5±12.8 years, 51% of whom were male. The daily smartphone usage time was 1-2 hours for 25.3% of participants and 3-4 hours for 37.2%. The mean total score on the Smartphone Addiction Scale-Short Form was 26.2±12.1 (min=10, max=60), with 28.9% of participants classified as having smartphone addiction. The mean total score of the Satisfaction with Life Scale was 15.6±4.5, indicating a moderate level of life satisfaction among participants. A significant difference was found between the frequency of checking the phone per day and the total SWLS score. Additionally, a significant relationship was observed between the hours spent on social media per day and the total SWLS score. Participants who perceived themselves as smartphone addicts had significantly lower SWLS scores. A significant and negative correlation was found between SWLS and SAS-SF scores ($p<0.001$).

Conclusion: Our study found a negative correlation between smartphone addiction and life satisfaction. As daily phone usage and time spent on social media increased, life satisfaction scores were observed to decline. Furthermore, individuals who perceived themselves as addicted to their phones exhibited lower levels of life satisfaction. These findings highlight the impact of smartphone usage habits on life satisfaction and underscore the importance of raising awareness on this issue.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Smartphone addiction, life satisfaction, social media

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OOP-07 · The Impact of Vaccination Status on Infectious Disease Clinics: The Case of COVID-19

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ABSTRACT
Introduction: The aim of this study is to investigate whether vaccination, which is the most significant preventive measure against infectious diseases, has a contribution to prognosis. Additionally, it aims to determine the vaccination and hospitalization rates of COVID-19 patients and assess the impact of vaccination on the clinical course of the disease.
Materials and Methods: The study included 80 patients over the age of 18 who were hospitalized with a diagnosis of COVID-19 at Meram State Hospital between September and December 2021 and were subsequently discharged. Patients' active complaints were recorded in the first and second months after discharge, and pulmonary function tests (PFT) were conducted. Data analysis was performed using SPSS 22.0.
Results: Of the participants, 52.5% (n=42) were female, with a mean age of 56.45±1.4 years. While 16.3% of patients required intensive care, the average hospitalization duration was 12.48±0.9 days. Among the participants, 23.8% (n=19) were smokers, and 66.3% (n=53) had at least one chronic disease. In the first month post-hospitalization, 91.3% reported fatigue, 86.3% reported exhaustion, 35.0% had sleep disturbances, 65.0% experienced shortness of breath, and 32.5% had muscle pain. A significant reduction was observed in complaints such as fatigue, exhaustion, sleep disturbances, and shortness of breath over a one-month follow-up period. FVC and FEV1 values were found to be higher in men than in women in both follow-up assessments. Vaccinated individuals had higher FVC and FEV1 values at the first follow-up compared to unvaccinated individuals. Smokers had lower FVC and FEV1 values in both assessments compared to non-smokers. There was a significant increase in FVC and FEV1 values between the two follow-ups, whereas FEV1/FVC remained stable.
Conclusion: This study indicates that a significant proportion of patients hospitalized due to COVID-19 continued to experience COVID-19-related symptoms for two months post-discharge. Among those who underwent pulmonary function assessments, individuals who had received at least two doses of the Pfizer/BioNTech vaccine exhibited better respiratory capacities.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
COVID-19, post-acute COVID-19 syndrome, pulmonary function test, COVID-19 vaccines, Pfizer/BioNTech vaccine

INTRODUCTION
Coronaviruses (CoV) constitute a large family of viruses that can cause a spectrum of illnesses ranging from common cold-like self-limiting infections to severe conditions such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS) (Corum, Grady, Wee, & Zimmer, 2020; Demir, 2020).
On March 11, 2020, the WHO declared COVID-19 a pandemic (Durduran, 2021). While some infected individuals required hospitalization, those in need of mechanical ventilation were treated in intensive care

units (ICUs) (Torres-Castro et al., 2021). COVID-19 primarily affects the lungs, causing widespread alveolar damage, hyaline membrane formation, and pulmonary consolidation (Mo et al., 2020)
Studies conducted during the pandemic aimed to predict COVID-19 prognosis. Computed tomography (CT) imaging was used to classify disease severity through the Co-Rads system (Pekçevik & Belet, 2020).
Pfizer-BioNTech vaccination commenced on April 12, 2021. The phase 3 clinical trials in Turkey reported an 83% efficacy rate for the Coronavac vaccine (Gürbüz, Aydın, & Çöl, 2021; Yavuz, 2020). Despite variations in efficacy across different variants, age groups, genders, and comorbidities, the BioNTech vaccine was found to be approximately 95% effective (GlatmanFreedman et al., 2021; Oliver, 2020).
Vaccines play a crucial role in preventing infectious diseases and mitigating disease severity. Beyond their protective effect, vaccines are also noted for reducing the severity of infections (Sümer, 2011). Although the efficacy levels of COVID-19 vaccines differ, vaccination status has emerged as a key determinant of disease severity, with vaccinated individuals experiencing milder symptoms both during and after infection (Glatman-Freedman et al., 2021).
This study aims to investigate whether vaccination, as a primary preventive measure against infectious diseases, contributes to disease prognosis. Additionally, it seeks to assess the hospitalization and vaccination rates of COVID-19 patients and evaluate the impact of vaccination on the clinical course of the disease.

MATERIALS AND METHODS

Approval for this study was obtained from the Selçuk University Local Ethics Committee (decision number 2021/549, dated December 21, 2021). Permission was also granted by the Turkish Ministry of Health's COVID-19 Scientific Research Evaluation Commission on December 10, 2021. The Konya Provincial Health Directorate approved the study on January 5, 2022. The study included 140 patients who were diagnosed and treated for COVID-19 at Meram State Hospital between September and December 2021. The patients' sociodemographic characteristics (age, gender, chronic diseases) were recorded. Data regarding vaccination status, the type and number of vaccine doses received, ICU admissions, hospitalization duration, Co-Rads classification of lung involvement, hospital outcomes, and laboratory values at admission (ferritin, troponin, fibrinogen, D-dimer, CRP, LDH, AST, ALT, urea, creatinine, hemogram, and SpO2 levels) were collected from hospital records. Patients who received at least two doses of Sinovac or one dose of Pfizer-BioNTech vaccine were considered vaccinated. Statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS) version 22.0 for Windows at a significance level of α=0.05. Descriptive statistics were used for single-group analyses, and the Kolmogorov-Smirnov and Shapiro-Wilk tests were conducted to assess normality in continuous variables. Mann-Whitney U tests were used for comparisons of non-normally distributed data, while independent t-tests were applied for normally distributed variables. The study's power analysis was conducted using the Epi Info 1.4.3 software package. The minimum sample size required for a study population of 292 hospitalized patients over one month was determined to be 140, with 95% power and a 5% significance level.

RESULTS

The study included 140 participants aged 18 years and older, with a mean age of 62.91±1.23 years. Of these, 52.1% (n=73) were male, and 22.9% required intensive care. The median hospital stay was 10 days (range: 4-53 days). Mortality was observed in 6.4% (n=9) of patients, while 93.6% (n=131) were discharged alive. Based on CT scan findings, Co-Rads classification showed 34.4% (n=48) as indeterminate, 42.1% (n=59) as high, and 23.5% (n=33) as very high. A total of 67.1% (n=94) of patients had at least one chronic disease. Vaccination coverage included at least two doses of Sinovac or one dose of Pfizer/BioNTech for 52.9% (n=74) of participants (Table 1).

Table 1

Sociodemographic Characteristics

		n	%
Gender	Female	67	47,9
	Male	73	52,1
Age	Mean±SE	62,91±1,23	
Intensive care	Yes	32	22,9
	No	108	77,1
Hospitalization Day	Mean±SE	10 (4-53)	
Outcome	Death	9	6,4
	Living	131	93,6
	Uncertain		
	High		
	Very high		
Uptake by CT (Co-Rads)	Co-Rads-3	48	34,4
	Co-Rads-4	59	42,1
	Co-Rads-5	33	23,5
Chronic Disease	Yes	94	67,1
	No	46	32,9
Vaccination status	Yes	74	52,9
	No	66	47,1
Total		140	100

SE: standard error, min: minimum, max: maximum

Comparison of sociodemographic characteristics based on vaccination status indicated that unvaccinated individuals were more likely to be ≤62 years, require ICU admission, have higher mortality rates, and exhibit severe CT scan findings (p=0.001, p=0.005, p=0.019, p=0.048, and p=0.018, respectively) (Table 2).

Table 2

Evaluation of Sociodemographic Characteristics According to Vaccination Status

		Unvaccinated n (%)	Vaccinated n (%)	p*
Gender	Female	29 (43,9)	38 (51,4)	0,381
	Male	37 (56,1)	36 (48,6)	
Age	62 years and under	39 (59,1)	23 (31,1)	**0,001**
	62 years over	27 (40,9)	51 (68,9)	
Intensive care	Yes	44 (66,7)	64 (86,5)	**0,005**
	No	22 (33,3)	10 (13,5)	
Hospitalization Day	10 days and below	27 (40,9)	45 (60,8)	**0,019**
	10 days above	39 (59,1)	29 (39,2)	
Outcome	Death	7 (10,6)	2 (2,7)	**0,048**
	Living	59 (89,4)	72 (97,3)	
Uptake by CT (Co-Rads)	Uncertain	16 (24,2)	32 (43,2)	**0,018**
	High-Very high	50 (75,8)	42 (56,8)	
Chronic Disease	Yes	40 (60,6)	54 (73,0)	0,120
	No	26 (39,4)	20 (27,0)	
Toplam		140	100	

%: frequency, p value was found according to the chi-square test.

Furthermore, unvaccinated individuals exhibited lower age, urea, creatinine, leukocyte, and SpO2 levels (p<0.001, p=0.037, p=0.049, p=0.045, and p=0.009, respectively). In contrast, unvaccinated patients had significantly longer hospital stays and higher ferritin, fibrinogen, LDH, AST, and ALT levels (p=0.026, p=0.001, p=0.018, p<0.001, p<0.001, and p=0.016, respectively) (Table 3).

Table 3

Evaluation of Age, Hospitalization Days and Blood Parameters According to Vaccination Status

	Unvaccinated Median (%25-%75)	Vaccinated Median (%25-%75)	p
Age Mean±SE	58,03±1,99	67,27±1,30	**<0,001***
Hospitalization Day	12 (9-16)	10 (8-13)	**0,026**
Ferritin	286 (164-513)	174 (73-304)	**0,001**
Troponin	4,45 (2,5-11,0)	4,7 (2,5-10,5)	0,968
Fibrinogen Ortalama±SH	490,03±10,72	451,39±11,83	**0,018***
D-Dimer	0,5 (0,3-0,8)	0,5 (0,3-0,8)	0,860
CRP	65,55 (35,1-118,0)	54,9 (24,8-118,0)	0,338
LDH	383 (297-464)	289,5 (241-371)	**<0,001**
AST	42 (31-55)	29,5 (22-41)	**<0,001**
ALT	24,0 (18-44)	19,5 (14-32)	**0,016**
Üre	30,5 (25-46)	38,5 (30-55)	**0,037**
Creatinine	0,89 (0,7-1,0)	0,96 (0,83-1,25)	**0,049**
Leukocyte	6,67 (4,8-9,8)	8,26 (5,86-11,03)	**0,045**
Hemoglobin	13,9 (13,2-14,7)	13,8 (12,3-14,9)	0,835
Lymphocyte	1,17 (0,7-1,6)	1,23 (0,8-1,6)	0,777
SPO_2	90 (85-93)	92 (88-95)	**0,009**

p value was calculated by Mann Whitney U test, *: Independent Group T Test, SE: standard error, min: minimum, max: maximum

DISCUSSION

This study examined the clinical conditions of patients hospitalized due to COVID-19 and evaluated the effect of vaccination status on various clinical parameters. This study revealed that patients aged over 62, which was the average age, had higher vaccination rates, and vaccination rates increased with age. Older age is one of the most significant risk factors for COVID-19 (Barği, 2022). A study evaluating 2,968 hospitalized patients found that an increase in age by one year increased the probability of death by 5% (Nikpouraghdam et al., 2020). This higher vaccination rate in older populations may be due to the increased risk they face. The ICU admission rate for vaccinated patients was 13%, while the rate for unvaccinated patients was 33%. A study examining the protective efficacy of the CoronaVac vaccine found that it provided 83.5% protection against the disease (Tanriover et al., 2021). Another study on the Comirnaty vaccine found that it exhibited protective efficacy between 88% and 93% against various variants (Lopez Bernal et al., 2021). This study also demonstrated that vaccination reduced ICU admission rates. The median length of hospital stay for vaccinated patients was 10 days, while it was 12 days for unvaccinated patients. Numerous studies have shown that being unvaccinated increases the mortality rate and negatively affects prognosis (Göçmen et al., 2022; Göçmen et al., 2023). Similarly, this study found that vaccinated patients had a lower length of stay, mortality rate, and CT involvement rate, suggesting that vaccination had a positive effect on the clinical course of the disease. Various blood parameters are among the most important factors in predicting the severity of infectious diseases. For COVID-19, elevated levels of leukocytes, D-dimer, CRP, LDH, AST, ALT, creatinine, urea, ferritin, fibrinogen, troponin, and decreased levels of lymphocytes and SPO2 at the time of admission have been used as prognostic markers in many studies (Arı, Kavuşak, Yanık, & Erten, 2023; Kalın & Solmaz, 2022; Keleş & Bozkurt, 2021). In this study, similar to other research, higher levels of ferritin, fibrinogen, LDH, AST, ALT, and lower SPO2 levels were found to be more pronounced in unvaccinated patients, indicating poor prognosis.

CONCLUSION

Limitations of the Study: Due to the patients' diverse vaccination profiles, it was not possible to conduct a vaccine-specific analysis. Additionally, some of the high poor prognostic indicators in vaccinated patients may vary from one vaccine to another, and this could not be explained due to the diversity of vaccines used. Further studies with larger sample sizes and vaccine-specific analyses are needed.

Conclusion: Studies conducted to date have shown that, along with various clinical markers, vaccination status is one of the most important clinical indicators. This study specifically examined the effect of vaccination on the clinical course of COVID-19 and demonstrated its positive impact. Vaccination is the most significant method of protection against infectious diseases and also contributes positively to prognosis.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OOP-08 · An Adult Case of Posterior Urethral Valve: Symptoms, Diagnosis, Management and Literature Review

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ABSTRACT
Introduction: Congenital lower urinary tract obstruction is a clinical entity which is mostly encountered intrauterine or in childhood. In approximately 60% of cases, the cause is posterior urethral valve (PUV) (Capone V., et al.,2022). The incidence of PUV is estimated to be approximately one in 7000-8000 births (Malin G., et al.,2012; Thakkar D., et al., 2014). PUV is one of the most important life-threatening congenital anomalies in the neonatal period. According to a systematic review, PUVs are responsible for approximately 32% of chronic renal failure (CRF) and 20% of end-stage renal failure (ESRF) (Hennus P.M., et al., 2014). While the usual clinical presentation is intrauterine, perinatal, neonatal and childhood problems, PUV cases presenting in the adult period may also be encountered as in our case. Our aim in this case report is to draw attention to the fact that PUV cases may also be encountered in adult patients and that these patients can be treated effectively with clinical suspicion and appropriate evaluation.
Case Presentation: A 39-year-old male patient was admitted to our clinic with complaints of difficult, thin, painful and difficult micturition. He stated that his complaints had been present since childhood, that he could not get any result from his previous (childhood) applications and that his voiding was not relieved. Urethroscopy revealed an appearance compatible with type 1 posterior urethral valve. The patient underwent valve incision with a cold knife.
Discussion: Both our case and other cases in the literature show that not all PUV cases may be diagnosed in infancy and/or childhood. Undoubtedly, there is a risk of ESRD in patients with infravesical obstruction. However, in cases with tolerable obstruction as in our case, patients may suffer from lower urinary tract symptoms only without the development of ESRD.
Conclusion: In conclusion, it should be kept in mind that patients presenting to urology clinics with unresolved voiding problems may have undiagnosed congenital pathologies.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Posterior urethral valve, urinary obstruction, disuria

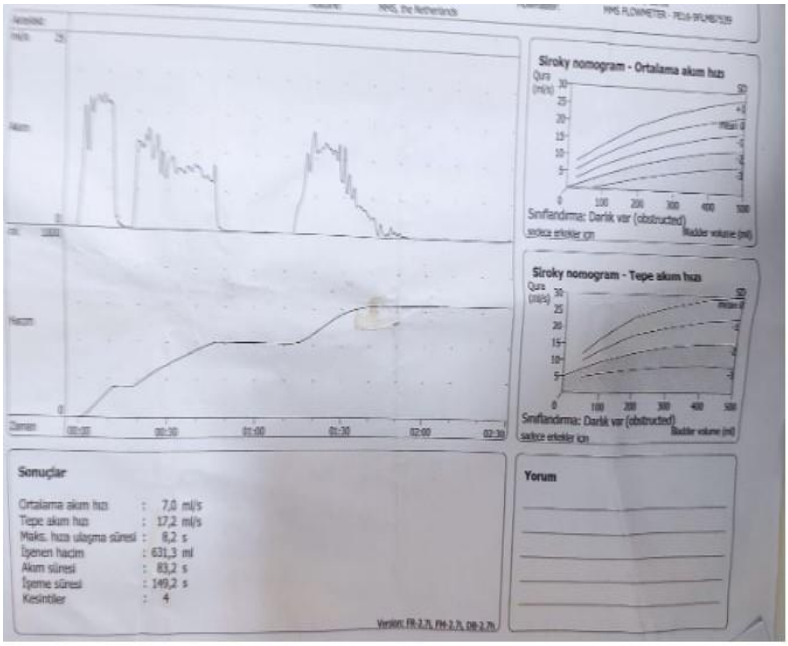
INTRODUCTION
Congenital lower urinary tract obstruction is a clinical entity which is mostly encountered intrauterine or in childhood. In approximately 60% of cases, the cause is posterior urethral valve (PUV) (Capone V., et al.,2022). The incidence of PUV is estimated to be approximately one in 7000-8000 births (Malin G., et al.,2012; Thakkar D., et al., 2014). PUV is one of the most important life-threatening congenital anomalies in the neonatal period. According to a systematic review, PUVs are responsible for approximately 32% of chronic renal failure (CRF) and 20% of end-stage renal failure (ESRF) (Hennus P.M., et al., 2014). In children, 17% of ESRD can be attributed to PUVs (Hodges S.J., et al., 2009). Currently, Hampton Young classification is frequently used in PUV classification (Young H.H., et al., 2002). Among the 3 types of PUVs mentioned in Young classification, type 1 and type 3 PUVs are obstructive. 90-95% of the cases are type 1 valves. In the most common type 1 valves, there is a protrusion extending at the base of the urethra, continuing with the

verumontanum, going anteriorly and separating into two fork-like protrusions at the bullo-membranous junction (Young H.H., et al., 2002). Type 3 valves are located at different levels of the posterior urethra and have no relation with the verumontanum. The valve tissue adhering to the entire circumference of the urethra with a small opening in the centre obstructs the lumen (Malin G., et al.,2012). While the usual clinical presentation is intrauterine, perinatal, neonatal and childhood problems, PUV cases presenting in the adult period may also be encountered as in our case. Our aim in this case report is to draw attention to the fact that PUV cases may also be encountered in adult patients and that these patients can be treated effectively with clinical suspicion and appropriate evaluation.

CASE PRESENTATION

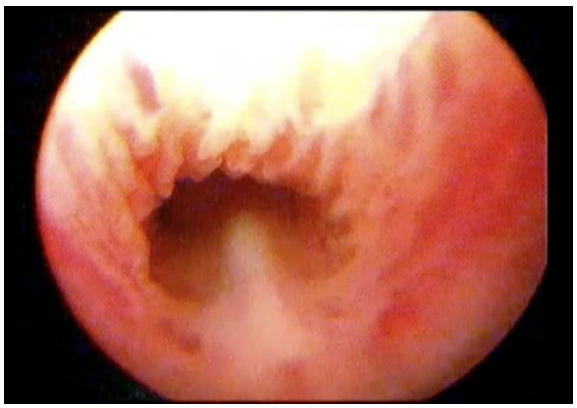
A 39-year-old male patient was admitted to our clinic with complaints of difficult, thin, painful and difficult micturition. He stated that his complaints had been present since childhood, that he could not get any result from his previous (childhood) applications and that his voiding was not relieved. Physical examination revealed no pathological clinical signs. Uroflowmetry revealed a split voiding pattern and the mean flow rate was 7 ml/sec (Figure 1).

Figure 1



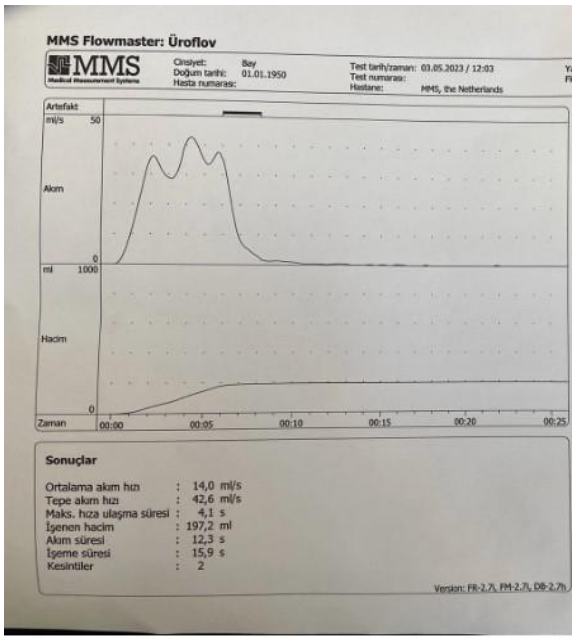
The amount of residual urine after voiding was 45 cc. Overactive bladder symptom score was 19 and IPSS score was 10/3. Urodynamic examination was also performed. There was difficulty in insertion of the urethral catheter. No pathology was observed in the filling phase of urodynamics. Sensation, capacity and compliance were normal. In the voiding phase, increased pelvic floor muscle activity was observed during micturition. Cystoscopy was planned. On cystoscopy, the bladder was normal, ureteral orifices were in natural position and clear coloured urine jets were seen. Urethroscopy revealed an appearance compatible with type 1 posterior urethral valve. The patient underwent valve incision with a cold knife (Figure 2).

Figure 2



The operation time was 30 minutes. Bleeding and complications were not observed. The patient was discharged on postoperative day 2 and urethral catheter was removed on postoperative day 4. Clinical improvement was observed at follow-up. Uroflowmetry showed great improvement on voiding curve (Figure 3).

Figure 3



Late symptomatic PUV clinic is encountered as case reports in the literature. For example, in the study in which an 11-year-old child and a 40-year-old male patient were presented in the early 2000s, PUV was detected while the 11-year-old child was investigated for intermittent and low-pressure voiding complaints and his clinic completely improved after valve ablation. In a 40-year-old male patient who had recurrent urinary tract infections and painful and difficult voiding complaints that could not be resolved since childhood, PUV was diagnosed in a similar manner and dilatation in the posterior urethra was observed on voiding cystourethrography and PUV was diagnosed, and the patient's complaints completely resolved after the diagnosis was confirmed and valve ablation was performed (Jesus, C. M., Trindade Filho, J. C., & Goldberg, J., 2008). In a case reported from our country in 2010, PUV was found and resected on endoscopic imaging in a patient of similar age and with similar clinical complaints. It was observed that the patient's clinical complaints improved completely after the procedure (Kilciler, M., et.al., 2010). One of the most remarkable cases in the literature about PUV in adults is a 67-year-old male patient who had many physician visits for lower urinary tract complaints for 40 years and did not benefit from the treatments. In this case, complete

recovery was achieved with ablation of PUVs found on endoscopic examination and resection of the bladder neck (Hosseini, J., Ansari Djafari, A., & Hojjati, S. A., 2021). An interesting case recently presented is a case of PUV in an 18-year-old young man who presented to the emergency department with general deterioration and renal dysfunction and was found to have neglected enuresis nocturna on further evaluation. The patient was a professional basketball player who deteriorated after training and was found to have elevated blood pressure and chronic renal failure in the emergency department; on further evaluation, it was understood that he had neglected enuresis nocturna and eventually bladder outlet obstruction, bladder diverticula, bilateral hydroureteronephrosis and chronic renal failure developed due to PUV (Liu, V. S., Qureshi, M. A., & Aziz, M. A., 2024).

DISCUSSION

Both our case and other cases in the literature show that not all PUV cases may be diagnosed in infancy and/or childhood. Therefore, PUV, which is a common obstructive pathology in childhood, may also be encountered in the adult patient group. These cases may present with basic urological symptoms (dysuria, frequent urination, etc.) or as delayed cases with established renal damage. Especially in patients with clinical suspicion, uroflowmetry evaluation, careful evaluation of the voiding curve, and the use of advanced diagnostic tests such as voiding cystourethrography and cystoscopy are important. Undoubtedly, there is a risk of ESRD in patients with infravesical obstruction. However, in cases with tolerable obstruction as in our case, patients may suffer from lower urinary tract symptoms only without the development of ESRD.

CONCLUSION

In conclusion, it should be kept in mind that patients presenting to urology clinics with unresolved voiding problems may have undiagnosed congenital pathologies.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OOP-09 · The Importance of Urinalysis in the Diagnosis of Bladder Cancer

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ABSTRACT

Introduction: Hematuria is a prognostic indicator for significant pathologies. Urological cancer may be detected in approximately 20–30% of these patients (Dyrskjøt et al., 2023). When hematuria is accompanied by risk factors for urothelial cancers—such as smoking, irritative voiding symptoms, advanced age, or exposure to chemicals—its prognostic value increases further (DeGeorge et al., 2017). This study was designed to highlight the clinical significance of hematuria detected through a simple urinalysis. Consent for the study was obtained from the patient.

Case Presentation: A 64-year-old male patient, F.B., underwent routine tests at a family medicine clinic. Microscopic hematuria was detected on urinalysis, leading to a referral to our clinic. The patient had no urological complaints upon evaluation. A detailed history and physical examination revealed no pathology except for a history of smoking (44 pack-years). Other than the presence of erythrocytes in the urinalysis (Creatinine: 0.71 mg/dL, PSA: 2.46 ng/mL, urinalysis: 11 erythrocytes), no abnormalities were detected. Urinary ultrasound showed no remarkable findings, and the prostate volume was measured at 44 cc. The patient was informed in detail, and written consent was obtained before recommending urethrocystoscopy. During endoscopy, an approximately 8 mm papillary tumoral lesion was observed on the left posterolateral wall of the bladder. It was resected in the same session, and the specimen was sent for pathological analysis. The patient was discharged without complications on postoperative day 2 after catheter removal. Two weeks later, he returned for follow-up with the pathology report. He remained asymptomatic. Pathological evaluation revealed urothelial carcinoma (noninvasive papillary urothelial carcinoma, pTa low grade). After being informed accordingly, the patient was enrolled in a follow-up program at the uro-oncology outpatient clinic. His follow-up continues uneventfully.

Conclusion: This study demonstrates the significant value of urinalysis, which is a simple and cost-effective diagnostic tool. Hematuria detected in urinalysis must be taken seriously and evaluated from a urological

perspective (Bolenz et al., 2018). Most patients with urothelial carcinoma are asymptomatic during the early stages, which must be kept in mind. All cases of hematuria should be regarded as a potential early sign of cancer until proven otherwise. It is crucial to inform and educate primary care physicians and healthcare providers regarding this issue.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Hematuria, bladder tumor, urinalysis

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial or personal conflict of interest in this study.

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EBFMC25-OOP-10 · Prognostic Value of ACEF Score in the Detection of Contrast-Induced Nephropathy After Carotid Artery Stenting

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ABSTRACT

Introduction: Contrast-induced nephropathy (CIN) is a complication associated with increased mortality and morbidity after percutaneous cardiac and non-cardiac vascular interventions (Paraskevas & Mikhailidis, 2017; Shoukat et al., 2010). Age, creatinine and left ventricular ejection fraction (ACEF) score has prognostic significance in cardiovascular diseases (Di Serafino et al., 2014; Lee et al., 2015). In our study, we aimed to determine the role of ACEF score in predicting the risk of CIN development in patients undergoing carotid artery stenting (CAS) for symptomatic carotid artery disease (CAD).

Materials and Methods: Patients who underwent CAS between 2021 and 2024 were retrospectively analysed. Patients were divided into two groups according to the occurrence of CIN after CAS. Baseline demographics and pre-procedure laboratory tests were compared between CIN groups. The diagnostic value of the ACEF score for predicting CIN after CAS was assessed by receiver operating characteristics (ROC) analysis. Risk factors for the development of CIN after CAS were determined by logistic regression analysis.

Results: The mean age of the 165 patients included in our study was 67.5 ± 9.8 years and 71.5% were male. Patients in the CIN (+) group (n = 21) were significantly older compared to those in the CIN (-) group (n = 143), and diabetes and hypertension were more frequent. Creatinine, neutrophils and C-reactive protein were higher, left ventricular ejection fraction (LVEF) and albumin were lower in the CIN (+) group compared to the CIN (-) group. ACEF score was significantly higher in the CIN (+) group (Table 1).

Table 1

Clinical, demographic, laboratory and echocardiographic parameters of all groups

Variables	CIN (+) n = 21	CIN (-) n = 143	p-value
Age	72,4 ± 9,7	67,4 ± 10.2	0.008
Gender, male, n (%)	15 (71.4%)	103 (72%)	0.205
Smoking, n (%)	8 (38.1%)	53 (37%)	0.411
BMI, kg/m^2	25.6 ± 5.2	26.7 ± 5.8	0.138
DM, n (%)	13 (61.9 %)	58 (40.5%)	0.01
Hypertension, n (%)	16 (76.1%)	85 (59.4%)	0.008
CAD, n (%)	9 (42.8%)	65 (45.4%)	0.604
HL, n (%)	11 (52.3%)	79 (55.2%)	0.235
LVEF, %	44.9 ± 8.2	52.8 ± 9.5	< 0.001
Creatinine, mg/dL	1.48 ± 0.32	1.01 ± 0.28	0.009
Sodium, mEq/L	141.5 ± 28.2	143.1 ± 27.9	0.781
Potassium, mEq/L	4.6 ± 0.82	4.5 ± 0.94	0.362
Glucose, mg/dL	142.9 ± 28.4	138.4 ± 27.6	0.388
Albumin, g/dL	3.6 ± 0.84	4.7 ± 0.93	< 0.001
TC, mg/dL	189.4 ± 37.8	184.9 ± 36.5	0.101
LDL, mg/dL	101.6 ± 21.3	109.3 ± 20.8	0.097
HDL, mg/dL	40.4 ± 8.3	45.6 ± 9.4	0.564
Haemoglobin, g/dL	13.2 ± 3.9	12.9 ± 3.7	0.482
Platelets, 10^3/µl	232.8 ± 45.5	241.2 ± 44.9	0.329
Neutrophils, 10^3/µl	5.4 ± 0.88	3.9 ± 0.68	0.012
Lymphocytes, 10^3/µl	3.4 ± 0.68	3.9 ± 0.72	0.466
CRP, mg/L	17.4 ± 3.2	5.9 ± 1.1	0.009
ACEF score	1.54 ± 0.32	1.12 ± 0.22	< 0.001

CIN: Contrast-induced nephropathy, BMI: Body mass index, DM: Diabetes mellitus, CAD: Coronary artery disease, HL: Hyperlipidemia, LVEF: Left ventricular ejection fraction, TC: Total cholesterol, LDL: Low-density lipoprotein cholesterol, HDL: High-density lipoprotein cholesterol, CRP: C-reactive protein, ACEF: Age, creatinine and left ventricular ejection fraction

Variables with a p-value < 0.1 in the univariate regression analysis were included in the multiple regression analysis model. The following factors were identified as independent risk factors for the development of CIN after CAS: age (odds ratio [OR]: 1.13, 95% confidence interval [CI]: 1.04 - 1.19, p: 0.009), creatinine (OR: 3.19, 95% CI: 2.08 - 6.87, p < 0.001), LVEF (OR: 0.93, 95% CI: 0.88 - 0.98, p: 0.018) and ACEF score (OR: 3.86, 95% CI: 2.13 - 6.19, p: 0.005) (Table 2).

Table 2

Evaluation of the ACEF score and its components in the development of CIN after CAS

	Odds Ratio	95% CI	p-value
Age	1.13	1.04 – 1.19	0.009
LVEF	0.93	0.88 – 0.98	0.018
Creatinine	3.19	2.08 – 6.87	< 0.001
ACEF score	3.86	2.13 – 6.19	0.005

ACEF: Age, creatinine and left ventricular ejection fraction, CIN: Contrast-induced nephropathy, CAS: Carotid artery stenting, CI: Confidence interval, LVEF: Left ventricular ejection fraction

According to the results of the ROC analysis, the ACEF score demonstrated a high level of diagnostic capability in predicting the development of CIN following CAS, with a sensitivity of 73% and a specificity of 78% at a predictive value of 1.32 (area under the curve [AUC]: 0.79, 95% CI: 0.70 - 0.86, p < 0.001).

Conclusion: The ACEF score is independently associated with post-procedural CIN in patients undergoing CAS for symptomatic CAD. The ACEF score has diagnostic power for predicting the development of CIN after CAS.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
ACEF score, carotid artery stenting, contrast-induced nephropathy

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OOP-11 · An Important Cause of Secondary Hypertension: Renal Artery Stenosis

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ABSTRACT

Introduction: Although essential hypertension is the main cause of hypertension, 10% of patients with hypertension have secondary hypertension (Rossi et al., 2020). One of the important causes of secondary hypertension is renal artery stenosis (RAS). Resistant or sudden-onset hypertension (especially in young patients), unresponsiveness to medications, deteriorating renal function, abdominal systolic murmur, acute pulmonary edema and asymmetric kidney sizes may raise suspicion in the diagnosis. In patients with suspected RAS, diagnosis is made with imaging methods and laboratory tests. Renal artery stenosis is associated with hyperreninemic hyperaldosteronism characterized by the presence of hypokalemia and metabolic alkalosis. Renal doppler ultrasonography is preferred as the first step and non-invasive imaging method. Computed tomography angiography or magnetic resonance angiography can be used, but definitive diagnosis is made with renal artery angiography, which is considered the gold standard. Treatment of patients includes the use of renin-angiotensin-aldosterone system antagonists, antiplatelets in case of atherosclerotic disease, statins, diet and lifestyle changes (Colbert, Abra, & Lerma, 2021). Percutaneous angioplasty with or without stents and rarely surgical revascularization can be applied in selected patients.

Case 1: A 65-year-old male patient applied to our clinic with complaints of dizziness. The patient developed treatment resistant hypertension and renal function deterioration in the last year. Doppler ultrasonography revealed 80% stenosis in the proximal left renal artery, and angiography revealed 80% stenosis in the proximal and 90% stenosis in the distal.

Case 2: A 58-year-old female patient applied to our clinic with complaints of severe headaches. The patient's medical history showed emergency admissions with recurrent pulmonary edema. Doppler ultrasonography revealed a 75% stenosis in the left renal artery, and angiography revealed an 85% stenosis in the left renal artery.

The decision to revascularize was made due to the patients' resistant hypertension despite maximum medical treatment, renal function deterioration and recurrent flash pulmonary edema in the second case. The patients underwent balloon angioplasty followed by stenting (Figures 1 and 2).

Figure 1

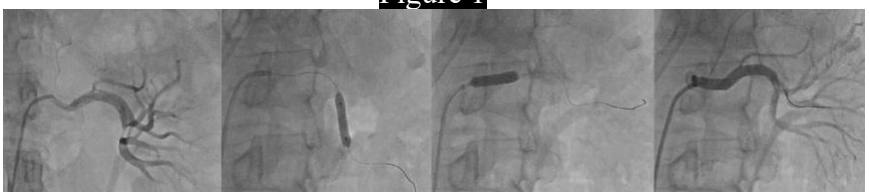
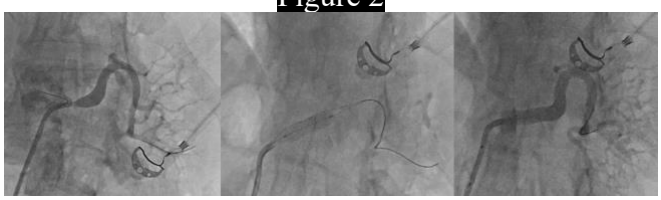


Figure 2



Blood pressure decreased and renal function improved in the follow-up after revascularization, and no recurrence of pulmonary edema occurred in the second case in the 1-year follow-up.
Conclusion: Renal artery stenosis is an important but often overlooked cause of secondary hypertension. Renal artery stenosis should be considered especially in young patients, those with resistant hypertension or those experiencing rapid renal function loss. Increasing awareness of secondary hypertension in the family medicine clinic is of critical importance in terms of early diagnosis and directing to the correct treatment.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Secondary hypertension, renal artery stenosis, revascularization

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OOP-12 · Investigation of the Effect of Bupivacaine and Dexmedetomidine on Wound Healing in Rat

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ABSTRACT
Introduction: In this study, it was planned to investigate the effects of bupivacaine, which is widely used by local infiltration due to its analgesic properties, and dexmedetomidine, which has recently started to be used, on wound healing. It was aimed to reveal alternative possibilities for wound healing treatment by examining the early wound healing effects of bupivacaine, dexmedetomidine and their combined use in rats where wounds were created by incision.
Materials and Methods: 28 Wistar albino male rats, 6 to 8 weeks old and weighing 250-350 g, were included in the study. Rats were divided into four groups in total, 7 in each group. After the solutions determined for each group were infiltrated into the incision area, a surgical incision was made 2 minutes later and the tissues were then sutured mutually. All rats were sacrificed at the end of the 8th day and 6*4 cm skin and subcutaneous tissue were removed from the incision area in the form of a strip. Histological examination was performed with a 2 cm part of the material, hydroxyproline in the tissue with a 1 cm part, and the tensiometry device was used to calculate the tensile strength of the wound site with the remaining material (1x1 cm^2). Histological evaluations were performed in the Tokat Gaziosmanpasa University Histology and Embryology Laboratory. All obtained results were evaluated statistically.
Results: In our study, consistent with the literature, it was found that IL-10 gene expression, which is considered an anti-inflammatory cytokine, was significantly higher in the group given dexmedetomidine than in the group given bupivacaine. In our study, a significant difference was found between all groups except the control and dexmedetomidine groups in terms of vascularity. It was observed that bupivacaine negatively affects wound healing and reduces the number of vessels, while dexmedetomidine increases the number of vessels, which has a positive effect, and the group using bupivacaine + dexmedetomidine formed more vessels than bupivacaine but less than dexmedetomidine.
Conclusion: In light of the data we obtained in our study, we think that bupivacaine has a negative effect on wound healing, while dexmedetomidine has a positive effect on wound healing in general. We believe that when these two drugs are used together, dexmedetomidine slightly reduces the negative effects of bupivacaine. More studies are needed to fully reveal this effect.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Bupivacaine, dexmedetomidine, wound healing, inflammation, wound infiltration

INTRODUCTION
Tissue losses that occur due to the disruption of the integrity of body structures are called ‘wounds’. Wound healing occurs as a result of the integration of a series of cellular, biochemical and physiological events. Wound healing consists of a series of complex, dynamic but well-organized events. Wound healing is an important situation in terms of patient comfort, infection risk and mortality, which we encounter in many

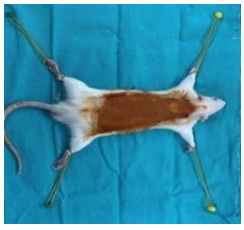
places together with surgical incision. Many studies continue to be conducted for wound healing. Various animal models have been tried in the literature to understand the pathophysiology of wound healing. Although none of the existing animal models can fully mimic the pathology in humans, these models are necessary to understand the pathophysiology of wound healing and to develop new treatment strategies (Irwin et al., 2002). Bupivacaine is one of the amide derivative local anesthetics. This drug has been shown to have both anesthesia and analgesia effects in local infiltration. The effects of bupivacaine, which is frequently used to reduce pain on the wound site, on wound healing have been shown to be controversial by various studies. In clinical anesthesia management, the sympatholytic, anxiolytic, analgesic and sedative effects of dexmedetomidine, a selective alpha 2 adrenergic receptor agonist, are utilized. Many experimental and clinical studies have shown that dexmedetomidine administration has anti inflammatory effects. In this study, we planned to investigate the effects of bupivacaine, which is widely used with local infiltration, and dexmedetomidine, which has recently been used, on wound healing when used together.

MATERIALS AND METHODS

This study was conducted in the TOGÜ Experimental Animals Laboratory, Biotechnology Department Cell Culture Laboratory, Histology and Embryology Laboratory after receiving approval from the Tokat Gaziosmanpaşa University (TOGÜ) Animal Experiments Local Ethics Committee with the decision numbered 51879863-70. 28 Wistar albino male rats weighing 250-350 g, aged 6-8 weeks, were included in the study. The rats were kept at room temperature (22-24oC), with an average relative humidity of 35%, in a 12-hour light-12-hour dark environment until the beginning of the study and monitored by feeding with standard pellet feed and water. No feed and water restrictions were applied. Rats were divided into four groups, 7 in each group, as control group, bupivacaine group, dexmedetomidine group, bupivacaine and dexmedetomidine group. All rats in the groups were anesthetized with 50 mg/kg ketamine intraperitoneally. When necessary, maintenance ketamine (half dose, 25 mg/kg) was repeated by looking at reflex responses (jaw or skeletal muscle tone monitoring) to keep the depth of anesthesia constant. Rats were fixed to the operation table in prone position after anesthesia. Back hair was shaved clean with an electric shaver. The incision area was wiped with povidone iodine and dried with sterile gauze after waiting for 2 minutes (Figure 1).

Figure 1

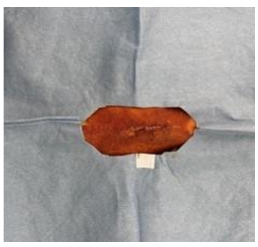
Shaving the back area after anesthesia and painting the skin with povidone iodine



After the solutions determined for each group were infiltrated into the incision area, 2 minutes later, a perforated compress was placed under sterile conditions and a 4 cm longitudinal surgical incision was made with a scalpel along the midline from the back region, and then the skin and subcutaneous tissues were reciprocally connected with a 3/0 prolene thread (Figure 2).

Figure 2

Appearance after the subcutaneous tissues are joined together after the incision



After the procedure, 30 mg/kg, 1-2 ml acetaminophen was given as a painkiller through drinking water. No antibiotics were given at any stage of the procedure or after the procedure. The rats were kept in the same environment under optimum living conditions, with the same food and water needs met, for 8 days in shelters. Wound care was performed once a day. The animals were sacrificed under anesthesia with intraperitoneal ketamine on the 8th day after the procedure. All rats were sacrificed at the end of the 8th day and 6x4 cm skin and subcutaneous tissue were removed as a strip from the incision area on the back under sterile conditions. Histological examination was performed with a 2 cm section of the material, hydroxyproline in the tissue was performed with a 1 cm section, and the tensiometry device was used to calculate the tensile strength of the wound site with the remaining material (1x1 cm^2). Tnf-alpha, interleukin 6 and interleukin 10 levels were studied with the RT-PCR method with intracardiac blood taken at 0 hours. In addition, the ELISA method was used to analyze the hydroxyproline level in the tissues. The hydroxyproline ELISA test was performed with the protocol specified by the company in the Rat Hyp (Hydroxyproline) ELISA Kits of A.B.T Laboratory Industry.

Single-stranded cDNA was made from total RNA isolated from each sample with iScript Reverse Transcriptase Supermix. Real-time quantitative polymerase chain reaction was performed on qTOWER3G Real-Time PCR Thermocycler.

Histopathological Evaluation: In order to examine the general morphological structure of the tissues, to evaluate acute inflammation, chronic inflammation and edema seen in the tissue with histochemical scoring method, Hematoxylin Eosin staining method was used technically. Then, preparations were examined with Nikon microscope (Nikon Eclipse 200) to evaluate acute inflammation, chronic inflammation and edema. In order to determine the difference in the degree of vascularization between the groups in the tissues, to count the vascular structures present in the scar area, to count the fibroblast cells present in the scar area in each group, to determine the area of the fibrous scar area formed in the tissues and to measure the epithelial thickness in the scar area and its periphery, Modified Masson Trichrome staining method was used technically. Subsequently, preparations were examined with a Nikon microscope (Nikon Eclipse 200) to evaluate vascularization, collagenization, epithelialization and fibrotic scar tissue. The Nikon NIS-Elements software was also used to make measurements.

Statistical Evaluation: While evaluating the data obtained in the study, the "Statistical Package for Social Sciences for Windows 26.0" (SPSS) program was used for statistical analysis. While evaluating the study data, the Shapiro-Wilk test was used for compliance with normal distribution. It was determined that the data were not suitable for normal distribution. Mann Whitney U Test and Kruskal Wallis Test were used to compare the groups. In cases where there was a difference, Bofferroni correction was applied to find the source of the difference and $p<0.01$ was considered statistically significant in pairwise comparisons. The findings were evaluated at a 95% confidence interval. For all analyses except pairwise comparisons, the significance level was $p<0.05$, which was considered statistically significant.

RESULTS

When the IL-6 gene expression values were compared in pairs, a significant difference was found between the Dexmedetomidine group and the Bupivacaine group ($p=0.01$). When the IL-10 gene expression values were compared in pairs, a significant difference was found between all groups ($p=0.01$). In the comparison between the groups, a statistically significant difference was found between the groups in terms of tensiometry results ($p=0.0001$). In the comparison between the groups, a statistically significant difference was found between the groups in terms of hydroxyproline concentration ($p=0.0001$). In the comparison between the groups, a statistically significant difference was found between the groups in terms of fibrous scar area ($p=0.0001$) (Table 1, Figure 3).

Table 1

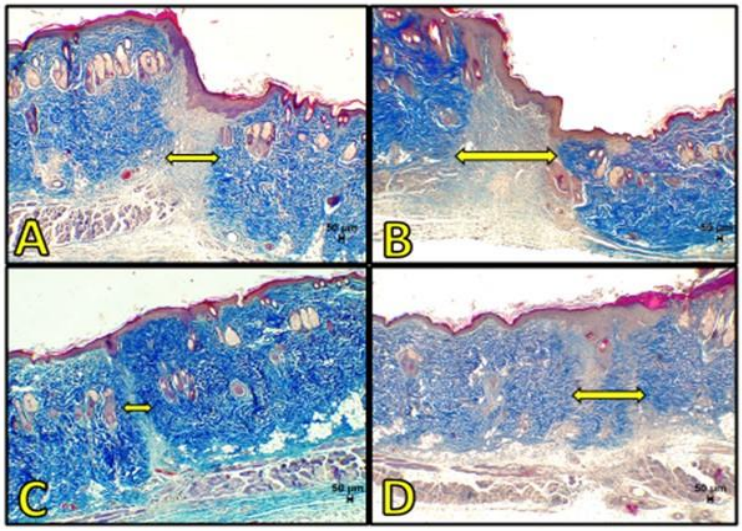
Comparison of fibrous scar area in paired groups

p value	C	B	D	B+D
C		0,002*	0,565	0,004*
B	0,002*		0,002*	0,004*
D	0,565	0,002*		0,003*
B+D	0,004*	0,004*	0,003*	

C: Control B: Bupivacaine D: Dexmedetomidine B+D: Bupivacaine+Dexmedetomidine:
Mann-Whithey U analysis and pairwise comparison of groups,
Bonferroni Correction, p<0.01
*Statistical significance

Figure 3

Evaluation of fibrous scar tissue area between groups



A: Control B: Bupivacaine C: Dexmedetomidine D: Bupivacaine+Dexmedetomidine, Bar: 50µm

In the comparison between the groups, a statistically significant difference was found between the groups in terms of vascularity. In the histopathological examination, when vascularity was compared in paired groups, a significant difference was found between the dexmedetomidine group and the bupivacaine group, and the dexmedetomidine group and the bupivacaine+dexmedetomidine groups (p<0.01) (Table 2).

Table 2

Comparison of vascularity in binary groups

p value	C	B	D	B+D
C		0,025	0,141	0,124
B	0,025		0,004*	0,200
D	0,141	0,004*		0,010
B+D	0,124	0,200	0,010	

C: Control B: Bupivacaine D: Dexmedetomidine B+D: Bupivacaine+Dexmedetomidine:
Mann-Whithey U analysis and pairwise comparison of groups,
Bonferroni Correction, p<0.01
*Statistical significance

DISCUSSION

Impaired wound healing causes various negative outcomes such as increased risk of infection, increased hospital stay and cost, and decreased patient comfort (Fujita et al., 2012). Many studies are being conducted to understand the wound healing process. Although they cannot mimic human physiology, animal models are used to reveal the pathophysiology. The most commonly used models in these studies are created with rats (Dorsett-Martin, 2004). In our study, we preferred to use the low-cost rat wound model, which is closest to human physiology. There are many clinical and experimental studies showing that bupivacaine increases pro-inflammatory factor levels in the first days of wound healing and decreases anti-inflammatory factor levels, leading to pro-inflammatory effects, causing high edema and inflammation, and also reducing collagen production. In a study conducted by Özgergin et al., it was shown that bupivacaine, ropivacaine and levobupivacaine reduced the expression levels of TNF α, IL-1 and IL-6 (Oz Gergin et al., 2019). There are many experimental and clinical studies showing that dexmedetomidine has anti-inflammatory effects by reducing the levels of pro-inflammatory factors and increasing the levels of anti-inflammatory factors. In a meta-analysis study, postoperative TNF-α, IL-6, IL-8 and IL-10 levels were examined in patients who received perioperative dexmedetomidine in various surgeries. According to the obtained data, TNF-α and IL-6 levels were significantly reduced (Li et al., 2015). A meta-analysis study including 15 randomized controlled trials examining the effects of dexmedetomidine showed that the addition of dexmedetomidine to general anesthesia in the perioperative period decreased the postoperative TNF-α, IL-6 and IL-8 serum levels of the patients compared to the control group, while IL-10 levels increased compared to the control group (Li et al., 2015). In our study, IL-10 gene expression was found to be significantly different in all groups compared to the control group. IL-10 gene expression decreased in the bupivacaine group and increased in the dexmedetomidine group. An increase similar to the dexmedetomidine group was observed in the bupivacaine + dexmedetomidine group. These data in our study support the literature on bupivacaine and dexmedetomidine. Furthermore, our results show that dexmedetomidine corrects the negative effects of bupivacaine on IL-10. While IL-6 gene expression was not different from the control group in any group, TNF-α gene expression was similar between the groups. In 2 different studies where TNF-α and IL-6 levels were measured by intraoperative dexmedetomidine infusion, it was observed that TNF-α and IL-6 levels did not change, similar to our study (Lee et al., 2022). In the study by Taniguchi et al., it was shown that dexmedetomidine changes TNF-α and IL-6 levels in a dose-dependent manner (Taniguchi et al., 2008). We also believe that the fact that we could not clearly demonstrate the effects of dexmedetomidine on TNF-α and IL-6 in our study may be due to the dose. Moreover, we did not examine the expressions of these interleukins in the period immediately after the incision. We think that examining the effect on the change with repeated measurements will reveal very different results.

Acute inflammation develops suddenly and can last for a few hours or a few days, vasodilation due to inflammation is observed and as a result, exudation of fluid and plasma proteins occurs from the postcapillary venules in the area of inflammation. Edema develops after this, and leukocytes begin to migrate to the area of damage. In a study by Hancı et al., saline, lidocaine, bupivacaine and tramadol were infiltrated into the wound area. They found that edema and inflammation scores were significantly higher in the bupivacaine and lidocaine groups than in the control group (Hancı et al., 2012). In our study, cell edema was also significantly increased in the bupivacaine group compared to the other groups. Another critical factor determining the effect on wound healing is wound tensile strength. It has been determined that collagen is an important biomarker of the wound healing process that provides support and strength (Chithra, Sajithlal, & Chandrakasan, 1998). Collagen synthesis can be assessed by hydroxyproline concentration. After proline was administered to the wounds opened on the backs of rats and the wound healing was monitored on the 4th and 8th days, it was observed that the wounds healed very quickly (Ponrasu et al., 2013). In the study conducted by Hancı et al., in the samples taken on the 8th day after saline, lidocaine, bupivacaine and tramadol were infiltrated into the wound site, collagen production and fracture strength were significantly decreased in the bupivacaine and lidocaine groups compared to the control group (Hancı et al., 2012). In our study, bupivacaine decreased hydroxyproline levels similar to the literature findings. Hydroxyproline levels were found to be high in the groups where dexmedetomidine was applied alone or together with bupivacaine. There is no study in the literature examining the effects of dexmedetomidine on hydroxyproline. At the same time, wound tensile strength was significantly increased in the dexmedetomidine group, while it was the lowest in the bupivacaine group. When dexmedetomidine was administered together with bupivacaine, higher wound tensile strength and hydroxyproline levels were detected compared to the control group. We believe that dexmedetomidine

has positive effects on wound tensile strength and collagen synthesis and may even reverse the negative effects of bupivacaine when administered together. Fibroblasts are critically important in supporting normal wound healing; they are involved in fundamental processes such as fibrin clot breakdown, new extracellular matrix and the formation of collagen structures to support other cells associated with effective wound healing (Ponrasu et al., 2013). In an in vitro study in which human fibroblasts were exposed to lidocaine, bupivacaine, and ropivacaine for 2 days, a concentrationdependent decrease in mitochondrial activity and proliferation rate of living cells was observed. Among the local anesthetics analyzed, bupivacaine showed the most severe cytotoxic effect (Fedder et al., 2010). In our study, bupivacaine decreased fibroblast numbers similar to the literature, while dexmedetomidine increased them. When used together, positive effects on fibroblast numbers were detected. While the fibrous scar area was similar in the control and dexmedetomidine groups, it was higher in the groups where bupivacaine was used alone or together with dexmedetomidine. When the number of fibroblasts per unit area of fibrous scar was examined, it was seen that the dexmedetomidine group was even better than the control group, while the bupivacaine + dexmedetomidine group was similar to the control and better than the bupivacaine group. In the bupivacaine + dexmedetomidine group, the fibrotic scar area was large, but dense regenerated epithelium and connective tissue were observed within this area. The fact that the fiber bundles in the areas where collagen fibers are dominant are denser and thicker than those in the periphery indicates that these areas are healing. This shows us that dexmedetomidine reduces the scar tissueforming effect of bupivacaine.

Vascularity is a critical component of wound healing (Martin, Semple, & Sefton, 2010). In the wound site study conducted by Hancı et al., the vascularity values of the groups to which bupivacaine was applied on the 8th day were significantly reduced compared to the control group. In our study, we also found that the number of vessels in the bupivacaine group was less than the dexmedetomidine group. When the vascularity rate in the fibrous scar area was examined, it was seen that bupivacaine significantly reduced vascularity compared to all other groups. However, dexmedetomidine did not have a significant positive effect on vascularity compared to the control group. There are some restrictive factors in our study. We conducted our experiment with a small number of subjects in a rat model due to ethical reasons. We only investigated the data on a single day regarding early wound healing. We believe that our study will shed light on future clinical studies.

CONCLUSION

In our study, we investigated the effects of bupivacaine, dexmedetomidine and their combined use on wound healing with wound infiltration. In light of the data we obtained in our study, we think that bupivacaine alone has a negative effect on wound healing, while dexmedetomidine generally has positive effects on wound healing. We believe that when these two drugs are used together, the negative effect of bupivacaine is slightly reduced. More studies are needed to fully demonstrate this effect.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OOP-13 · Evaluating the Predictive Value of Lumbar Puncture in Normal Pressure Hydrocephalus

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ABSTRACT

Introduction: Idiopathic Normal Pressure Hydrocephalus (INPH) is a syndrome in the elderly characterized by gait disturbance, cognitive decline, and urinary incontinence. Although considered potentially reversible, not all patients respond to treatment. Shunt surgery often improves symptoms, but the predictive value of post-lumbar puncture (LP) gait response remains unclear (Bloch & McDermott, 2012; Cui et al., 2021). This study investigates whether patients without improvement after LP can still benefit from shunt surgery, reassessing LP's reliability as a predictive tool.

Materials and Methods: A total of 48 patients (mean age: 67.5; 27 males, 21 females) clinically and radiologically diagnosed with INPH were evaluated between 2021 and 2023. All patients underwent standardized gait assessments before and after LP. Based on their post-LP gait response, they were divided into two groups: Group A (those who improved) and Group B (those who did not improve). All patients subsequently received lumboperitoneal shunt surgery. Clinical outcomes, including gait function, cognition, and urinary symptoms, were reassessed three months postoperatively.

Results: Postoperative gait improvement was observed in 88% of Group A and 73.9% of Group B. Both groups showed partial improvement in urinary and cognitive symptoms. While the improvement rate was higher in patients who responded positively to LP, a statistically significant portion of non-responders also benefited from surgery ($p < 0.05$).

Conclusion: While a positive gait response to LP is a useful predictor of shunt success, it should not be the sole criterion. Patients without improvement may still benefit from surgery. These results indicate that LP alone is insufficient to guide treatment decisions (Klinge et al., 2005) and must be considered with broader clinical context. This finding is especially relevant for family physicians, who play a key role in early recognition, referral, and longitudinal care of elderly patients with suspected INPH.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Normal pressure hydrocephalus, lumbar puncture, shunt surgery, gait disturbance, elderly

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OOP-14 · Is There a Connection Between Asthma Control Level and Type D Personality?

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ABSTRACT

Introduction: Poor asthma control is associated with both biological and psychological factors. Anxiety during asthma attacks causes hyperventilation and related bronchospasm and is often associated with depression (Borra, Cohen, & Busse, 2025). Type D personality consists of two main parts like negative emotionality and social inhibition. Negative emotionality is the tendency to experience negative emotions. Social inhibition is the tendency to be inhibited in expressing these negative emotions (van de Ven, Witteman, & Tiggelman, 2013; Witusik et al., 2018). The purpose is to evaluate the relationship between the degree of asthma control and the severity of Type D personality components.

Materials and Methods: 120 people were accepted to the study from the Immunology and Allergy clinic of Isparta City Hospital, in 4 groups (Healthy (n:30), fully controlled asthma (n:30), partially controlled asthma (n:30), uncontrolled asthma group (n:30)). Asthma control test was used for asthma control degree; Beck Depression Inventory was used for depression severity. DS-14 scale was used for type D personality (negative emotionality and social inhibition) and those who scored at least 10 points in both sections were accepted as type D personality.

Results: The mean age was 35.93±9.81, 36.2±10.55, 34.9±10.14, 33.83±8.55 in the healthy, fully controlled asthma, partially controlled asthma, and poorly controlled asthma groups, respectively, and were similar ($p=0.83$). Beck depression scale score (7.5±2.30, 8±2.01, 9.33±1.62, 13.23±2.55, $p=0.000$), negative emotionality score (7.73±2.54, 8±3, 8.83±2.71, 11.63±3.51, $p=0.000$), social inhibition score (8.93±3.11, 9.13±2.17, 8.8±2.56, 11±3.15, $p=0.023$; healthy, fully controlled asthma, partially controlled asthma, poorly controlled asthma groups, respectively) were higher in the uncontrolled asthma group than in the other groups. Beck depression inventory was positively correlated with negative emotionality, social inhibition and total score ($r=0.644$, $p=0.000$; $r=0.471$, $p=0.006$; $r=0.612$, $p=0.000$, respectively). The risk of type D personality was higher in the poorly controlled asthma group than in the healthy group (OR=3.33; 95% CI: 0.99-11.13), partially controlled asthma group (OR=4.33; 95% CI: 1.20-15.60), and fully controlled asthma group (OR=9.33; 95% CI: 1.86-46.68) ($p<0.05$). The percentage of type D personality in the poorly controlled asthma group was 40%, significantly higher than the other groups ($p<0.05$).

Conclusion: Depression severity, negative emotionality score, social inhibition score and type D personality percentage were greater in the poorly controlled asthma group than in the other groups. Type D personality may be both a cause and a consequence of poorly controlled asthma.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Asthma control, depressiveness, negative emotionality, social inhibition.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OOP-15 · Herpes Zoster Ophthalmicus: A Rare Cause of Persistent Cutaneous Eruption

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ABSTRACT

Introduction: Herpes zoster ophthalmicus (HZO), a rare manifestation of varicella-zoster virus (VZV) reactivation involving the ophthalmic branch of the trigeminal nerve, constitutes approximately 4–20% of all herpes zoster cases. Prompt diagnosis and antiviral therapy are crucial to prevent ocular complications and long-term morbidity.

Case Presentation: In this report, we present a case of HZO in a 64-year-old immunocompetent woman, whose diagnosis was delayed due to the atypical onset of the rash. The patient had persistent headache and a delayed-onset periorbital rash.

Discussion: HZO was diagnosed based on clinical progression, and antiviral therapy led to improvement.

Conclusion: This case underlines the importance of a thorough clinical evaluation, especially in patients presenting with persistent headache and periorbital rash.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Eruption, headache, herpes zoster ophthalmicus

INTRODUCTION

Herpes zoster ophthalmicus (HZO) is a reactivation of the latent varicella-zoster virus (VZV) in the ophthalmic division (V1) of the trigeminal nerve (Sanayama et al., 2024). Clinical manifestations range from mild cutaneous eruptions to serious ocular complications, including keratitis, uveitis, optic neuritis, and, rarely, cavernous sinus involvement (Feist et al., 2024). Although HZO is more common in elderly and immunocompromised individuals, it may also present in immunocompetent patients, often with non-specific symptoms leading to diagnostic delays (Litt et al., 2024). This case report describes an unusual presentation of HZO in a healthy adult and emphasizes the importance of early recognition and treatment.

CASE PRESENTATION

A 64-year-old female presented to the Family Medicine outpatient clinic of Bezmialem Vakıf University with complaints of a persistent headache and a progressive rash surrounding the left eye. She reported no history of chronic illnesses, immunosuppressive therapy, or recent systemic infection. Her only significant surgical history included bilateral tear duct obstruction surgery and three cesarean sections. The patient denied any prodromal fever or malaise.

On physical examination, a crusted vesiculopapular rash was noted along the left periorbital region, corresponding to the dermatome of the ophthalmic nerve. Neurological assessment showed no focal deficits, with preserved consciousness, orientation, and cranial nerve integrity.

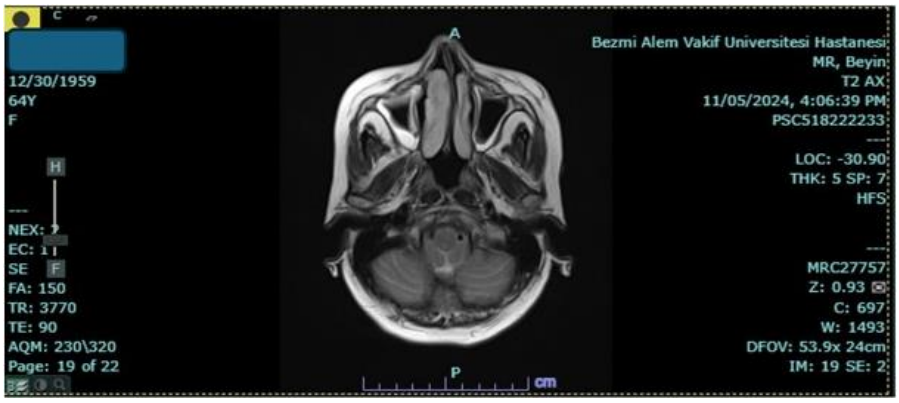
Ophthalmologic evaluation revealed mild conjunctival injection without corneal involvement. Pupils were isochoric and reactive; fundus examination was within normal limits. Eye movements and visual acuity were unaffected.

Vital signs were stable with a body temperature of 36.4 ℃ and blood pressure of 121/82 mm Hg. Laboratory analysis revealed a slightly reduced eGFR (77 mL/min/1.73 m²) and vitamin D deficiency (15.64 µg/L). All other hematological and biochemical parameters were within reference ranges.

One week prior to this consultation, the patient had been evaluated by internal medicine for forehead redness following minor trauma by a tree branch. She was prescribed oral amoxicillin-clavulanate, but the rash expanded and was accompanied by persistent headache. Cranial MRI showed no intracranial pathology except mild mucosal thickening of the maxillary sinuses (Figure 1). The patient reported a history of animal husbandry. Wound cultures grew sparse colonies of *Staphylococcus aureus* and *Klebsiella oxytoca*, with no indication of *Bacillus anthracis*.

Figure 1

Cranial MR; Mucosal thickening consistent with sinusitis in both maxillary sinuses



Based on the clinical presentation and distribution of the rash, HZO was diagnosed. The patient was treated with oral valaciclovir (1000 mg three times daily for 7 days), paracetamol for analgesia, and vitamin B12 supplementation. Significant clinical improvement was observed at the one-week follow-up, with resolution of the headache and marked regression of the rash (Figure 2). The patient provided written informed consent for the use of clinical images and publication of this case report.

Figure 2

Comperative analysis of eruption in the left periorbital region

DISCUSSION

This case illustrates the diagnostic challenges posed by atypical HZO presentations. While most HZO cases are characterized by an initial prodrome followed by a dermatomal rash, up to 20% may present with isolated headache or neuralgia before the cutaneous eruption becomes evident (Sanayama et al., 2024). The absence of overt ocular findings and the initial attribution of symptoms to trauma led to a delay in antiviral initiation. Delayed diagnosis increases the risk of complications, such as postherpetic neuralgia, secondary bacterial infection, and ocular damage (Litt et al., 2024). Although our patient remained immunocompetent, her age and potential stressors, such as animal exposure, may have contributed to viral reactivation. Notably, recent reports suggest that trauma or dermatologic irritation in the V1 dermatome may act as a local trigger (Sanayama et al., 2024).

Imaging studies such as MRI are primarily employed to rule out alternative neurological causes, including intracranial lesions or sinus pathology. In this patient, MRI findings were nonspecific and did not explain the clinical picture. As emphasized in the literature, accurate dermatomal mapping of the rash is often key to diagnosis (Feist et al., 2024).

Treatment with high-dose antiviral therapy within 72 hours of rash onset significantly reduces viral replication, symptom duration, and ocular sequelae. Although our patient received valaciclovir beyond this window, she still experienced a favorable outcome, likely due to the absence of deep ocular involvement. Adjunctive therapy with analgesics and vitamin supplementation may further support recovery (Feist et al., 2024; Litt et al., 2024). Physicians should maintain a high index of suspicion for HZO in patients presenting with unilateral headache and periorbital rash, particularly when initial treatment fails to improve symptoms. A biopsychosocial approach and thorough history-taking -integral to the Family Medicine perspective- played a central role in this patient's eventual recovery.

Herpes zoster ophthalmicus, though uncommon, must be considered in the differential diagnosis of persistent periorbital rashes and headache. Early recognition, timely initiation of antiviral therapy, and multidisciplinary evaluation can prevent serious complications. This case underscores the value of a comprehensive approach in diagnosing rare but treatable dermatoneurological conditions.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OOP-16 · Evaluation of Obesity and Vitamin D Research on Web of Science

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ABSTRACT

Introduction: Obesity and vitamin D deficiency are global health issues often studied together. Research suggests an inverse relationship between vitamin D levels and adiposity, but the causal direction remains unclear.

Materials and Methods: A bibliometric and meta-analytic analysis was conducted using the Web of Science database. A total of 8,829 publications on obesity and vitamin D were examined for research trends and findings.

Results: Publications have increased notably in recent years. Leading fields include Nutrition, Endocrinology, and Internal Medicine, with the US, China, and the UK as top contributors. Meta-analyses indicate a consistent inverse association between vitamin D levels and obesity markers.

Conclusion: Vitamin D may support obesity management, especially when combined with lifestyle interventions. Region-specific studies, particularly from countries like Türkiye, and a stronger role for family medicine could enhance clinical application.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Family medicine, obesity, web of science, vitamin d

INTRODUCTION

Obesity is a significant global health concern, associated with increased morbidity and mortality.

According to the World Health Organization, over 650 million adults were living with obesity in 2016, a figure expected to rise substantially in the coming decades. Simultaneously, vitamin D deficiency has emerged as a public health issue, with increasing evidence suggesting a bidirectional association between these two conditions. Vitamin D plays a critical role not only in calcium-phosphorus metabolism and bone health but also in immune modulation, insulin sensitivity, and adipogenesis (Lee, 2025). Numerous studies have explored this intersection, highlighting the complex pathophysiological and epidemiological relationship between obesity and vitamin D deficiency (El-Dahli, 2023; Karampela et al., 2021).

This study aims to conduct a bibliometric and meta-analytic evaluation of the scientific literature addressing obesity and vitamin D, based on data extracted from the Web of Science (WOS) database. It also integrates current clinical and mechanistic insights from recent high-impact reviews to provide a well-rounded perspective on the topic.

MATERIALS AND METHODS

On March 4, 2025 -World Obesity Day- a search was conducted in the Web of Science Core Collection using the term "obesity and vitamin D" under the “all fields” tab. The search included articles published between 1980 and 2025. Data retrieved included publication counts by year, language, country, research categories, and the most prolific authors and institutions. Descriptive bibliometric analysis was performed, and

publication trends were examined. Findings from key meta-analyses and systematic reviews were also synthesized to contextualize the bibliometric results. This study does not require ethics committee approval.

RESULTS

A total of 8,829 publications related to obesity and vitamin D were identified. A clear upward trend in publication frequency was observed, with a sharp increase after 2015 (Table 1).

Table 1

Number of WOS publications by year

Year of publications	Number of publications (n)
2025	83
2024	616
2023	690
2022	715
2021	736
2020	738
2019	617
2018	559
2017	560
2016	493

The majority of publications were in English. The top three research categories were:

- Nutrition and Dietetics (n=2,379)
- Endocrinology and Metabolism (n=1,799)
- Internal Medicine (n=695)

Additional publishing departments are also presented in Table 2.

Table 2

Number of WOS publications by department

Department of publications	Number of publications (n)
Nutrition Dietetics	2379
Endocrinology Metabolism	1799
General Internal Medicine	695
Surgery	610
Biochemistry Molecular Biology	495
Public Environmental Occupational Health	404
Pediatrics	394
Research Experimental Medicine	329
Pharmacology Pharmacy	319
Food Science Technology	268

Country-level analysis showed the United States as the leader in publication volume (n=1,844), followed by China (n=583) and the United Kingdom (n=521). The most prolific author was Nasser M. Al-Daghri from King Saud University, contributing 36 publications on the subject.

DISCUSSION

The growing number of publications illustrates the increasing interest in understanding the interplay between obesity and vitamin D. This trend may be linked to the global rise of both conditions and the accumulation of evidence pointing to their interrelated mechanisms (Lee, 2025). Karampela et al. examined several meta-analyses and reported a consistent inverse relationship between vitamin D levels and measures of adiposity such as body mass index (BMI), fat mass (FM), and waist-hip ratio (WHR). Several mechanisms have been proposed to explain this association, including volumetric dilution of vitamin D due to increased body fat, reduced bioavailability as a result of the storage of fat-soluble vitamin D in adipose tissue, decreased sunlight exposure and skin synthesis in obese individuals due to limited physical activity, and impaired vitamin D

metabolism in the liver and adipose tissue. However, despite the clarity of this association, the direction of causality remains controversial. The same meta-analytical data also indicate that weight loss results in a modest yet significant increase in vitamin D levels (Karampela et al., 2021). These findings are consistent with the conclusions of El-Dahli, who noted that while vitamin D enhances insulin sensitivity and possesses anti-inflammatory properties, it is only partially effective in the treatment of obesity and should not be considered a standalone intervention. El-Dahli further emphasized that more favorable outcomes are achieved when vitamin D supplementation is combined with physical activity or dietary modifications (El-Dahli, 2023). This perspective reinforces the necessity of multifaceted strategies in the management of obesity and related metabolic disorders. Therefore, vitamin D supplementation can only be considered effective when supported by comprehensive lifestyle interventions. Family physicians are in an ideal position to identify and manage vitamin D deficiency in obese patients through routine screening and lifestyle counseling. In primary care settings, serum 25(OH)D testing may serve as a useful adjunct for assessing metabolic risk, particularly in individuals with obesity and insulin resistance. Notably, Türkiye has produced a limited number of publications in this field compared to high-output countries such as the United States. This suggests a potential for academic development through interdisciplinary and collaborative research, particularly within the field of family medicine. Emphasizing vitamin D status in routine obesity management may help close clinical practice gaps and strengthen preventive strategies at the population level.

CONCLUSION

The literature exploring the association between obesity and vitamin D has grown substantially, as evidenced by the increasing number of publications indexed in the Web of Science. Bibliometric analyses suggest that this field is gradually maturing, with notable contributions emerging particularly from North America and Asia. Although discussions continue regarding whether vitamin D deficiency serves as a cause or consequence of obesity, its potential involvement in metabolic regulation is gaining recognition (El-Dahli, 2023; Karampela et al., 2021; Lee, 2025). Continued research—especially region-specific, population-based studies in countries such as Türkiye—may offer valuable insights to further clarify these associations and inform more tailored public health strategies. In this evolving context, family medicine appears well-positioned to help bridge the gap between research and clinical application, particularly through early identification of at-risk individuals and the promotion of preventive care.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OOP-17 · Seasonal Variations in Public Interest in Dermatological Conditions in Türkiye: Google Trends Analysis

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ABSTRACT

Introduction: Google Trends is a widely used online analytics tool that provides insights into public interest in various topics by tracking search queries on Google. Given its ability to reflect realtime public interest, Google Trends has gained increasing attention in medical research, including dermatology (Sivesind, Szeto, Kim, 2021; Oh, Rootman, 2024; Kluger, 2019; Martinez-Lopez, Ruiz-Villaverde, Molina-Leyva, 2018). Understanding seasonal variations in public interest in dermatological conditions can provide insights into patient concerns and potential healthcare demands. This study aims to evaluate seasonal fluctuations in Google search trends for various dermatological conditions in Türkiye from January 2022 to January 2025.

Materials and Methods: Weekly search volume data for 10 dermatological conditions (eczema, psoriasis, pruritus, urticaria, acne, skin cancer, tinea pedis, hair loss, scabies, and melasma) were collected from Google Trends. The searches were conducted in Turkish, and weekly RSV values were recorded. Seasonal differences were assessed using the Kruskal-Wallis test, and significant variations were analyzed for trends.

Results: Significant seasonal variations were observed in search trends for multiple dermatological conditions (Table 1). Pruritus, urticaria and tinea pedis searches were highest in summer, likely linked to increased heat and humidity (Grandhi, He, Semeno, 2017; Sasagawa, 2019). Scabies searches peaked in autumn and winter, aligning with seasonal outbreaks and increased indoor crowding (Liu, Wang, Chang et al., 2016). Hair loss searches showed a peak in autumn, consistent with known seasonal shedding patterns (Kunz, Seifert, Trüeb, 2009). Skin cancer and melasma-related searches were highest in summer, reflecting increased sun exposure concerns. Psoriasis searches were lower in winter but peaked in spring and summer, which contrasts with the general expectation that psoriasis would worsen during winter and autumn due to decreased sunlight exposure, colder temperatures, and low humidity leading to skin dryness (Jensen, Serup, Alsing, 2022). Our findings suggest that during winter, plaques are often concealed under closed clothing, but they become more visible in the summer, leading patients to seek more information.

Conclusion: Public interest in dermatological conditions fluctuates with seasonal changes. These variations may reflect disease prevalence, symptom exacerbation, and public awareness. Understanding such patterns can help dermatologists and family physicians anticipate patient needs, optimize educational efforts, and tailor treatment strategies accordingly. Further research is needed to explore the correlation between search trends and actual disease incidence.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Google trends, public interest, dermatology

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OOP-18 · Changes in Thyroid Function Tests and Metabolic Parameters in Obese People Who Lose Weight

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ABSTRACT

Introduction: In the past decades, a number of reports have attempted to explain whether thyroid dysfunction is a cause or a consequence of excess fat tissue, but the answer remains unclear (Walczak & Sieminska, 2021). In this study, we aim to investigate changes in thyroid function tests, insulin resistance, and cholesterol parameters in obese individuals who lose weight.

Materials and Methods: For this research, permission was obtained from the Ethics Committee of KTO University Faculty of Medicine, Non-Drug and Medical Research, numbered 2025/031. This study is cross-sectional, retrospective and was conducted by examining the retrospective data before and after weight loss in the 3-month follow-up of obese individuals aged 18-65 who applied to Konya Beyhekim Training and Research Hospital Obesity Center between January 1, 2022 and January 1, 2025. Changes in thyroid stimulating hormone (TSH), free T4 (fT4), homeostasis model assessment of insulin resistance (HOMA-IR), and cholesterol parameters were evaluated.

Results: A total of 136 obese participants were included in the study. 121 (89.0%) of the participants were female and 15 (11.0%) were male; the median age was 46 (22-67). 97 (71.3%) of the participants were primary school graduates, 39 (28.7%) were high school graduates or higher, 31 (22.8%) were single, 105 (77.2%) were married, 122 (89.7%) were unemployed, 14 (10.3%) were employed, 128 (94.1%) were non-smokers, 8 (5.9%) were smokers, 134 (98.5%) were non-drinkers, and 2 (1.5%) were consuming alcohol. In the second follow-up of the participants, there was a significant decrease in body mass index (BMI) ($p<0.001$), weight ($p=0.001$), hemoglobin A1c (HbA1c) ($p<0.001$), HOMA-IR ($p=0.001$), insulin ($p=0.002$), very low density lipoprotein (VLDL-C) ($p=0.018$), triglyceride (TG) ($p=0.007$), TSH ($p=0.024$), while there was a significant increase in fT4 ($p=0.045$) (Table 1).

Table 1

Comparison of the first and second values of the participants

	Initial Value Median (IQR 25-75%)	Second value Median (IQR 25-75%)	p
TSH (µU/dL)	2.11 (1.43-3.03)	1.91 (1.40-2.97)	**0.024**
fT4 (µU/dL)	1.08 (0.99-1.19)	1.12 (1.06-1.21)	**0.045**
Total-C (mg/dL)	206 (173-224)	196 (174-223)	0.243
LDL-C (mg/dL)	124 (102-145)	121 (97-140)	0.762
Triglyceride (mg/dL)	122 (85-152)	104 (81-146)	**0.007**
HDL-C (mg/dL)	52 (45-60)	50 (44-59)	0.402
VLDL-C (mg/dL)	24 (17-30)	21 (16-30)	**0.018**
FBS (mg/dL)	96 (89-104)	95 (90-104)	0.921
Fasting insulin (IU/ml)	13.17 (9.37-18.03)	10.93 (8.00-16.29)	**0.002**
HOMA-IR	3.00 (2.07-4.32)	2.35 (1.81-3.92)	**0.001**
HbA_{1c} (%)	5.70 (5.50-6.00)	5.60 (5.40-5.80)	**<0.001**
Weight (kg)	97.32 (87.73-105.75)	91.82 (83.95-103.75)	**<0.001**
BMI (kg/m^2)	37.79 (34.33-41.65)	35.55 (31.75-39.76)	**<0.001**

*Wilcoxon Signed Rank Test, TSH: Thyroid stimulating hormone, fT4: Free tiroglobulin 4, Total-C: Total cholesterol, LDL-C: Low density lipoprotein, HDL-C: High density lipoprotein, VLDL-C: Very low density lipoprotein, FBS: Fasting blood sugar, HOMA-IR: Homeostasis model assessment of insulin resistance, HbA_{1c}: Hemoglobin A_{1c}, BMI: Body mass index

There is a positive significant relationship between the change in BMI of the participants and the change in TSH (r=0.290 p<0.001), TG (r=0.246 p=0.006), VLDL-C (r=0.263 p=0.003), insulin (r=0.302 p=0.001), HbA1c (r=0.329 p=0.006) and HOMA-IR (r=0.304 p=0.001) (Table 2).

Table 2

Relationship between changes in participants' weight and blood parameters

		Δ BMI	Δ Weight	Δ TSH	Δ fT4	Δ TG	Δ VLDL-C	Δ Insulin	Δ HbA_{1c}	Δ HOMA-IR
Δ BMI	r	1.000	**0.994**	**0,290**	-0.008	**0.246**	**0.263**	**0.302**	**0.329**	**0.304**
	p		**<0.001**	**0.001**	0.937	**0.006**	**0.003**	**0.001**	**0.006**	**0.001**
Δ Weight	r	**0.994**	1.000	**0.275**	-0.025	**0.239**	**0.256**	**0.328**	**0.329**	**0.332**
	p	**<0.001**		**0.001**	0.798	**0.008**	**0.004**	**<0.001**	**0.006**	**<0.001**
Δ TSH	r	**0.290**	**0.275**	1.000	**-0.234**	0.089	0.102	0.072	**0.303**	0.123
	p	**0.001**	**0.001**		**0.014**	0.330	0.265	0.457	**0.011**	0.199
Δ fT4	r	-0.008	-0.025	**-0.234**	1.000	-0.006	0.062	-0.019	-0.006	-0.025
	p	0.937	0.798	**0.014**		0.950	0.539	0.854	0.965	0.809
Δ TG	r	**0.246**	**0.239**	0.089	-0.006	1.000	**0.965**	0.079	0.006	0.046
	p	**0.006**	**0.008**	0.330	0.950		**<0.001**	0.425	0.963	0.644
Δ VLDL-C	r	**0.263**	**0.256**	0.102	0.062	**0.965**	1.000	0.073	0.022	0.043
	p	**0.003**	**0.004**	0.265	0.539	**<0.001**		0.464	0.856	0.662
Δ Insulin	r	**0.302**	**0.328**	0.072	-0.019	0.079	0.073	1.000	**0.312**	**0.935**
	p	**0.001**	**<0.001**	0.457	0.854	0.425	0.464		**0.016**	**<0.001**
Δ HbA_{1c}	r	**0.329**	**0.329**	**0.303**	-0.006	0.006	0.022	**0.312**	1.000	**0.326**
	p	**0.006**	**0.006**	**0.011**	0.965	0.963	0.856	**0.016**		**0.012**
Δ HOMA-IR	r	**0.304**	**0.332**	0.123	-0.025	0.046	0.043	**0.935**	**0.326**	1.000
	p	**0.001**	**<0.001**	0.199	0.809	0.644	0.662	**<0.001**	**0.012**	

Spearman's Rho Test, Δ: Change in given value, BMI: Body mass index, TSH: Thyroid stimulating hormone, fT4: Free tiroglobulin 4, TG: Triglyceride, VLDL-C: Very low density lipoprotein, HbA_{1c}: Hemoglobin A_{1c}, HOMA-IR: Homeostasis model assessment of insulin resistance

Conclusion: As a result of this study, the significant decrease in TSH values and significant increase in fT4 values after obese participants lost weight strengthens the thesis that obesity can cause hypothyroidism. More extensive studies are needed on this subject.

PEER REVIEW STATEMENT
This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Thyroid stimulating hormone, obesity, insulin resistance, cholesterol

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OOP-19 · Knowledge and Attitudes Regarding Emergency Contraception Among Family Medicine Residents

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ABSTRACT

Introduction: Emergency contraception is a method used after unprotected or improper use of contraception. Since the use of emergency contraception is not well known by the public, misuse is quite common. It is the duty of family physicians, who are primary care physicians, to provide counseling on this issue. With this study, it was aimed to raise awareness in family physician assistants, to identify deficiencies, and to make them think about attitudes and behaviors with questions. We aimed to contribute to the literature as a guiding study in terms of preventive medicine and family planning.

Materials and Methods: The study was conducted among physicians working as research assistants in the Department of Family Medicine, Faculty of Medicine, Selçuk University in 2025. A total of 103 physicians, 54 women and 49 men, participated in the study. Three different questionnaires, including sociodemographic information form, information research questionnaire, behavior and attitude questionnaire, prepared by the researcher by reviewing the literature, were applied to the physicians. The level of knowledge was scored according to the answers given to the behavior and attitude questionnaire and compared with sociodemographic characteristics. Afterwards, the deficiencies were tried to be eliminated by talking about this issue with the participating research assistants.

Results: The study was completed with a total of 103 participants aged 24-61 years. Of the participants, 52.4% (n=54) were female and 47.6% (n=49) were male. When sociodemographic characteristics and questionnaire total scores were evaluated, the total score of the information research questionnaire was found to be significantly higher in those aged 28 years and above (p=0.022). Those with a shorter residency period had a significantly lower total score on the information research questionnaire (p=0.047). The total score of the behavior and attitude questionnaire was found to be significantly higher in AHU residents (p=0.037).

Conclusion: Emergency contraception is an issue that should be counseled. Family physicians are also in a position to provide counseling on this issue. Family doctors are also in a position to provide counseling on this issue. In the study, it was observed that knowledge, behaviors and attitudes were average and similar in each group.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Emergency contraception, family planning, family medicine residents

INTRODUCTION

Contraception refers to a set of practices in which natural or medical methods are used to intentionally prevent pregnancy. The use of certain sexual behaviors and practices, chemicals, various tools, drugs or surgical applications are included in the scope of contraceptive practices (Jain & Muralidhar, 2011). Emergency contraception is defined as the prevention of unwanted pregnancy before implantation after unprotected sexual

intercourse (Tokuc, Eskiocak, & Saltık, 2022). Emergency contraception is also known as morning-after pill (Derman, 2008). Indications for the use of emergency contraception include forgetting to take regularly used oral contraceptives, unprotected sexual intercourse (miscalculation of the calendar method or failure of the withdrawal method), condom rupture, improper placement, premature removal or rupture of the diaphragm or cervical cap, forgetting to use pills containing only progestin, late injection of injectable contraceptives, dislocation of intrauterine devices, sexual assault (Grimes & Raymond, 2002). The need for hormonal emergency contraception and the research on this subject are quite old. Estrogens were first used as an emergency contraceptive method at high doses in the 1960s (Morris & Van Wagenen, 1966). In the 1970s, Yuzpe et al. started to use a combination of estrogen and progesterone in emergency contraception (Yuzpe et al., 1974; Yuzpe & Lancee, 1977). Intrauterine devices (IUD) were introduced as an emergency contraceptive method in 1976 (Lippes, Malik, & Tatum, 1976). Today, there are mainly two main groups in emergency contraception: Hormonal drugs and IUDs. The drugs can be classified as estrogen and progesterone combinations, progesterone-only drugs and selective progesterone receptor modulators (Mifepristone (Ru-486), Ulipristal Acetate (UPA)). The most commonly used emergency contraceptive methods are oral hormonal drugs because of their ease of use. The most effective method is the copper-containing IUD (Lippes, Malik, & Tatum, 1976).

According to 2008 data, 43.8 million unintended pregnancy terminations were performed worldwide and 49% of these were performed under unhealthy conditions that may lead to maternal morbidity and mortality (Sedgh et al., 2012). According to American data, half of pregnancies are terminated by curettage and 54% of women who undergo curettage become pregnant while using contraceptive methods (Batur, 2012). According to data from the Centers for Disease Control and Prevention (CDC), 9.7% of women aged 15-44 years use emergency contraceptive methods (Mosher & Jones, 2010). In Turkey, according to the 2018 Turkey Demographic and Health Survey data, the rate of elective abortion among married women aged 15-49 years was found to be 15%. This rate, which is 3 percent in the 15-19 age group, becomes more pronounced in women aged 30 years and older and increases to 27 percent in the 45-49 age group (Hacettepe University Institute of Population Studies, 2018). Considering that the annual pregnancy rate of women in this age group is 10% and half of these are unwanted pregnancies, it is clear that the female population should be educated about contraceptive methods and emergency contraception (Hacettepe University Institute of Population Studies, 2018).

Since the knowledge and practice of emergency contraception is a convenient option to reduce the number of unwanted or unplanned pregnancies, it is important that family physicians, especially those working in primary care, who can provide counseling, have sufficient knowledge on this subject. In this study, we aimed to have information about the level of knowledge and attitudes about emergency contraception among research assistant physicians working in the Department of Family Medicine, to raise awareness on this issue and to develop recommendations for this issue.

MATERIALS AND METHODS

The population of this descriptive and cross-sectional study was determined as family physician assistants working at Selçuk University Faculty of Medicine Hospital. The study was completed with 103 participants who volunteered among 113 residents. The data were collected using a questionnaire form consisting of 66 questions prepared by the researchers by reviewing the literature. Statistical analysis of the data obtained in the study was evaluated with the Statistical Packet for The Social Science for Windows Version 22.0 (SPSS) package program at α=0.05 level of significance. Descriptive statistics in single groups and Kolmogorov-Smirnov and Shapiro-Wilk analyses were used for continuous data. Chi-Square test was used for categorical data and Independent Group T-Test was used for continuous data in normally distributed groups. Correlation analysis was performed with Spearman Correlation analysis. The study was planned in accordance with the Helsinki Principles and ethics committee approval was obtained from Selçuk University Faculty of Medicine, decision number 2025/79.

RESULTS

The study was completed with a total of 103 participants aged 24-61 years. Of the participants, 52.4% (n=54) were female and 47.6% (n=49) were male. The median age of the participants was 28 (27-33) years. The sociodemographic characteristics of the participants are given in Table 1.

Table 1

Sociodemographic and Clinical Characteristics

		n	%
Gender	Woman	54	52,4
	Male	49	47,6
Age	Median (25-75%)	28 (27-33)	
Marital Status	Married	73	70,9
	Single	30	29,1
Type of Assistantship	AHU	74	71,8
	SAHU	29	28,2
Assistantship Duration	0-18 months	54	52,4
	18-36 months	49	47,6
Year in Business	0-5 years	61	59,2
	5-10 years	24	23,3
	More than 10 years	18	17,5
Number of children	Median (25-75%)	1 (1-2)	
Total		103	100

%: frequency, 25-75%: 1st and 3rd quartile

To measure participants' characteristics about contraception, the following characteristics were assessed: counseling about contraception, sexual intercourse experience, contraception method use, emergency contraception method use, pregnancy while using contraception, preference for emergency contraception method use, and likelihood of misuse (Table 2).

Table 2

Characteristics of Participants About Contraception

		n	%
Counseling about contraception	Yes	39	37,9
	No.	64	62,1
Experience of sexual intercourse	Yes	73	70,9
	No.	30	29,1
Using a method of contraception	Yes	67	65,0
	No.	36	35,0
Using emergency contraception	Yes	31	30,1
	No.	72	69,9
Conception while using contraception	Yes	5	4,9
	No.	98	95,1
Preference to use emergency contraception	Yes	75	72,8
	No.	28	27,2
Possibility of abuse	Yes	84	81,6
	No.	19	18,4
Total		103	100

%: frequency

When sociodemographic characteristics and total scores of the questionnaire were evaluated, the total score of the Information Research Questionnaire of those aged 28 years and above was significantly higher (p=0.022). Those with a shorter residency period had a significantly lower total score on the Information Research Questionnaire (p=0.047). AHU residents had a significantly higher total score on the Behavior and Attitude Questionnaire (p=0.037) (Table 3).

Table 3

Comparison of Sociodemographic Characteristics and Knowledge Research Questionnaire on Emergency Contraception Methods and Behavior and Attitude Questionnaire on Emergency Contraception

		BAA Mean±SD	DTA Mean±SD
Gender	Woman	22,8±2,9	56,9±6,9
	Male	22,6±2,5	55,4±9,3
	p*	0,489	0,158
Age	Under 28 years old	22,1±2,9	56,5±7,4
	28 years and older	23,3±2,2	55,8±8,9
	p*	**0,022**	0,617
Marital Status	Married	22,9±2,6	58,4±7,2
	Single	22,4±2,9	55,2±8,4
	p*	0,245	0,737
Type of Assistantship	AHU	22,7±2,8	56,8±6,9
	SAHU	22,7±2,3	54,6±10,7
	p*	0,247	**0,037**
Assistantship Duration	0-18 months	22,8±2,2	56,6±7,5
	18-36 months	22,7±3,1	55,7±8,9
	p*	**0,047**	0,371
Year in Business	0-5 years	22,5±2,8	57,1±6,9
	More than 5 years	23,1±2,4	54,8±9,6
	p*	0,136	0,121
Number of children	There is	22,9±2,7	55,9±8,4
	No	22,2±2,6	57,0±7,2
	p*	0,946	0,557

*: p value was found by Independent Groups T Test, BAA: Knowledge survey questionnaire, DTA: Behavior and attitude questionnaire.

The comparison of the characteristics about contraception with the values of the Knowledge Research Questionnaire on emergency contraception methods and the Behavior and Attitude Questionnaire on emergency contraception is given in Table 4. Accordingly, the total score of the Knowledge Research Questionnaire of those who used emergency contraception method and those who said that there was a possibility of abuse was found to be significantly higher (p=0.049 and p=0.033).

Table 4

Comparison of Characteristics about Contraception and Knowledge Research Questionnaire on Emergency Contraception Methods and Behavior and Attitude Questionnaire on Emergency Contraception

		BAA Mean±SD	DTA Mean±SD
Counseling about contraception	Yes	23,3±2,6	56,1±9,2
	No.	22,4±2,7	56,2±7,5
	p*	0,614	0,551
Sexual intercourse experience	Yes	22,9±2,6	55,3±8,4
	No.	22,2±2,9	58,2±7,2
	p*	0,184	0,699
Using a method of contraception	Yes	22,8±2,6	55,1±8,4
	No.	22,6±2,8	58,1±7,5
	p*	0,315	0,994
Using emergency contraception	Yes	23,0±2,0	58,2±9,4
	No.	22,6±2,9	55,3±7,4
	p*	**0,049**	0,073
Conception while using contraception	Yes	21,8±1,4	48,8±12,1
	No.	22,8±2,7	56,5±7,8
	p*	0,137	0,295
Preference to use emergency contraception	Yes	22,9±2,5	57,3±8,3
	No.	22,2±3,0	53,2±7,0
	p*	0,338	0,253
Possibility of abuse	Yes	23,0±2,6	55,8±8,0
	No.	21,5±2,6	57,6±8,8
	p*	**0,033**	0,716

*: p value was found by Independent Groups T Test, BAA: Knowledge survey questionnaire, DTA: Behavior and attitude questionnaire.

When evaluated according to the type of residency, SAHU residents had significantly higher percentages of counseling about contraception, sexual intercourse experience, contraception method use and emergency contraception method use ($p<0.001$, $p<0.001$, $p<0.001$, $p<0.001$ and $p=0.041$, respectively) (Table 5).

Table 5

Comparison of Characteristics about Contraception and Type of Assistantship

		AHU n (%)	SAHU n (%)	p*
Counseling about contraception	Yes No.	14 (18,9) 60 (81,1)	25 (86,2) 4 (13,8)	**<0,001**
Experience of sexual intercourse	Yes No.	45 (60,8) 29 (38,2)	28 (96,6) 1 (3,4)	**<0,001**
Using a method of contraception	Yes No.	41 (55,4) 33 (44,6)	26 (89,7) 3 (10,3)	**<0,001**
Using emergency contraception	Yes No.	18 (24,3) 56 (75,7)	13 (44,8) 16 (55,2)	**0,041**
Conception while using contraception	Yes No.	3 (4,1) 71 (95,9)	2 (6,9) 27 (93,1)	0,546
Preference to use emergency contraception	Yes No.	51 (68,9) 23 (31,1)	24 (82,8) 5 (17,2)	0,156
Possibility of abuse	Yes No.	59 (79,7) 15 (20,3)	25 (86,2) 4 (13,8)	0,446

*: p value was found by Chi-Square Test. AHU: Family Medicine Specialization SAHU: Contracted Family Medicine Specialization.

According to the correlation analysis, there was a high positive correlation between age and number of children ($p<0.001$). While there was a low-level negative correlation between the total score of the Behavior and Attitude Questionnaire and age and number of children ($p=0.031$ and $p=0.010$), there was a low-level positive correlation between the total score of the Information Research Questionnaire ($p=0.009$) (Table 6).

Table 6

Correlation Analysis between Age, Number of Children,
And Knowledge of Emergency Contraception Methods
Questionnaire and Behavior and Attitude Questionnaire on Emergency Contraception

		Age	Number of children	BAA	DTA
Age	**r** **p**	1,000 .			
Number of children	**r** **p**	0,710 **<0,001**	1,000 .		
BAA	**r** **p**	0,123 0,218	0,106 0,285	1,000 .	
DTA	**r** **p**	-0,213 **0,031**	-0,252 **0,010**	0,255 **0,009**	1,000 .

p value was calculated according to spearman correlation analysis. BAA: Knowledge exploration questionnaire, DTA: Behavior and attitude questionnaire.

DISCUSSION

Unintended pregnancies, which are very common in our society, are an important women's and public health problem that can be prevented with appropriate, timely and appropriate interventions. The most effective solution to prevent these pregnancies in primary care is the regular and conscious use of family planning (FP) methods. However, in some cases, especially after unprotected sexual intercourse, emergency contraception (EC) may become the only solution. Unfortunately, there is a lack of knowledge and misconceptions both in the community and among health care providers. Healthcare personnel who lack knowledge about EC, the fact that EC is not offered as a routine counseling service in FP outpatient clinics, couples' low level of knowledge about EC, and false beliefs prevalent in the society severely limit the effective and widespread use of EC methods (Aksu & Karaöz, 2008; Bilgili & Ayaz, 2009; Li et al., 2014). This situation was also clearly demonstrated in our study. While 65% of family medicine residents were generally aware of contraception

methods, only 30.1% used EC methods and 37.9% provided counseling. These rates were similarly observed in studies conducted in different provinces. In a study conducted in Ankara in 2024, it was reported that knowledge scores changed significantly according to education ($p<0.05$), in Denizli in 2022, the rate of hearing about EC was 64% and the rate of use was 18.3%, and in studies conducted in Zonguldak in 2018 and Kahramanmaraş in 2019, it was reported that the level of knowledge increased significantly as the grade level and age increased (Altaş Baştuğ, 2024; Bayındır, 2022; Uğur, 2018; Dalkıran, 2019).

In this study, we evaluated the knowledge and attitudes of family medicine residents towards emergency contraception (EC). While 65.3% of the participants had used a method of contraception before, only 30.1% had used emergency contraception. The rate of counseling was 37.9%. These findings show that despite the theoretical knowledge, implementation in practice remains limited. Similarly, in the study of Arıöz Düzgün et al. (2023), it was reported that 65.1% of women had insufficient knowledge about EC and that the level of knowledge was significantly associated with the level of education ($p<0.05$) (Arıöz, Şahin, Güler, & Ünsal, 2023). In the study conducted by Koçak et al. (2016) reported that 74.9% of women had heard of EC, 39.1% had used this method at least once, and 78.6% had used it two or more times (Yüksel Koçak et al., 2016). In the same study, it was reported that there was a significant relationship between the level of knowledge and the level of education ($p=0.001$), which overlaps with the statistically significant difference ($p<0.05$) observed between age and duration of residency and knowledge level in our study (Yüksel Koçak et al., 2016). In the study conducted by Aşut et al. (2019) in Northern Cyprus, only 33.9% of medical faculty students knew the correct time of effective use of EC and 57.6% could correctly define it (Aşut et al., 2019).EC use among the sexually active was reported as 23.1%. These rates are similar to the rate of 30.1% among resident physicians in our study. In the study conducted at Gümüşhane University, 42.3% of the university students stated that they had knowledge about FH; however, it was determined that the knowledge level of these students about hormonal FH methods and postcoital IUD applications was quite limited. A significant difference was found between education level and knowledge level ($p<0.05$) (Can Gürkan, Şimşek Şahin, & Bozkurt, 2022).

In a 2003 study in India, 85% of health workers were aware of CoA, but only a small proportion had the correct dose and timing (Tripathi, Rathore, & Sachdeva, 2003). In a 2003-2004 study in Nigeria, 87% had heard of CoA, but only 10% had accurate knowledge, and the misconception that CoA has an abortion effect was over 30% (Ebuehi, Ebuehi, & Inem, 2006). In a 2012 study in Iran, only 35% of participants had "good" knowledge (Mohammad-Alizadeh-Charandabi, Farshbaf-Khalili, & Moeinpoor, 2012). In a 2011 study at Edinboro University, 74% of students had heard of EC, 17% had used it, and only 16% knew that the university health center offered EC (Miller, 2011).

These studies reveal that although awareness of EC is widespread in different countries, the depth of knowledge and correct implementation remain limited. The common trend is that there is a gap between knowledge and practice, and the most significant variables that increase the level of knowledge are age, educational level and professional experience. In conclusion, more content should be added to both the medical education curriculum and in-service training programs to improve the knowledge and attitudes of family medicine residents on FH, and their consultancy experience in clinical practice should be increased. Structured, interactive and case-based trainings may be effective especially for young and continuing health professionals.

CONCLUSION

In this study, the knowledge, attitudes and behaviors of healthcare workers about emergency contraception were evaluated. The median age of the participants was 28 years and the proportion of women was 52.4%. Those aged 28 years and older and SAHU residents had significantly higher knowledge scores. Knowledge level was lower in those with a shorter residency period. The knowledge scores of those who used emergency contraception and those who thought that there was a possibility of misuse were also high. In addition, SAHU residents were found to be more active in terms of counseling about contraception and method use. There were strong associations between age and number of children and weak associations between knowledge and attitude scores and age. These findings suggest that young and inexperienced health workers need more training and guidance on contraception. Emergency contraception is an issue that requires counseling and family physicians are in a position to provide counseling on this issue. It is seen that conducting such studies in larger groups will increase awareness and complete the missing information.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OOP-20 · Neonatal Non-Conducted Premature Atrial Complexes: A Rare Cause of Severe Bradyarrhythmia and Hemodynamic Instability

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ABSTRACT

Introduction: Arrhythmias in the neonatal period can range from benign rhythm disturbances to life-threatening arrhythmias, and, in some cases, can lead to severe hemodynamic disturbances and low cardiac output (Ban, 2017; Dubin, 2000). Non-conducted premature atrial complexes (PAC) are rare rhythm disturbances that can be confused with atrioventricular (AV) block but have a different mechanism (Liu & Peng, 2024). This condition, which can cause severe bradycardia and secondary cardiomyopathy, may pose a significant challenge in terms of diagnosis and management in neonatal intensive care unit patients. In this study, we evaluated the clinical course, treatment processes, and longterm outcomes of five patients with non-conducted PAC who were followed up for bradycardia.

Materials and Methods: Five patients with bradycardia and non-conducted PAC detected by electrocardiography (ECG) in the neonatal intensive care unit between 2017 and 2024 were retrospectively analyzed. Demographic data, ECG and Holter results, echocardiographic findings, treatments (propafenone, amiodarone), and long-term follow-up results were evaluated. Cardiac functions were examined by echocardiography, and treatment responses of the patients were analyzed.

Results**:** Bradycardia resolved with propafenone treatment in four of five patients and with amiodarone treatment in one patient. The Brugada pattern developed in two patients treated with propafenone, and their treatment was switched to amiodarone; the Brugada pattern disappeared within 48 hours (Arı & Ekici, 2017). During the period of non-conducted PAC, heart rates ranged between 45 and 65 beats per minute. Left ventricular systolic dysfunction secondary to bradycardia developed in three patients, but ventricular function returned to normal after treatment. Medical treatment was terminated in four patients within 12 months, and one patient was planned to be terminated at 12 months. During the follow-up period, no recurrence of bradycardia was observed in any patient, and isolated supraventricular premature beats were detected in <10% of the patients' Holter recordings.

Conclusion**:** In the neonatal period, non-conducted PAC can lead to severe bradycardia and hemodynamic disturbances (Ergül, 2017). This condition can be successfully managed with early diagnosis and appropriate antiarrhythmic therapy, and ventricular function can be normalized. However, caution should be exercised during propafenone treatment because of the risk of the Brugada pattern development. Our study aims to contribute to the diagnosis and treatment of non-conducted PAC in the neonatal period.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS
Non-conducted premature atrial complex, bradycardia, newborn, propafenone, brugada

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OOP-21 · B12 Deficiency Underlying the Clinic of Hypotonic Infants

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ABSTRACT

Introduction: Neurological development begins intrauterine and peaks at 2 years after birth. The progression of motor development begins with head holding in the 2nd month and continues with supported sitting, unsupported sitting and unsupported walking, which we expect to occur under normal conditions by the 18th month at the latest. Failure or delay in these steps is one of the reasons for consulted to a pediatrician with a clinic for hypotonic infant.

Materials and Methods: Patients referral in the pediatric neurology outpatient clinic with hypotonic infant clinic who were found to have low vitamin B12 levels and we are treated were evaluated.

Results: Four patients seen at the pediatric neurology outpatient clinic with the diagnosis of hypotonic infants and diagnosed with B12 deficiency were included. The patients were found to be deficient in B12. Levels were 100, 120, 130, 130 pg/ml (mean 120 pg/ml). As the patients were breastfed, their mothers were also asked to have blood tests. Two mothers had blood tests and vitamin B12 levels were found to be low. B12 treatment was started in all infants. Sublingual methylcobalamin spray was started because of its ease of use and to prevent neurological complications caused by rapid B12 elevation with intramuscular treatment. As the B12 levels increased in all the infants, their motor development gradually improved according to their age.

Conclusion: Before proceeding to further examinations in children with motor and mental developmental delay, B12 level and supplementation if necessary are very important.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference. Patients referral in the pediatric neurology outpatient clinic with hypotonic infant clinic who were found to have low vitamin B12 levels and we are treated were evaluated. Consent for the study was obtained from the patients' families.

KEYWORDS

B12 deficiency, hypotonic infants

INTRODUCTION

Neurological development begins intrauterine and peaks at 2 years after birth. The progression of motor development begins with head holding in the 2nd month and continues with supported sitting, unsupported sitting and unsupported walking, which we expect to occur under normal conditions by the 18th month at the latest. Failure or delay in these steps is one of the reasons for consulted to a pediatrician with a clinic for hypotonic infant. Vitamin B12 plays a role in the development of central and peripheral nerves. A deficiency of this vitamin, which usually cannot be obtained from external sources due to inadequate nutrition, may lead to hypotonic infant clinic.

CASE PRESENTATION

Four patients seen at the pediatric neurology outpatient clinic with the diagnosis of hypotonic infants and diagnosed with B12 deficiency were included. The patients were 6, 6, 8 and 9 months (mean 7.25 months) old at the time of presentation. Two (50%) of the patients were female and two (50%) were male. Two 6-month-old patients presented with complaint of inability to hold head and 8- and 9-month-old patients presented with complaints of being unable to sit unsupported.

All patients were born at term and had no history of stay in an in the neonatal intensive care unit. There was no parental consanguinity. There was no family history of muscle disease. On physical examination, deep tendon reflexes were present. However, marked hypotonic and difficulty in focusing the eyes were observed depending on the monthly development.

All patients had normal heel blood tests. Routine blood tests including hemogram, biochemistry, thyroid hormones and vitamin D were within normal limits. The patients were found to be deficient in B12. Levels were 100, 120, 130, 130 pg/ml (mean 120 pg/ml). As the patients were breastfed, their mothers were also asked to have blood tests. Two mothers had blood tests and vitamin B12 levels were found to be low.

B12 treatment was started in all infants. Sublingual methylcobalamin spray was started because of its ease of use and to prevent neurological complications caused by rapid B12 elevation with intramuscular treatment. As the B12 levels increased in all the infants, their motor development gradually improved according to their age. At the four-month follow-up, all infants had reached the developmental milestones or their months without any physiotherapy programme.

DISCUSSION

Vitamin B12 is mainly found in animal foods (fish, eggs, milk, meat). Water-soluble vitamin B12 is not produced by the body. Therefore, its level in the body varies with dietary intake (World Health Organization [WHO], 2022). Children with vitamin B12 deficiency can present with a wide variety of clinical symptoms and findings (Rasmussen, Fernhoff, & Scanlon, 2001). They often present with non-specific findings such as weakness, fatigue, growth retardation and restlessness. In addition, hematological and neurological findings may be present (Ohls & Christensen, 2004). Neurological symptoms may precede hematological changes and may even be seen in the absence of hematological findings (Means & Fairfield, 2022). If the deficiency is not detected at an early age, it may cause neurodevelopmental retardation in the child compared with his or her peers. Therefore, detection and treatment of deficiency is of great importance in pediatric health care (Demir et al., 2013). Neurological findings related to vitamin B12 deficiency can improve within days with the initiation of appropriate treatment (Dror & Allen, 2008). In our patients, neurological development caught up with their pers within 4 months with treatment of B12 deficiency.

Before proceeding to further examinations in children with motor and mental developmental delay, B12 level and supplementation if necessary are very important.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OOP-22 · One Cause of Gait Disorder: Peroneal Nerve Damage; Drop Foot

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ABSTRACT

Introduction: Another cause of gait disorders is peroneal nerve damage. The peroneal nerve, which branches off from the sciatic nerve in the popliteal fossa, passes the lateral head of the gastrocnemius muscle on the outer surface of the popliteal fossa. The peroneal nerve provides plantar flexion of the foot. Since plantar flexion cannot be performed in its damage, drop foot clinic occurs. Patients present with complaints of impaired walking.

Materials and Methods: 4 cases that applied with drop foot clinic between January 2018 and January 2025 were examined.

Results: 3 of the patients (75%) were male, 1 was female (25%). The clinic of 3 of the patients (75%) was due to trauma and 1 (25%) was secondary to viral infections. All of those due to trauma were male, and peroneal nerve damage was observed on one side of the leg in the trauma area. In the only case that developed viral infection, the findings were observed bilaterally. 3 of the patients (75%) recovered completely, and 1 did not recover completely at the 4-month follow-up.

Conclusion: Foot drop is an important cause of walking disorder and greatly affects the quality of life. While it can be damaged due to trauma in the foreground, viral infections are also involved in the etiology. Although the prognosis varies depending on the etiology, the prognosis is generally good.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Peroneal nerve damage, drop foot

INTRODUCTION

Another cause of gait disorders is peroneal nerve damage. The peroneal nerve, which branches off from the sciatic nerve in the popliteal fossa, passes the lateral head of the gastrocnemius muscle on the outer surface of the popliteal fossa (Şimşek, 2021). The peroneal nerve provides plantar flexion of the foot. Since plantar flexion cannot be performed when damaged, foot drop occurs. Patients present with complaints of gait deterioration. Trauma, sharp injuries, bone fractures, viral infections may cause this condition (Baima & Krivichas, 2008). Treatment includes rest, non-steroidal anti-inflammatory drugs, physical therapy, and surgery if necessary (Garazzo, Ferraresi, & Buffatti, 2004).

CASE PRESENTATION

We wanted to present 4 cases with etiologies who presented with foot drop between January 2018 and January 2025.

Case 1: A 4-year-old male patient suffered trauma to his leg after falling 2 weeks ago. He was told that there might be a fissure in the tibial bone and was given a half splint for immobilization. The splint was removed after 1 week, but walking disorder was observed in the leg where the splint was removed. On examination, there was drop foot and 4/5 loss of strength. Patellar reflex was bilateral. Spinal imaging was normal. It was thought that there might be peroneal nerve damage due to the slipping of the splint. After non-steroidal anti-inflammatory treatment, his complaints completely regressed within 1 week.

Case 2: A 7-year-old female patient came to the pediatric emergency room with walking disorder. On examination, bilateral drop foot was detected. Spinal imaging was normal. Neurological examination was normal. There was a history of flu two weeks ago. The patient's walking gradually improved within 1 month. Peroneal nerve damage due to viral infection was considered.
Case 3: A 10-year-old male patient was hit in the peroneal nerve region while playing football with his father, and after the acute period passed, the patient's walking was impaired. On examination, drop foot was observed on that side, patellar reflexes were bilateral, and neurological examination was normal. Improvement was observed within 10 days with non-steroidal anti-inflammatory treatment.
Case 4: A 15-year-old male underwent surgery for a gunshot wound to the leg region. When mobilized, gait was impaired. On examination, drop foot was detected. Spinal imaging was normal. Peroneal nerve damage was detected on EMG. Physical therapy was recommended to the patient. After 4 months, there was partial improvement in walking, and he still could not perform plantar flexion fully. The patient did not come for follow-ups afterwards. Between January 2018 and January 2025, 4 pediatric patients presented with foot drop clinic and were diagnosed with peroneal nerve palsy. 3 of the patients (75%) were male and 1 was female (25%). The clinic of 3 of the patients (75%) was due to trauma and 1 (25%) was secondary to viral infections. All of the patients were male and peroneal nerve damage was observed on one side of the leg in the trauma area. In the only case that developed viral infection, the findings were observed bilaterally. 3 of the patients (75%) recovered completely, and 1 did not show complete recovery in the 4-month follow-ups.

DISCUSSION

The sciatic nerve is the largest nerve in the body, and the peroneal nerve branches off the sciatic nerve at the kneecap. The peroneal nerve is sensitive to trauma because it runs on the surface. It is the most common cause of foot drop. There are many different etiologies for peroneal nerve damage. While trauma is the most common of these, hematoma, vascular infarction, neuropathy, tumor formation, infection, and inflammation are also considered as causes (Şimşek, 2021; Altıntaş et al., 2016). In our cases, trauma was also evaluated as the most common cause with a rate of 75%. All cases with trauma were male. Treatment includes rest, non-steroid anti-inflammatory drugs, and surgery if necessary (Garazzo, Ferraresi, & Buffatti, 2004). Prognosis varies depending on etiology, 3 patients (75%) recovered completely within 1 month, while 1 patient partially recovered after 4 months.
Drop foot is an important cause of walking disorder and greatly affects the quality of life. While it can be damaged due to trauma in the foreground, viral infections are also included in the etiology. Although the prognosis varies depending on the etiology, the prognosis is generally good.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-OOP-23 · Relationship Between Inflammatory Markers and Nutritional Status in Patients Admitted to the Palliative Care Center

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ABSTRACT

Introduction: In the presence of malnutrition, it becomes more difficult to fight diseases, and compliance with treatment decreases. In our study, neutrophil/lymphocyte ratio (NLR), platelet/lymphocyte ratio (PLR), mean platelet volume (MPV) of patients hospitalized with various diagnoses will be calculated and whether there is a relationship between inflammation and nutrition will be investigated. Patients were screened with NRS-2002 (Nutritional Risk Score) to investigate their nutritional status.

Materials and Methods: The data of 148 patients hospitalized with various diagnoses in the Palliative Care Center Clinic of Tuzla State Hospital between 01.06.2024 - 01.09.2024 were retrospectively scanned. Age, gender, comorbid diseases, feeding type (oral, nasogastric, gastrostomy, parenteral), NRS-2002, BMI (Body Mass Index), Hemogram, Albumin values of the included patients were recorded.

Results: Of the patients included in the study, 52% were male; mean age was 75,27; mean NRS-2002 was 3,11; mean albumin was 2,93; mean Hemoglobin was 10,08.A statistically significant difference was found between malnutrition and NLR.There was no significant difference between the malnutrition risk of those fed enterally and parenterally. A statistically significant difference was found between gender and MPV. No significant relationship was found between hypoalbuminemia, anemia and inflammation markers. A statistically significant difference was found between malnutrition risk and NLR. When we compared comorbid diseases with inflammation markers; A statistically significant relationship was found between malignancy and NLR and between chronic ischemic heart diseases and MPV. A moderately strong and positive correlation was found between NLR and PLR ($p<0,001$). When we compared the feeding type of the patients with inflammation markers: PLR values of those fed orally and those fed with nasogastric tube, NLR values of those fed orally and those fed parenterally, PLR values of those fed with nasogastric tube and those fed parenterally, NLR values of those fed with nasogastric tube and parenterally fed, there was a statistically significant relationship. A statistically significant difference was found between NRS-2002 and MPV, NLR and PLR values. NLR, PLR, MPV values of those at risk of malnutrition were found to be lower. A negative correlation was found between NRS-2002 and NLR and MPV.

Conclusion: In our study, a statistically significant relationship was observed between malnutrition and inflammation.A statistically significant relationship was observed between the type of nutrition of patients and inflammation.In a study conducted by Rechcinski et al.,it was shown that high MPV value is an independent risk factor for myocardial infarction (Rechcński et al., 2013). Similarly, in our study, a significant relationship was found between MPV and chronic ischemic heart diseases. NLR, which was found to be related to malignancy in our study, is considered to be a predictor of poor prognosis in many cancers (Gu et al., 2015).

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Inflammation, palliative care, malnutrition

INTRODUCTION

Palliative care is a multidisciplinary care model aimed at preventing or alleviating potential symptoms in individuals with serious illnesses, seeking to achieve the best quality of life (Morrison & Meier, 2004). Malnutrition can be defined as a decrease in physical and mental functions and a worsening of clinical outcomes caused by deficiencies or irregularities in intake that lead to the deterioration of body composition and body cell mass. The presence of malnutrition complicates the fight against diseases and reduces compliance with treatment. It is known that malnutrition affects mortality, length of hospital stays, and response to treatment, especially in critically ill patients such as those in palliative care. Pro-inflammatory markers such as neutrophil/lymphocyte ratio (NLR), platelet/lymphocyte ratio (PLR), and mean platelet volume (MPV) have increasingly been used in recent years (Aksu et al., 2016; Avci et al., 2017; Zahorec, 2021). The physiological response of leukocytes to systemic inflammation involves an increase in neutrophil count and a decrease in lymphocyte count. With the replacement of acute inflammation with chronic inflammation, a decrease in neutrophil count and expected increases in macrophage, lymphocyte, and plasma cell counts occur. NLR is expected to be high in acute inflammation and low in chronic inflammation. Its reflection of these multiple responses, combining neutrophils and lymphocytes that play roles in both acute and chronic inflammatory processes, makes NLR a beneficial indicator of inflammatory response. Studies have shown that tumor cells can gather neutrophils in the tumor stroma via specific chemokines. Subsequently, neutrophils inhibit apoptosis, promote angiogenesis, and metastasis, displaying pro-tumorigenic effects. Infiltrating lymphocytes, which play a role in tumor defense, are associated with a favorable prognosis. NLR reflects the dynamic relationship between innate (neutrophils) and adaptive cellular immune responses (lymphocytes) during disease and various pathological conditions. The normal range for NLR is between 1 and 2; values above 3.0 in adults and below 0.7 are considered pathological. The gray zone for NLR, between 2.3 and 3.0, can serve as an early warning for pathological conditions or processes such as cancer, atherosclerosis, infection, inflammation, psychiatric disorders, and stress (Zahorec, 2021). Studies suggest that NLR could be a prognostic factor in cardiovascular diseases, autoimmune and inflammatory diseases, cancers, and many other disorders. Platelets differ according to their density and size. Mean platelet volume (MPV) is one of the indicators of platelet function. When there is an increase in platelet production, MPV also increases. A platelet volume above 10 femtoliters indicates increased platelet size, while below 6 femtoliters indicates decreased platelet size. Larger than normal volume platelets have been shown to be more reactive and are important markers in predicting atherosclerosis, including coronary artery disease. Many studies suggest that MPV could serve as a prognostic factor in patients with cardiovascular diseases. The platelet-to-lymphocyte ratio (PLR), determined by dividing platelet count by lymphocyte count, is believed to be a potentially useful prognostic biomarker in predicting inflammation and mortality. Activated platelets release pro-inflammatory chemokines and cytokines, mediating inflammation. As a new inflammatory marker, PLR is thought to be used as a marker of inflammation and poor prognosis in malignancies, obstructive peripheral artery diseases, atherothrombosis, and atherosclerosis. In our study, we will investigate whether there is a relationship between inflammation and nutrition by calculating the neutrophil/lymphocyte ratio (NLR), platelet/lymphocyte ratio (PLR), and mean platelet volume (MPV) of patients admitted with various diagnoses.

MATERIALS AND METHODS

For this study, ethical approval was obtained from the Scientific Research Ethics Committee of Sehit Prof. Dr. İlhan Varank Education and Research Hospital, numbered 2024/283, on September 12, 2024. Data from 148 patients admitted to the Palliative Care Center Clinic of Tuzla State Hospital between June 1, 2024, and September 1, 2024, were retrospectively reviewed. Recorded data included patients' age, sex, comorbid diseases, type of nutrition (oral, nasogastric, gastrostomy, parenteral), NRS-2002 (Nutritional Risk Score), BMI (Body Mass Index), hemogram, and albumin levels for comparison. Patients were screened using NRS-2002, with a score of 3 or higher considered at risk for malnutrition.

RESULTS

Of the patients included in the study, 52% (n=77) were male; the average age was 75.27; the average BMI was 23.38; the average NRS-2002 score was 3.11; the average albumin was 2.93; the average hemoglobin was 10.08; the average NLR was 5.17; the average PLR was 229.25; and the average MPV was 10.02. While 47.29% of the patients were fed via nasogastric tube, 20.94% via gastrostomy, and 22.29% orally.

Hypoalbuminemia was present in 79.05% of the patients, and anemia was present in 79.72%. It was observed that 64.18% of the patients were at risk for malnutrition. A significant statistical difference was observed between malnutrition and NLR ($p=0.022$). No significant difference was found between the malnutrition risks of enterally and parenterally fed patients. A statistically significant difference was found between sex and MPV ($p=0.013$). No significant relationship was observed between hypoalbuminemia, anemia, and inflammatory markers. When comparing the patients' nutritional types with their albumin levels, a statistically significant difference was found ($p=0.036$). A statistically significant difference was found between malnutrition risk and NLR ($p=0.022$). When comparing the NRS-2002 scores of those fed orally and via nasogastric tube, a statistically significant relationship was observed ($p=0.002$). There was a statistically significant relationship between malignancy and albumin level ($p=0.022$). When comparing comorbid diseases with inflammatory markers, a statistically significant relationship was found between malignancy and NLR ($p<0.05$). A statistically significant relationship was found between chronic ischemic heart diseases and MPV ($p<0.05$). A moderate positive correlation was found between NLR and PLR ($p<0.001$). When comparing the patients' nutritional type with inflammatory markers, a statistically significant relationship was observed between the PLR values of those fed orally and via nasogastric tube ($p<0.05$). A statistically significant relationship was found between the NLR values of those fed orally and parenterally ($p<0.05$). A statistically significant relationship was observed between PLR values of those fed via nasogastric tube and parenteral feeding ($p<0.05$). There was also a statistically significant relationship between the NLR values of those fed via nasogastric tube and parenteral feeding ($p<0.05$). Therefore, we can say that there is a significant relationship between the patients' type of nutrition and inflammatory markers. A statistically significant difference was found between NRS-2002 and MPV, NLR, and PLR ($p<0.05$). The NLR, PLR, and MPV values of those at risk for malnutrition were found to be lower. A negative correlation was found between NRS-2002 and NLR and MPV.

DISCUSSION

In a study conducted by Rechcinski et al., it was shown that high MPV values are an independent risk factor for myocardial infarction (Rechcński et al., 2013). Similarly, in our study, a significant relationship was found between MPV and chronic ischemic heart diseases. Moreover, the observed relationship of NLR with malignancy suggests that it could be a predictor of poor prognosis in many cancers (Gu et al., 2015).

CONCLUSION

In our study, a statistically significant relationship between malnutrition and inflammation was observed. Considering the relationship between malnutrition and inflammation, it should be assessed whether patients under acute or chronic inflammation are at risk for malnutrition, and necessary measures should be taken regarding nutrition. When comparing inflammatory markers with comorbid diseases, a significant relationship was found between MPV and chronic ischemic heart diseases, and NLR and malignancy. Although a significant relationship was observed in this study, research on the correlation between malnutrition and NLR is limited. It was found that there was no difference in malnutrition between enteral and parenteral feeding. The relationship between the patients' nutritional type and inflammatory status is interesting and requires further comparison and investigation in other studies.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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INVITED PAPERS

EBFMC25-IP-01 · Spinal Health in Children: A Systematic Review

https://doi.org/10.5281/zenodo.15831252

This invited paper was presented as a keynote speech at the 3rd International Eastern Black Sea Family Medicine Congress, held in Ordu, Türkiye, on May 22–24, 2025, and is included in the proceedings titled: Proceedings of the 3rd International Eastern Black Sea Family Medicine Congress.

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ABSTRACT

Spinal health in children is of critical importance as it forms the basis of lifelong musculoskeletal health. During childhood, the spine undergoes rapid growth, making it vulnerable to postural imbalances and biomechanical stressors such as improper backpack use or sedentary lifestyles. Factors including physical inactivity, prolonged screen time, poor ergonomics, and inadequate nutrition exacerbate risks, potentially leading to chronic pain, functional limitations, and compromised quality of life. Early detection through routine pediatric screenings and school-based programs is vital to identify abnormalities such as spinal curvature or postural disorders before they progress. Treatments range from physical therapy and corrective bracing to surgical options in severe cases. Preventive strategies emphasize promoting physical activity, ergonomic adaptations (e.g., appropriately weighted backpacks, supportive furniture), and postural education to mitigate risks. Prioritizing spinal health in childhood not only safeguards immediate physical development but also reduces the burden of chronic musculoskeletal disorders in adulthood. This article provides an overview of the prevalence of spinal disorders, the influence of lifestyle factors such as physical activity and backpack use, and the importance of education. Recent studies have emphasized the need to raise awareness of the importance of spinal health among parents, educators, and family physicians. Furthermore, this article underlines the need for preventive measures and early interventions to reduce the risk of spinal disorders in children.

KEYWORDS

Scoliosis, education, backpack, spinal health

INTRODUCTION

The prevalence of adolescent idiopathic scoliosis (AIS) has been shown to be between 0.35% and 5.2% in the world and is generally accepted to be 2-3% in children under 16 years of age. In the study conducted by Yılmaz et al., the prevalence of AIS in Turkey was found to be 2.3% (Yılmaz, Zateri, Kusvuran Ozkan, Kayalar, & Berk, 2020). Although these rates show regional differences, they cannot be neglected. Spinal health is an important part of systemic health that significantly affects the physical development and quality of life of children. Recent studies have shown that spinal disorders, including back pain and postural deformities, are becoming increasingly common among children and adolescents (Joergensen et al., 2019; Sainz de Baranda et al., 2020). The increase in the incidence of these disorders can be attributed to several factors, including sedentary lifestyles, improper backpack use, and lack of awareness of spinal health (Patil, Sumana, & Shagale, 2016). Moreover, physiological differences between the spines of children and adults require special approaches for the prevention and treatment of the disease (Ambrosio et al., 2023). The importance of education in spinal health cannot be underestimated. Studies have shown that children, parents, and educators often have limited knowledge about spinal anatomy, pathology, and the consequences of poor spinal health (Lauridsen & Hestbæk, 2013; Louw et al., 2021). This lack of knowledge may lead to neglect of spine care, resulting in long-term adverse effects on children's health. Therefore, it is very important to implement educational programs that promote spine health awareness (Park & Kim, 2011). The aim of this study is to identify, through systematic review, the key factors that influence spinal health in children, common issues to be aware of, and practical steps that parents and caregivers can take to support a strong and healthy spine.

MATERIALS AND METHODS

A systematic review of recent literature was conducted to investigate the current state of spinal health in children. The review focused on studies published in peer-reviewed journals addressing various aspects of spine health, including epidemiology, risk factors, and educational programs. This study does not require ethics committee approval.

RESULTS

In a PubMed search on 'spine health in children,' 1510 articles were identified, 16 of which were evaluated. Articles that mentioned adult spine health in general and emphasized surgical treatment options were excluded from the study. The remaining studies were included in the systematic review and meta-analysis.

DISCUSSION

The findings obtained from the literature review revealed some important information about spinal health in children. Firstly, spinal pain is a common complaint among children, and studies have shown that there is a significant prevalence of back pain in school-age children (Baranda et al., 2020; Joergensen et al., 2019). The Youth Disability Questionnaire developed in Denmark emphasizes that spine pain is a multifaceted condition involving both physical and psychosocial components (Lauridsen, Meldgaard, Hestbæk, & Hansen, 2023).

The effect of carrying heavy backpacks during childhood, on the development of deformity in the spine has been a subject of curiosity. In their study, Saltikov and Cole stated that since front-use bags produce a symmetrical postural deviation in a single plane in response to the load, they would be more suitable for load carrying in the young adult student population. They stated that shoulder and handbags may cause negative stress and strain on the spinal structures by causing postural deviations in all planes and may eventually lead to pain and progressive postural scoliosis (Bettany-Saltikov & Cole, 2012).

Lack of physical activity increases the risk of poor posture by weakening the muscles supporting the spine. Lack of physical activity is also one of the most important causes of obesity in the world. Catanzariti et al. demonstrated that there was a correlation between AIS and obesity with a 2 times higher prevalence compared to the general population (Catanzariti, Rimetz, Genevieve, Renaud, & Mounet, 2023).

One of the key aspects of spine health in children is education programs. Park and Kim's study showed that a spine health education program for primary school children, which included exercises to strengthen back muscles and information about healthy foods for spine health, had positive effects on children's spine health behaviours (Park & Kim, 2011). These programs not only educate children about the importance of spinal health but also make them more attentive to spinal health (Louw et al., 2021; Park & Kim, 2011).

Furthermore, the review emphasized the need for early diagnosis and intervention in the management of spinal deformities. Regular assessment of spinal posture is crucial to detect potential problems before they progress (Lazic et al., 2021; Zmyślna et al., 2019). Integration of innovative tools such as sensorequipped backpacks can help monitor spinal development and provide real-time feedback to parents or caregivers (Yao et al., 2023).

CONCLUSION

In conclusion, spinal health in children is a multidisciplinary issue that requires the joint efforts of parents, educators, and health care providers. The increasing prevalence of spinal disorders among children underlines the urgent need for educational initiatives that promote awareness and preventive measures. By promoting a better understanding of spinal health, we can empower children to adopt healthier habits and reduce the risk of developing spinal disorders later in life. Future research should focus on developing targeted interventions and assessment tools to further improve our understanding of spine health in the pediatric population.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-IP-02 · Integration of Telehealth Applications into Home Healthcare Services
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This invited paper was presented as a keynote speech at the 3rd International Eastern Black Sea Family Medicine Congress, held in Ordu, Türkiye, on May 22–24, 2025, and is included in the proceedings titled: Proceedings of the 3rd International Eastern Black Sea Family Medicine Congress.

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ABSTRACT

With the increasing elderly population, the number of patients with chronic conditions and the scope of home care services are expanding. This development is also affecting the way home care services are delivered and increasing the role of technology-driven approaches.

Telemedicine, as a concept, refers to applications used both among healthcare professionals and between the healthcare system and patients. It is a broad term that encompasses a range of technologies, from digital radiography and telephone consultations to video conferencing and remote surgery.

Telehealth, on the other hand, is a remotely accessible network used by all healthcare professionals for the diagnosis, treatment, and prevention of diseases, as well as the continuous improvement of healthcare services between citizens and healthcare personnel.

In home healthcare services, artificial intelligence is widely used in electronic health records, mobile health, telehealth, remote patient monitoring, and patient tracking sensors. Today, it is particularly utilized in online service documentation, medication safety applications, and the recording and monitoring of patient safety indicators.

Wearable technologies are among the recent innovations in home healthcare services. These include sensor-equipped devices such as smart bracelets, watches, shirts, and badges that collect a person's data through sensors and provide personalized feedback.

KEYWORDS

Home healthcare, telemedicine, artificial intelligence, wearable technology, elderly care, remote monitoring

INTRODUCTION

For home healthcare services to be effective and efficient, they must continuously adapt to changes and integrate technological advancements into service delivery. With the increase in the elderly population, the number of patients with chronic illnesses is also rising, and the scope of home care services is expanding. These changes are influencing how care is delivered at home and increasing the role of technology-oriented approaches (Merih, Ertürk, Yemenici & Satman, 2021).

Today, access to healthcare services is a significant concern. Therefore, telehealth applications can facilitate the regular monitoring of elderly individuals and patients with chronic conditions who face challenges in accessing healthcare services. Additionally, such applications may contribute to reducing healthcare expenditures (Heinz et al., 2012; Hersh et al., 2001)

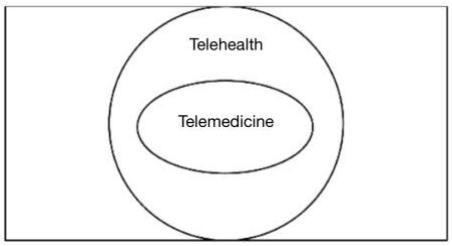
DEFINITION

Telemedicine and telehealth are closely related concepts. Telemedicine refers to practices used both between healthcare professionals and between the healthcare system and patients. It is a broad term encompassing a range of technologies—from digital radiology and phone consultations to video conferencing and remote surgery. In other words, it involves the use of telecommunication technologies to deliver medical care or services (Dılbaz, Kaplanoğlu & Kaya, 2020).

Telehealth, on the other hand, is a remote-access network used by all healthcare professionals to diagnose, treat, and prevent diseases, as well as to continuously improve healthcare services, by facilitating

communication between citizens and healthcare personnel (Dılbaz, Kaplanoğlu & Kaya, 2020). Various terminologies can be encountered in the field of telehealth, including e-Health and m-Health.
The World Health Organization defined telehealth in 2010 as: "The delivery of healthcare services, where distance is a critical factor, by all healthcare professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing education of healthcare providers, all in the interests of advancing the health of individuals and their communities." (World Health Organization [WHO], 2010)
As this definition suggests, telehealth serves as an umbrella term encompassing many remote access services, including telemedicine. These remote access applications include video conferencing, secure messaging, internet-based computer and phone applications. In essence, the scope ranges from voice calls and text messaging to wearable technologies and remote patient monitoring (telemonitoring) (Figure 1). The most significant disadvantage of telehealth is the lack of opportunity for immediate intervention in acute patient situations.

Figure 1



TELEHEALTH IN HOME HEALTHCARE

According to a study investigating the most common conditions for which telehealth is used, this service is applied in 45% of diabetes cases, 15% of hypertension (HT), 10% of depression, 9% of heart failure, 6% of dementia, and 2% of COPD/asthma and kidney failure cases (Wainwright & Wootton, 2003).
When examining global examples of telehealth use, it has been observed that compared to traditional care, telephone support from nurses and home telemonitoring have contributed to reduced hospitalization rates (Jerant et al., 2007). Studies have shown that patients in the telemonitoring group exhibited significantly improved self-care behaviors compared to those receiving home visits (Benatar et al., 2003; Chaudhry, Mattera, Spertus & Krumholz, 2007).
According to the results of a study conducted by Cleland et al. (2005), patients who received home telemonitoring or nurse telephone support had higher survival rates compared to those who received traditional care. Furthermore, patients in the telemonitoring group had a 26% reduction in the number of days spent in the hospital compared to those who received only telephone support (Cleland et al., 2005).
Telehealth can also be applied in the field of preventive medicine, referred to as tele-preventive medicine. For example, studies have shown that telehealth use in smoking cessation counseling yields results similar to those achieved through face-to-face interaction. The use of telehealth for promoting healthy eating habits has also been found to be beneficial (Hersh et al., 2001). In individuals with diabetes, telehealth services are utilized to improve access to healthcare and enhance quality of life.

TECHNOLOGY TRENDS IN HOME HEALTHCARE

The importance of current technology trends -such as big data, artificial intelligence (AI), virtual reality (VR), augmented reality (AR), precision health, the Internet of Things (IoT), and wearable technologies- is increasing in home healthcare services (Merih, Ertürk, Yemenici & Satman, 2021).

Big Data: Big data refers to larger and more complex datasets obtained particularly from new data sources. In healthcare, big data includes information embedded in emerging technologies such as AI, VR, AR, precision medicine, and the Internet of Things. These datasets are valuable not only for diagnosing, treating, and monitoring diseases but also for generating legal records and serving as data sources for scientific research (Gonzalez Jimenez, 2011).

Internet of Things (IoT): IoT refers to technologies involving embedded devices, sensors, and detection networks in objects/devices, supported by advanced internet protocols. In home healthcare, IoT applications include mobile health services, remote patient care, preventive systems, diagnostics, treatment, and patient monitoring systems. These involve physiological sensors used for remote monitoring, medication adherence, tracking medical equipment, and preventing medical errors (such as incorrect drug/dose/time/procedure). Wireless body area networks (WBANs), which collect biological signals from the human body—such as ECG, oximeter, Holter monitor, and blood glucose measurements—are also included in this category (Bini, 2018).

Artificial Intelligence (AI): AI involves replicating human cognitive functions through computers and enabling machines to learn to a certain degree. The most well-known AI methods include expert systems, fuzzy logic, artificial neural networks (ANNs), and genetic algorithms.
In home healthcare, AI is widely used in electronic health records, mobile health, telehealth, remote monitoring, and patient tracking sensors. Today, it plays a key role in online service documentation, medication safety applications, and the recording and tracking of patient safety indicators. AI-powered decision-support systems also help prevent medical errors (Whende, 2020).
AI-supported robots are employed in various areas, including drug testing and production, logistics, patient treatment, and care. Additionally, robots increasingly assist healthcare professionals in everyday tasks such as dressing, bathing, patient transport, monitoring, rehabilitation, and providing emotional support (Gonzalez Jimenez, 2011; Whende, 2020).

Augmented Reality and Virtual Reality: Virtual reality creates a simulated environment where individuals feel as though they are physically present in a different setting. It is often defined as an alternative world in which users can move, supported by fiber optic data, gloves, and video goggles. VR systems consist of computers, goggles, headphones, and motion-sensing equipment. VR is used to create computer-based, three-dimensional, immersive environments.
Augmented reality (AR), in contrast, overlays virtual elements onto real-world settings. VR and AR are used in surgical training, other healthcare professional education, patient education, rehabilitation, and exercise programs (Whende, 2020).

Precision Health: Precision health refers to the development of diagnostic, treatment, and prevention tools tailored to individuals with similar genetic, environmental, and lifestyle characteristics, rather than a one-size-fits-all approach. Also known as personalized medicine, it considers individual variability in genes, environment, and lifestyle when addressing diseases. It utilizes electronic health records, genetic testing, big data analytics, and supercomputers. Precision medicine is used especially in the diagnosis, treatment, and prevention of cancer, neurodegenerative disorders, and rare genetic conditions (König et al., 2017).

Wearable Technologies: Wearable technologies are systems that collect individual data via sensors and provide personalized feedback. These devices include sensor-equipped smart bracelets, watches, shirts, and badges that can monitor parameters like blood pressure and oxygen saturation.
They are particularly useful in the home care of patients with cardiovascular diseases. These devices also support mood and sleep disorder monitoring, elderly care, and transmitting sleep data to healthcare professionals when needed (Stavropoulos et al., 2020).
There have been major advancements in wearable systems such as sensor-embedded garments, airbag vests to prevent fall-related injuries, and balance control systems. Monitoring systems integrated with smart clothing at home provide a safe environment and help detect health-deteriorating activity or routine changes through data analysis (Merih, Ertürk, Yemenici & Satman, 2021).
Smartwatches, bracelets, and necklaces are used to prevent wandering in elderly and dementia patients. Smart bracelets, watches, and badges help detect fall risks. Wearable devices like bands and watches capable of ECG monitoring, heart rate tracking, and oxygen saturation measurement are used in cardiovascular disease management. Specialized utensils such as spoons and forks are designed for individuals with Parkinson's tremors to support independent eating.
Bone-conduction headphones and sensor-equipped devices are used for hearing impairments. Airbag vests are employed to prevent pressure sores and back injuries. Smart wristbands that assist in dietary monitoring can be used in obesity management. Breath-analyzing devices are available for respiratory conditions.

Wearable support systems are helpful for individuals with balance disorders. Devices capable of measuring glucose and transmitting data to mobile applications are used in diabetes care. Smart socks that enable early detection of diabetic foot ulcers are another innovative example (Merih, Ertürk, Yemenici & Satman, 2021; Stavropoulos et al., 2020; Whende, 2020).

FACTORS THAT MAY INFLUENCE THE COURSE AND SUCCESS OF TELEHEALTH APPLICATIONS (Aslan, 2021)

1. The nature of the disease/condition
2. The stage of the disease/condition
3. Whether there are any barriers to accessing the service (e.g., physical, economic, technical)
4. Ethical boundaries related to the service process
5. The legal framework of the service
6. Sustainability of the service
7. Integration of the service with existing care models
8. User acceptability of the service
9. Satisfaction with the service
10. Existence of systems to prevent disruptions in service delivery
11. Measures to ensure that service models do not lead to any form of discrimination
12. Availability of qualified personnel to provide the service
13. Competency of the service providers

LIMITATIONS OF TELEMEDICINE APPLICATIONS (Aslan, 2021)

1. The effectiveness of telemedicine applications depends not only on computer availability but also on the presence of appropriate software.
2. There is a need for more research on cost–benefit analyses.
3. Telemedicine does not fully replace face-to-face physician–patient communication.
4. Communication and steps like physical examination may be interrupted.
5. Inequities in access to telemedicine are a significant drawback.
6. Elderly individuals may face challenges in accessing telemedicine services.
7. Technical issues may cause disruptions in telemedicine services.
8. Proper patient selection is crucial for successful telemedicine implementation.
9. Not all patients may prefer or accept telemedicine services.
10. Adjusting medication doses based on body composition may be problematic or error-prone in telemedicine settings.
11. Telemedicine may not be appropriate or applicable for all clinical conditions.
12. Concerns may arise regarding patient privacy and data protection.
13. There may be challenges related to the boundaries of medical responsibility. Particularly, cross-border telemedicine services may require clear regulatory frameworks.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-IP-03 · Home Health Care Services in Turkey: Current Situation, Challenges and Future Perspectives

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ABSTRACT

Home-based health care services have an essential role in the continuity of patient care, especially in patients with chronic diseases. The need for these services increases as elderly population increases, as patients living with chronic diseases also increase. Home-based health care services are provided by a multidisciplinary team consisting of physicans, nurses and other health professionals to support the disabled patients, elderly patients, chronically ill patients or patients in the process of recovery. The services are delivered in the places that they live to reduce the burden on both the patient and the caregiver. The teams provide patient and caregiver education as well as counselling services. Current regulations about home-based health care services have been defined recently and the scope of these services has expanded. Home-based health care services can utilize remote health services. Future developments can include digitalized home-based health care services and advanced remote patient monitoring. In conclusion, regulations and definitions of home-based health care services will be needed according to the needs, variability and risks that may arise from using advanced technological developments.

KEYWORDS

Health care, aging, chronic disease, elderly, remote patient monitoring

INTRODUCTION

Home-based health care services provide medical care, follow-up and rehabilitation services including social and psychological counselling and support services at home and in their home environment (Bahar & Beşer, 2017)

In Türkiye, the elderly population is increasing and the number of people living with chronic diseases is also increasing. The Turkish Statistical Institute (TUIK) reported that the elderly population (aged 65 years and over) in Turkey increased by 24% in the five years between 2016 and 2021, reaching 9.7% of the total population. In 2025, the elderly population is projected to be 11% of whole population (Türkiye İstatistik Kurumu [TÜİK], 2021)

Home-based health care services play a very important role in ensuring the continuity of patient care, especially in the follow-up of people with chronic diseases (Bahar & Beşer, 2017)

First home care services provided in the home environment are defined by regulations in 2005 by the Ministry of Health (T.C. Sağlık Bakanlığı, 2005). Then regulations about the Home-Based Health Care Services defined the principles of service and procedures in implementation throughout the country. To support the physically and mentally disabled patients, elderly patients, chronically ill patients or patients in the process of recovery in their environments that they live in, to ensure that they can adapt to social life and continue their lives in a peaceful way, to reduce the burden of illness on both the patient and the caregiver home-based health care services are provided (Bahar & Beşer, 2017)

Since 2023 the new regulations have defined the home-based health care patient as an individual who is dependent on a device, bedbound or housebound due to diagnosed diseases, and/or has difficulty accessing health care services due to old age, who request home health care services at their place of residence, and whose request is deemed appropriate (T.C. Sağlık Bakanlığı, 2023)

All elderly aged 80 and over who request service, patients aged 65 and over who have a chronic disease documented by a medical board report and who are described as fully dependent or severely dependent in terms of activities of daily living score, patients who are device and/or home-bound due to their illness, patients who have received palliative care services and whose medical care is deemed appropriate to be provided at home are also defined as home-based health care patient population (T.C. Sağlık Bakanlığı, 2023)
In the new regulation, the scope of home-based health care services were expanded; standards were determined. Patients who are deemed suitable for continuous medical care services for which a treatment plan is made when they are being discharged from the hospital and individuals who need medical care for up to thirty days after discharge from the health facility (which can be extended by the physician for up to thirty days if necessary) are also in the scope of the home-based health care services (T.C. Sağlık Bakanlığı, 2023)
Diabetes, heart failure, stroke, chronic obstructive pulmonary disease, Alzheimer's/dementia, neurodegenerative diseases, terminal cancer, chronic patients with multimorbidity, patients who are treated and followed up after hip/knee/shoulder fracture and patients who need medical care due to amputation are prioritised within the scope of home health care (T.C. Sağlık Bakanlığı, 2023)
"ESH-H" Home Health Service Units are established within secondary and tertiary health care facilities, and “ESH-D” is established in oral and dental health centres or oral and dental hospitals. "ESH-H" consists of one or more than one teams (T.C. Sağlık Bakanlığı, 2023) The team may consist of a physician or specialist physician, nurse, midwife, community health technician, health officer, home patient care technician, elderly care technician, psychologist, social worker, physiotherapist, pharmacist, dietician, driver and other professionals required by home based health care service (T.C. Sağlık Bakanlığı, 2023). “ESH-D” consists of a dentist, a health officer, an oral and dental health technician or dental prosthesis technician and a driver to provide oral and dental health services to patients provided during working hours (T.C. Sağlık Bakanlığı, 2023)
The procedures are carried out through the ESYS (Home Health Management System) software system. Healthy Aging Center staff work in accordance with home-based health care staff. The use of remote health services in home-based health care services has also been defined (T.C. Sağlık Bakanlığı, 2022, 2023).
According to the needs of the patient's treatment plan, the physician in charge may include other health staff in the team and also multidisciplinary physicians can be assigned to the teams according to the medical needs of the patient. In addition, transport to and from the hospital can be planned by home health teams when necessary. Before the provision of home-based health care services consent of the patient and / or his/her parents, guardian, relatives of the patient is obtained and recorded (T.C. Sağlık Bakanlığı, 2023)
In units; teams can be planned to provide services in areas of medical needs such as palliative care, wound care, burn care, tracheostomy, clinical nutrition, physical therapy and rehabilitation, and rational drug use. The teams ask about both the medications and the herbal products used by the patients (T.C. Sağlık Bakanlığı, 2023).
In the provision of Home-Based Health Care Services, during patient visits, the patient's medical history, habits, current diseases, medications, compliance with treatment, active complaints related to health are asked to the patient or caregivers and recorded in the patient file (Bahar & Beşer, 2017). Physical examination, neurological examination of the patient is performed and recorded. Clinical frailty status and possible functional deficiencies are determined by evaluating the patient's activities of daily living such as eating, bathing, dressing, going to the toilet, getting out of bed and chair, urinary and faecal control and, and instrumental daily life activities such as using the telephone and taking medication on their own (Bahar & Beşer, 2017; T.C. Sağlık Bakanlığı, 2023).
To determine the risk of falling, evaluations and necessary adjustments to organise the place where they live in a way to protect them from possible falls should be advised to the relatives or caregivers of elderly patients, especially those with chronic diseases (Bahar & Beşer, 2017; T.C. Sağlık Bakanlığı, 2023). Oral and dental health are also important for patients receiving home health care. When necessary, patients should apply to an Oral and Dental Health Care teams (T.C. Sağlık Bakanlığı, 2023)
If physical examination findings of abuse and neglect are detected in the general assessment of the patient, this situation is recorded and necessary notifications are made to the relevant public institutions and organisations in accordance with the provisions of the relevant legislation (T.C. Sağlık Bakanlığı, 2023).
Within the scope of ESH, interventional medical services that can be performed at home in line with the patient's current condition and treatment plan are provided. Before these procedures are carried out, the patient

and / or his/her parents, guardian, relatives of the patient are informed and their consent is obtained and recorded (T.C. Sağlık Bakanlığı, 2023).
Patients should also be evaluated in terms of cognitive functions, nutritional status, possible dementia, depression and psychosocial risks. Patients may have problems such as decubitus ulcers. Patients at risk are also evaluated by the multidisciplinary team and necessary treatment and care processes are carried out (Bahar & Beşer, 2017; T.C. Sağlık Bakanlığı, 2023).
In addition, patients may have psychosocial problems and caregivers may have problems with disease awareness and care. Another important issue is that caregivers and relatives of the patient should be aware of the patient's disease, treatment, medications, and follow-up process and progression (Bahar & Beşer, 2017). Home-based health care teams provide patient and caregiver education and councelling services. For these reasons, the home health team should work multidisciplinary in line with the medical condition and needs of the patient when necessary (Bahar & Beşer, 2017). Although it varies according to the diagnosis and clinical condition of the patient, the caregivers should also have sufficient knowledge about the management of acute symptoms and the conditions in which the patient should apply to the emergency department (Bahar & Beşer, 2017)
Future perspectives can include digitalized home-based health care services, telemedicine and advanced remote patient monitoring. Mobile technologies such as wearable devices, sensors, smartphone applications can be utilized to enhance monitorization of the patient with chronic diseases (Serrano et al., 2023). Health care staff can use digital devices in monitoring and reaching out the patients and caregivers. Telehealth consultations can also be utilized by the patients and the physicians and multidisciplinary health teams. These developments also need the appropriate infrastructure and financial support (Serrano et al., 2023). Finally, regulations and definitions of home-based health care services will need to be revised according to the needs, utilization variability and possible risks that may arise from using advanced technological developments.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-IP-04 · Cervical Cancer Screening in North Macedonia

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ABSTRACT

Introduction: Cervical cancer is the fourth most common cancer among women globally, with an estimated 604,000 new cases and 342,000 deaths reported in 2020, according to the World Health Organization (World Health Organization [WHO], 2021). Nearly 90% of these deaths occur in low- and middle-income countries, where access to preventive care and early detection remains limited. Persistent infection with high-risk Human Papillomavirus (HPV) types is recognized as the primary cause of cervical cancer, making regular screening and vaccination vital tools in its prevention and control.

Background: In North Macedonia, cervical cancer continues to be a major public health concern. Although national guidelines recommend regular screening using the Papanicolaou (Pap) test and HPV DNA testing, the implementation of a systematic and population-based screening program remains incomplete. Screening coverage in the country is estimated to be below 40%, significantly lower than the 70% target set by WHO for effective cancer prevention. Several factors contribute to this gap, including inadequate public awareness, unequal access to gynecological services—especially in rural and underserved areas—cultural stigmas, and a lack of organized invitation and follow-up systems.

Discussion: Recent efforts led by the Ministry of Health and professional associations have focused on improving screening accessibility through pilot projects, awareness campaigns, and capacity building for healthcare professionals. Despite these initiatives, participation rates remain inconsistent, and many women are diagnosed at later stages of the disease, reducing the chances for successful treatment and increasing the burden on the healthcare system.

Conclusion: These abstract reviews the global burden of cervical cancer, outlines the current screening landscape in North Macedonia, and identifies key obstacles that hinder the success of national prevention strategies. The authors propose a set of evidence-based recommendations, including the development of a centralized, digitalized screening registry; the introduction of self-sampling HPV tests to reach underserved populations; enhanced community outreach; and stronger integration of HPV vaccination efforts with screening programs. By aligning national policies with the WHO Global Strategy to eliminate cervical cancer (WHO, 2021), North Macedonia has the potential to significantly reduce incidence and mortality rates, improve women's health, and build a sustainable, equitable model of cancer prevention.

KEYWORDS

Cervical cancer, HPV vaccination, screening programs

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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ABSTRACT

Chronic diseases such as diabetes, cardiovascular diseases, obesity, hypertension, cancer, osteoporosis, depression, and lipedema have become increasingly prevalent worldwide, largely due to modern lifestyle factors including poor dietary habits, physical inactivity, and chronic stress. Functional medicine offers a systems-based and individualized approach to understanding and managing these conditions. This paper explores the central role of nutrition in the development and management of chronic diseases through a functional medicine lens. Rather than focusing solely on symptom control, this approach identifies and addresses the root causes of disease such as inflammation, oxidative stress, hormonal imbalances, mitochondrial dysfunction, and gut microbiota disruption. For each condition, specific dietary strategies are presented—including anti-inflammatory diets, nutrient repletion, elimination protocols, and microbiome support. The aim is to enhance quality of life, prevent disease progression, and improve treatment outcomes by applying personalized nutrition as a therapeutic intervention. The paper also underscores the need to integrate evidence-based nutrition strategies into public health policies for long-term societal benefits.

KEYWORDS

Functional medicine, chronic diseases, personalized nutrition, inflammation, gut microbiota

INTRODUCTION

Chronic diseases are among the leading causes of morbidity and mortality worldwide. A large proportion of chronic conditions -such as cardiovascular diseases, diabetes, obesity, cancer, depression, autoimmune diseases, and hypertension- are directly associated with unhealthy dietary habits. Chronic diseases are typically long-term health problems that reduce quality of life. Modern lifestyles, decreased physical activity, increased stress levels, and most importantly, poor nutrition, contribute to the rising prevalence of these conditions. This poses a serious threat to public health (Toroslu & Arıkan, 2021).

THE RELATIONSHIP BETWEEN NUTRITION AND CHRONIC DISEASES

Inadequate and unbalanced nutrition is one of the primary risk factors for many chronic illnesses.
In functional medicine, diabetes is not merely considered as “high blood sugar,” but rather as an energy imbalance at the cellular level and a disruption in insulin signaling (Sevindik & Uçar, 2024; Yıldırım & Çayır, 2024).
Main goals in nutritional planning include:

- Eliminating refined carbohydrates and sugars
- Supporting the pancreas with fiber-rich, low-glycemic-index vegetables
- Reducing inflammation through an omega-3-rich diet
- Correcting micronutrient deficiencies (especially magnesium, chromium, and vitamin D)
- Supporting the microbiota with fermented foods and prebiotics

In functional medicine, hypertension is viewed not just as a result of excessive sodium intake, but also as a condition associated with endothelial dysfunction, stress, kidney function, and arterial stiffness (Seçkiner, 2022; Yıldırım & Çayır, 2024).

Main goals in nutritional planning include:

- Balanced sodium-potassium intake using natural salts instead of refined salt
- A diet rich in polyphenols (e.g., olive oil, blueberries) and antioxidants
- Supplementation with micronutrients beneficial for vascular health, such as magnesium and coenzyme Q10
- Functional medicine-adapted versions of the DASH diet
- Use of adaptogenic herbs to reduce cortisol load caused by chronic stress

In functional medicine, the approach to heart disease emphasizes mitochondrial health, inflammation, insulin resistance, and lipid metabolism (Güneşer & Kahraman, 2023; Seçkiner, 2022; Yıldırım & Çayır, 2024).
Key goals in nutritional planning include:

- Unsaturated fatty acids such as omega-3, olive oil, and walnuts
- Foods rich in antioxidants (e.g., pomegranate, blueberries, dark leafy greens)
- Supplementation with B12, folate, and B6 to reduce homocysteine levels
- Considering hidden sources of inflammation such as gluten sensitivity and lectin exposure

In functional medicine, respiratory system diseases are addressed not only as lung-based conditions but also as consequences of systemic inflammation and oxidative stress (Doğan & Deveci, 2021; Kavurmacı & Çetindağ, 2025).
Nutrition-focused approach includes:

- Elimination of sugar and processed foods (sources of inflammation)
- Consumption of antioxidant-rich foods (vitamins A, C, E, beta-carotene)
- Regulation of gut microbiota due to the existence of the gut-lung axis
- Reevaluation of dairy intake based on individual tolerance
- Implementation of a gluten-free or elimination diet if necessary

In functional medicine, depression is not merely a neurotransmitter deficiency but a condition linked to gut health, inflammation, and mitochondrial function (Ulusoy, 2022; Yıldırım & Çayır, 2024).
Key goals in nutritional planning include:

- Foods rich in tryptophan and B vitamins (e.g., eggs, turkey, leafy greens)
- Omega-3 supplementation with a balanced EPA/DHA ratio
- Supporting the microbiota → as 90% of serotonin production occurs in the gut
- Reducing refined sugars, due to their direct effect on mood via glucose fluctuations
- Investigating gluten and casein sensitivity

Functional medicine does not approach diseases through diagnostic labels alone but through a holistic systems biology perspective. In this context, cancer is not merely a disorder of uncontrolled cell growth, but a complex process involving dysfunction in the immune system, metabolism, hormonal systems, and environmental exposures (Pekmezci & Başaran, 2021; Yıldırım & Çayır, 2024).
Thus, nutrition in this framework is not just supportive care but a powerful biological intervention that influences intracellular signaling pathways, the immune system, and levels of inflammation.
From the functional medicine perspective, the main mechanisms contributing to cancer development include:

- Chronic inflammation
- Oxidative stress
- Mitochondrial dysfunction
- Immune system suppression
- Detoxification deficiencies
- Epigenetic alterations
- Excess insulin and IGF-1
- Gut microbiota imbalances

Nutrition is not merely about caloric intake; it is a tool for cellular repair, immune activation, and the maintenance of metabolic balance. Natural foods with anti-inflammatory and antioxidant properties, diets that lower glycemic load, mitochondrial support strategies, and gut microbiota-regulating fibers and probiotics are all tailored to the individual. The goal is both to improve the patient's quality of life and to enhance their

response to treatment. In the functional medicine approach, nutrition is redefined as a therapeutic intervention in every cancer patient (Sevindik & Uçar, 2024; Toroslu & Arıkan, 2021; Yıldırım & Çayır, 2024).

In functional medicine, osteoporosis is not viewed solely as a result of calcium deficiency and bone density loss, but rather as a consequence of systemic imbalances that accelerate bone resorption. This approach evaluates bone health in conjunction with hormonal balance, inflammation, gut health, acid-base balance, vitamin D metabolism, and microbiota integrity (Çavuşoğlu & Gün, 2023; Sevindik & Uçar, 2024; Toroslu & Arıkan, 2021; Yıldırım & Çayır, 2024).
Key goals in nutritional planning include:

- Reducing inflammation: Elimination of processed foods, refined carbohydrates, and trans fats; promoting anti-inflammatory foods rich in omega-3 fatty acids, olive oil, vegetables, and fruits
- Maintaining mineral balance: Supporting not only calcium intake but also magnesium, vitamin K2, vitamin D, zinc, and boron through food or supplementation
- Improving gut absorption: Optimizing gut flora for better absorption of calcium and other minerals; supporting absorption with prebiotics and probiotics
- Ensuring acid-base balance: Replacing acid-heavy, animal protein–based diets with alkaline-rich models high in vegetables and fruits
- Supporting hormonal balance: Especially important in postmenopausal bone loss, foods containing phytoestrogens (e.g., flaxseed, fermented soy) may be beneficial

In functional medicine, the goal is not only to increase bone density but also to holistically support the systems that maintain the dynamic and living structure of bone tissue. Thus, nutrition becomes a structural and system-level therapeutic tool (Sevindik & Uçar, 2024; Toroslu & Arıkan, 2021; Yıldırım & Çayır, 2024).

In functional medicine, obesity is not simply the result of excess calories, but a multifactorial condition involving hormonal imbalance, leptin resistance, insulin resistance, microbiota disruption, and chronic inflammation (Demiray & Yorulmaz, 2023; Sevindik & Uçar, 2024; Toroslu & Arıkan, 2021; Yıldırım & Çayır, 2024).
Key goals in nutritional planning include:

- Low-carbohydrate or intermittent fasting approaches based on individual tolerance
- Regular, whole-food meals to support leptin and ghrelin balance
- Foods that reduce gut permeability and support microbiota health
- Choosing organic foods to minimize toxic load

In functional medicine, lipedema is linked to lymphatic dysfunction, estrogen dominance, inflammation, and connective tissue weakness. It often responds poorly to conventional diets (Filiz, Yıldız, & Gürbüz, 2022; Sevindik & Uçar, 2024; Toroslu & Arıkan, 2021; Yıldırım & Çayır, 2024).
Key goals in nutritional planning include:

- Anti-inflammatory diet (eliminating gluten, dairy, and sugar)
- Foods that support estrogen detoxification (e.g., broccoli, cabbage, flaxseed)
- Supporting lymphatic circulation through adequate hydration and salt balance
- Considering histamine intolerance
- Implementing ketogenic or elimination diet variations when necessary

In functional medicine, nutrition targets the root cause -not just the symptoms- of disease.
Every individual's biochemistry, environment, and medical history are unique; thus, their nutrition must be as well. In this approach, there is no such thing as "one diet fits all." Instead of assumptions and generic models, data-driven and personalized strategies are emphasized.
Promoting healthy eating habits is essential for the prevention and management of chronic diseases. Widespread adoption of such habits not only benefits individuals but also offers economic and social advantages at the population level. Therefore, nutrition policies should be central to public health strategies (Filiz, Yıldız, & Gürbüz, 2022; Güneşer & Kahraman, 2023; Seçkiner, 2022; Sevindik & Uçar, 2024; Toroslu & Arıkan, 2021; Yıldırım & Çayır, 2024).

CONFLICT OF INTEREST DECLARATION

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EBFMC25-IP-06 · Rational Use of Medication During Pregnancy

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ABSTRACT

Introduction: Rational drug use during pregnancy is a crucial aspect of maternal and fetal healthcare. Due to physiological changes during pregnancy and the potential teratogenic effects of some medications, prescribing drugs in this period requires special attention. It is reported that 80–90% of pregnant women use at least one medication during pregnancy (Akpınar, 2021). However, inappropriate drug use may lead to fetal anomalies, spontaneous abortion, or long-term developmental disorders (Fidancı, 2024).

Main Discussion: This presentation discusses the principles of rational drug use, emphasizing the changes in pharmacokinetics and pharmacodynamics during pregnancy. It also reviews historical and current drug risk classification systems, particularly the FDA's traditional A–X categorization and the newer Pregnancy and Lactation Labeling Rule (PLLR) implemented in 2015. The limitations of the older system and the advantages of PLLR in providing narrative, evidence-based risk summaries are highlighted (Pernia & DeMaagd, 2016). Furthermore, the presentation includes an overview of the safety profiles of commonly used medications in pregnancy, including antibiotics, analgesics, antiemetics, antihypertensives, and gastric medications. It underlines the importance of individualized risk-benefit assessment, particularly in the use of drugs like ondansetron, where the balance between efficacy and fetal safety is still debated.

Conclusion: In conclusion, rational drug prescribing in pregnancy must be guided by current, evidence-based information, considering both maternal and fetal outcomes. Healthcare professionals should be aware of updated drug labeling systems and prioritize patient counseling and informed decision-making in clinical practice.

KEYWORDS

Rational drug use, pregnancy, pharmacotherapy, teratogenicity, PLLR, FDA classification

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-IP-07 · Family Medicine as the Cornerstone of a Sustainable Healthcare System: Opportunities, Challenges, and the Path Forward

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ABSTRACT

Introduction: Family medicine (FM) plays a pivotal role in delivering accessible, holistic, and cost-effective healthcare.
Main Discussion: This paper explores the current and potential contributions of family medicine to sustainable healthcare systems, drawing from international literature, OECD and WHO reports, and recent research.
Conclusion: It highlights the benefits of strong primary care models, outlines existing challenges -such as physician burnout and technological integration- and proposes strategies to reinforce the field for future demands.

PEER REVIEW STATEMENT

This paper has undergone a double-blind peer review process and has been approved by the scientific committee of the conference.

KEYWORDS

Family medicine, primary care, health equity, digital health, chronic disease, sustainability

INTRODUCTION

In 2016, WONCA developed a document establishing standards for family doctors to ensure the global consistency of their work and to continuously improve our profession based on scientific principles (WONCA, 2018). The most recent definition of FM dates from 2018 and is known as the Göktas definition: "General practitioners/family physicians are specialist doctors trained in the principles of the discipline. They are personal doctors who take primary responsibility for providing comprehensive and continuing care to every individual seeking medical attention, regardless of age, gender, or illness. They care for individuals in the context of their family, their community, and their culture, always respecting the autonomy of their patients. They are aware of their professional responsibility to the community as well. When discussing and formulating treatment plans with their patients, they consider physical, psychological, social, cultural, and existential factors and use the knowledge and trust built through repeated contacts. General practitioners/family physicians fulfill their professional role by promoting health, preventing disease, providing cure, care, or palliation, and by encouraging patient empowerment and self-management" (Goktas, 2025).

WHAT CHARACTERIZES A FAMILY PHYSICIAN/GENERAL PRACTITIONER?

A family physician or general practitioner is distinguished by a diverse set of competencies and skills that merge humanistic and medical attributes. These professionals embody a multidimensional role within the healthcare system, requiring a balance of technical expertise, emotional intelligence, and adaptability (World Health Organization [WHO], 2025; "ZGP_04_2023_Allgemeinmedizin", 2023).

A family physician should:

1. Remain faithful to the fundamental principles of medicine - which include helping individuals, providing hope, offering healing where possible, and delivering ongoing support in all circumstances.

2. Commit to scientific medicine, maintaining a broad base of evidence-based knowledge and applying it effectively in clinical practice.
3. Perceive patients as individuals, engaging meaningfully with their personal stories, respecting their diversity, and accompanying them through various stages of life.
4. Be capable of discovering the unknown, functioning much like a detective - synthesizing diverse pieces of information and skillfully managing diagnostic uncertainty.
5. Acknowledge the uniqueness and individuality of every patient, ensuring that care is tailored and personalized.
6. Accept human and medical limitations, recognizing that not all conditions are curable and that compassion and presence are essential aspects of care.
7. Fulfill multiple roles within the healthcare system, including those of clarifier, coordinator, diagnostician, mediator, and healer.

Family medicine lies at the heart of primary healthcare (PHC) and is increasingly seen as a foundation for sustainable, equitable, and effective health systems. The World Health Organization and OECD have emphasized PHC's transformative role in improving healthcare delivery across socioeconomic lines (OECD, 2020; World Health Organization [WHO], 2025). As healthcare systems globally seek to balance rising demand with limited resources, FM offers a cost-effective and person-centered model that adapts to patients' needs throughout the life course. One defining strength of FM is its contextual and holistic nature. Physicians do not treat isolated diseases but consider the patient's environment, family dynamics, and social realities (Kato, 2022). This depth of understanding builds stronger therapeutic relationships and ensures continuity of care, particularly beneficial in chronic disease management and preventive services (Gaglioti et al., 2023). A recent study underscores this approach's financial and clinical value—highlighting that primary care visits in the U.S. Veterans Health Administration led to significant per-patient cost savings, especially for high-risk individuals (Gao et al., 2022). An interesting conclusion was drawn by researchers studying productivity and continuity of care in family medicine. Their data indicate that the productivity benefits of care continuity are especially pronounced among older patients, those with multiple chronic conditions, and individuals with mental health disorders. Moreover, strong family medicine systems promote health equity. In rural or underserved areas, family physicians often represent the only consistent point of care (Kajaria-Montag et al., 2024; Piccoliori et al., 2023). Their presence helps mitigate disparities in healthcare access and outcomes, ensuring that marginalized populations receive necessary treatment (Chang et al., 2017). Similar conclusions were reached by Turkish researchers who evaluated the impact of family medicine centers on the care of pregnant women and infants (Aygün, 2021). The importance of these centers was particularly evident in provinces where fewer specialists were available (Aygün, 2021). The advantages of FM are clearly demonstrated in European countries with well-established primary health care (PHC) systems, where rates of preventable hospital admissions are significantly lower. As Quaglio and co-authors state in their research on the EU health system, the future of healthcare will depend on a stronger role for primary care (Quaglio et al., 2018). This includes a clearer shift from care-oriented models to those focused on health promotion and prevention, a deep commitment to good governance—particularly through stakeholder participation—and the systematic reuse of data to build health data-driven learning and healthcare systems. As expressed by van Weel and co-authors in their study, the goals of primary health care closely align with those of universal health coverage, which aims to ensure access to essential health services, as well as safe, effective, and affordable essential medicines and vaccines for all individuals (van Weel & Kidd, 2018). Furthermore, findings from a study published in The Lancet emphasize that prioritizing the prevention and treatment of non-communicable diseases, alongside the strengthening of health systems, remains critically important—particularly if we aim to improve healthy life expectancy (HALE) in the future (GBD 2021 Diseases and Injuries Collaborators, 2024).

Another important topic in healthcare is climate protection. As Schmiemann and colleagues stated in their article, climate protection also constitutes health protection, and many climate protection measures have a direct positive impact on the health of citizens (Schmiemann & Dörks, 2022).

Yet family medicine faces profound challenges. Physician burnout, driven by emotional stress and administrative burdens, remains pervasive. Reports from both U.S. and European contexts document alarming levels of exhaustion among family doctors, calling for targeted interventions to support mental health and professional satisfaction (Hoff et al., 2024; Rochfort et al., 2021; Soler et al., 2008). Simultaneously, the

growing prevalence of chronic illnesses places mounting pressure on already strained systems (Martin, 2007). Family medicine must evolve to meet this demand, integrating its principles into broader systemic reforms (Braillard et al., 2018). Technological transformation presents both opportunity and disruption. The advent of digital health tools, AI-driven decision support systems, and telemedicine can enhance care delivery but require substantial adaptation (Radionova et al., 2023; Schütze et al., 2023; Weik et al., 2024). Successful implementation hinges on thoughtful design, practitioner involvement, and adequate training. Interprofessional collaboration is also critical (Rawlinson et al., 2021). When family physicians work closely with nurses, specialists, and allied health professionals, patient outcomes improve. However, structural barriers—such as role ambiguity and fragmented communication—must be addressed to enable such teamwork (Arenson & Brandt, 2021; Rawlinson et al., 2021). Looking ahead, several strategic reforms are essential. Medical education must integrate family medicine from the earliest stages, fostering interest and competence through mentorship and longitudinal clerkships (van Weel & Kassai, 2017). Flexible work models can help retain a diverse workforce by accommodating different life paths, including those of women and academic practitioners. Additionally, reducing bureaucratic load via optimized electronic health records and task delegation to non-physician staff will allow doctors to focus on patient care (Drummond et al., 2012; Ma & Zhao, 2023; Neves & Burgers, 2022)).

CONCLUSION

Family medicine is not just a discipline; it is a gateway to more humane, responsive, and sustainable healthcare. Its ability to adapt to patient needs, reduce healthcare costs, and foster health equity underscores its foundational role in primary care. However, to meet future challenges, it requires strategic investments in education, workforce flexibility, digital infrastructure, and interprofessional collaboration. By reaffirming and strengthening the role of family physicians, health systems can build greater resilience and ensure better outcomes for all. Family medicine is not just a discipline; it is a gateway to more humane, responsive, and sustainable healthcare. Its ability to adapt to patient needs, reduce healthcare costs, and foster health equity underscores its foundational role in primary care. However, to meet future challenges, it requires strategic investments in education, workforce flexibility, digital infrastructure, and interprofessional collaboration. By reaffirming and strengthening the role of family physicians, health systems can build greater resilience and ensure better outcomes for all.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-IP-08 · How should We Manage Adult Urticaria Patients in Family Medicine?

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ABSTRACT

Chronic urticaria is a common dermatological condition characterized by recurrent itchy wheals and/or angioedema lasting for more than six weeks. It is classified into chronic spontaneous urticaria (CSU), with no identifiable trigger, and inducible urticarias, which occur in response to specific physical or chemical stimuli. The disease predominantly affects women in early to middle adulthood and is associated with significant impairment in quality of life due to its chronic nature, psychological burden, and impact on daily activities. The pathogenesis involves mast cell activation, histamine release, and autoimmune mechanisms, including the presence of autoantibodies in a subset of patients. Diagnosis is primarily clinical, supported by laboratory investigations to exclude underlying causes. Treatment follows a stepwise approach starting with second-generation antihistamines and escalating to biologic therapy or immunosuppressive agents in refractory cases. Comprehensive management, including patient education and psychological support, is essential for improving outcomes and quality of life.

KEYWORDS

Chronic urticaria, chronic spontaneous urticaria, mast cells, antihistamines, quality of life

DEFINITION AND EPIDEMIOLOGY

Chronic urticaria is defined as the presence of itchy, edematous, and transient skin lesions known as wheals and/or angioedema lasting longer than six weeks. It is generally divided into two main groups:

- Chronic Spontaneous Urticaria (CSU): Occurs without a clear trigger.
- Inducible Urticarias: Subtypes triggered by physical or chemical stimuli such as cold, pressure, cholinergic stimuli, or dermographism (Zuberbier et al., 2018).

The prevalence of chronic urticaria in the general population is approximately 0.5–1% (Zuberbier et al., 2018). It is more common in women and often begins between the ages of 20 and 40. This condition significantly affects patients' quality of life, leading to sleep disturbances, anxiety, and psychosomatic issues such as depression (Goncalo et al., 2021; Kaplan, 2004; Kolkhir et al., 2017; Maurer et al., 2011; Zuberbier et al., 2018).

PATHOGENESIS

The main pathophysiological mechanism of chronic urticaria is the activation and degranulation of mast cells, leading to the release of histamine and other inflammatory mediators (Kaplan, 2004). This process increases vascular permeability, causes edema, and leads to intense itching.

Autoimmune mechanisms are prominent in chronic spontaneous urticaria. Autoantibodies such as IgG anti-FcεRI or anti-IgE are detected in 40–50% of autoimmune cases (Kolkhir et al., 2017). Additionally, infections, stress, NSAIDs, and thyroid diseases have been associated with the condition (Kaplan, 2004; Kolkhir et al., 2017).

CLINICAL FEATURES AND DIAGNOSIS

Wheal lesions typically disappear within a few hours but may reappear in different areas during the day. In cases of angioedema, swelling affects deeper tissues, is more painful, and resolves more slowly (Zuberbier et al., 2018).

The diagnosis is mainly clinical; laboratory tests are used to investigate potential underlying causes and to exclude differential diagnoses. Basic investigations, including ESR, CRP, CBC, thyroid function tests, and autoantibody screening, help to rule out secondary causes (Kaplan, 2004; Zuberbier et al., 2018). Provocation tests may be conducted in suspected inducible urticaria (Zuberbier et al., 2018).

TREATMENT APPROACHES

The goal of treatment in chronic urticaria is to suppress symptoms, improve quality of life, and avoid triggering factors. A stepwise treatment approach, as recommended by international guidelines (EAACI/GA²LEN/EDF/WAO), is followed (Zuberbier et al., 2018):

Step 1: Daily standard-dose second-generation antihistamines.

Step 2: Antihistamine dose may be increased up to fourfold.

Step 3: If symptoms persist, treatment with the biological agent omalizumab (anti-IgE) is initiated (Zuberbier et al., 2018).

Step 4: In refractory cases, immunomodulators such as cyclosporine A may be considered (Kaplan, 2004; Zuberbier et al., 2018).

According to guidelines (EAACI/GA²LEN/EDF/WAO), treatment should be individualized and proceed in a stepwise manner.

QUALITY OF LIFE AND FOLLOW-UP

The psychological burden of chronic urticaria should not be underestimated. Patients' quality of life is often significantly impaired (Goncalo et al., 2021). Therefore, regular follow-up, patient education, and psychiatric support when necessary are integral parts of the treatment process (Goncalo et al., 2021). Patients should also be advised to avoid foods, medications, and physical stimuli that may act as triggers. The remission period varies individually, and in some cases, the disease may persist for years (Goncalo et al., 2021).

CONCLUSION

Chronic urticaria is a benign but complex disease influenced by immune and inflammatory mechanisms, significantly affecting quality of life. Thanks to the current stepwise treatment approach, the disease can be largely controlled (Zuberbier et al., 2018). Physician-patient communication and regular follow-up are key components of successful management (Goncalo et al., 2021; Zuberbier et al., 2018).

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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ABSTRACT

Re-emerging viral infections pose a significant public health threat in Europe due to factors such as climate change, migration, urbanization, antimicrobial resistance, and disruptions in vaccination programs. A large proportion of these pathogens are zoonotic, necessitating an ecological perspective in risk assessment. The COVID-19 pandemic further exacerbated risks by reducing vaccination coverage, leading to the resurgence of diseases such as measles, poliomyelitis, and pertussis. Climate-driven vector expansion has also increased arboviral infections, including West Nile virus and Dengue. Meanwhile, MPox and Crimean-Congo Hemorrhagic Fever highlight the persistent threat of zoonotic spillover. A One Health approach, integrating human, animal, and environmental health strategies, is critical for epidemic preparedness. Strengthening surveillance, vaccination programs, and interdisciplinary collaboration is essential to mitigate these threats. Future efforts should focus on predictive zoonotic models, climate-resilient health systems, and equitable vaccine distribution to enhance global health security.

KEYWORDS

Arboviruses, one health, re-emerging infectious diseases, vaccination hesitancy, zoonoses

INTRODUCTION

Factors such as climate change, natural disasters, wars, increased migration, globalization, urbanization, antimicrobial resistance, anti-vaccination movement and increased global connectivity, and increased interactions between wildlife and humans make emerging and re-emerging viral infections in Europe a serious threat to public health (Elias, Nkengasong, & Qadri, 2021; Semenza & Paz, 2021; Wang et al., 2024). These changes are both changing the epidemiology of viral infections in Europe by introducing previously unrecognized viral strains in the region, and facilitating the transmission of these viruses, thus increasing the risk of epidemics. Large proportion of emerging/re-emerging pathogens are zoonoses. Risk assessments need an ecological perspective to understand the dynamics of these pathogens in light of climate change and changes in agricultural practices (Medlock & Jameson, 2010).

The disruptions experienced during the COVID-19 pandemic, especially in routine vaccination programs, have led to decreased coverage of many vaccines (Minta et al., 2023). In addition, mass migration movements are also considered an important risk factor for the re-emergence of infectious diseases. For example, the entry of approximately 3.5 million refugees into Türkiye after the Syrian civil war concretizes this risk (Ergönül et al., 2020).

Under these conditions, vaccine-preventable diseases such as measles, whooping cough, diphtheria, and poliovirus have once again become a threat (Medlock & Jameson, 2010). The geographical spread of tropical diseases, along with increased international travel and vector spread (Jiménez-Morillas et al., 2019), has made the role of primary care physicians even more critical in recognizing infections with high contagiousness and lethality. Family physicians need to take an active role in disease prevention by considering variables such as vaccination rates, the status of the immigrant population, and gaps in herd immunity.

Emerging and re-emerging viral infections are increasingly common and pose serious public health threats due to their ability to affect the immune system. These pathogens can trigger excessive immune responses, causing severe immunopathological conditions that can lead to tissue damage, systemic inflammation, multiple organ failure, and death. Although inflammation is a fundamental component of the immune

response, uncontrolled responses, especially to newly encountered viruses, can lead to fatal outcomes (Gogoi, Baruah, & Narain, 2024).
Below are mentioned important viral threats that are increasing in Europe and our country due to the reasons listed above.

SOME KEY VIRAL THREATS ON THE RISE IN EUROPE

Mpox

MPox, the most critical Orthopoxvirus infection to emerge after the eradication of smallpox and the cessation of vaccination, poses a significant global zoonotic threat. Its spread beyond the African continent and its change in zoonotic transmission dynamics have raised concerns among international health organizations, including the World Health Organization (WHO) (Nageeb, Ghonaim, & Li, 2025). In 2022–2023, significant MPox outbreaks occurred in non-endemic areas of Europe for the first time. Although the rapid availability of vaccines in Europe has effectively reduced cases, there are still gaps in the surveillance systems (Ianache et al., 2024).

Arboviruses (West Nile Virus, Dengue, Zikavirus, Chikungunya)

Arboviruses are viruses transmitted by arthropods such as mosquitoes, ticks, and sandflies. They can cause common symptoms such as fever, headache, myalgia, and fatal neurological complications (Srichawla et al., 2024). Climate change has increased mosquito populations, leading to increased cases of West Nile virus and Dengue in southern Europe (Matlack et al., 2024).

West Nile Virus: West Nile virus is a zoonotic infectious agent belonging to the Flavivirus family. West Nile virus has become endemic in a vast geography around the world, and is especially common in Africa, the Middle East, Asia, Europe, and North America. It is transmitted to humans through mosquito bites, and the infection can be mild in most cases. Approximately 80% of infected people do not show symptoms or only experience mild flu-like symptoms. More serious symptoms may develop in 20% of infected people, including high fever, dizziness, rashes, muscle weakness, and persistent headaches. Serious neurological complications (encephalitis, meningitis) can be seen in approximately 1% of infected people. The virus can cause more serious diseases, especially in older individuals, people with weakened immune systems, and those with certain chronic diseases. The highest risk of contracting the virus is during the summer when mosquitoes are active. Birds, in particular, are natural hosts for West Nile virus, and mosquitoes can transmit the virus to humans by contracting it from infected birds (Simonin, 2024).

West Nile virus can be diagnosed by clinical signs and serologic testing, with PCR testing confirming the presence of the virus. While there is no specific treatment, symptomatic treatment includes fluid replacement, pain and fever management, and treatment of neurological complications. Vaccines are not yet available for use in humans. Protection from the virus includes avoiding mosquito bites and taking environmental control measures. Additionally, the public and health care professionals should be educated about the symptoms of West Nile virus (Simonin, 2024).

Dengue: A systematic review by Guo et al. reveals the global distribution of dengue fever outbreaks between 1990 and 2015, highlighting that dengue fever has become prevalent in more than 100 countries worldwide, with an annual incidence of 50–100 million infections. Dengue fever is reported to pose a serious health threat (Guo et al., 2017 Guo et al., 2017).

Dengue virus is primarily transmitted by Aedes aegypti and Aedes albopictus mosquitoes, which breed in artificial water containers and bite during daylight. The virus initially infects dendritic cells before spreading to lymph nodes, liver, and spleen. Primary infections are often mild or asymptomatic, while secondary infections with a different serotype increase the risk of severe dengue due to antibody-dependent enhancement, leading to plasma leakage, shock, and organ failure. Clinically, dengue presents with sudden fever, headache, and rash in mild cases, progressing to bleeding, thrombocytopenia, and circulatory collapse in severe cases. Diagnosis relies on PCR or antigen testing early in infection, followed by IgM/IgG serology after five days. Treatment remains supportive, focusing on fluid management, as no antiviral exists. Prevention emphasizes mosquito control and cautious vaccine use, as Dengvaxia® may worsen disease in seronegative individuals (Otu, Ebenso, Etokidem, & Chukwuekezie, 2019). Dengue fever is particularly common among young adults, with children being more prone to severe forms of the disease (Martins, Prata-Barbosa, & Cunha, 2020).

Crimean-Congo Hemorrhagic Fever

Crimean-Congo Hemorrhagic Fever, an endemic zoonotic disease in Türkiye, poses a public health threat with increasing cases, especially in summer. Symptoms may include fatigue, muscle and joint pain, fever and

headache, nausea/vomiting, and diarrhea. Laboratory findings may include thrombocytopenia, elevated creatine kinase, increased aspartate aminotransferase and alanine aminotransferase levels, leukopenia, elevated lactic dehydrogenase, prolonged prothrombin time, and prolonged activated partial thromboplastin time. Crimean-Congo Hemorrhagic Fever should be kept in mind in patients presenting with fever, muscle pain, headache, and thrombocytopenia, especially in the spring and summer months (Alkan-Çeviker, Günal, & Kılıç, 2019).

Rapid identification and appropriate infection control measures remain important for Crimean-Congo Hemorrhagic Fever, which does not yet have an effective vaccine and has no definitive treatment, although ribavirin is used in contact and confirmed cases. Hospitals, reference laboratories, and a one health approach that integrates public health responses are important in the outbreak response (Bartolini et al., 2019).

Measles

Due to its high transmissibility, measles requires at least 95% of the population to be vaccinated with two doses of vaccine to be eliminated. Although all WHO regions have set an elimination target, sustainable elimination has not yet been achieved. Vaccination coverage increased between 2000 and 2019; however, with the COVID-19 pandemic, it decreased to 81% in 2021. Between 2021 and 2022, the number of cases and deaths increased significantly. Measles vaccination prevented approximately 57 million deaths between 2000 and 2022 (Minta et al., 2023). Today, measles cases and measles-related deaths are increasing in many countries, especially in the United States (Centers for Disease Control and Prevention [CDC], 2025a). Surveillance systems were also negatively affected by the pandemic. Universal implementation of vaccine, strengthening of surveillance, and rapid restructuring of immunization programs disrupted by the pandemic are required to reverse the current situation (Minta et al., 2023).

Poliomyelitis

The global incidence of poliomyelitis has been significantly reduced due to the widespread implementation of both oral and inactivated poliovirus vaccines. As of 2021, wild poliovirus type 1 remains endemic only in Pakistan and Afghanistan. Wild poliovirus types 2 and 3 have been officially declared eradicated (World Health Organization [WHO], 2025a). Family physicians working in primary health care have a critical role in continuing the polio elimination process. In this context, family physicians should monitor the administration of polio vaccines in accordance with the childhood vaccination schedule. Children who have crossed the border, migrated, or returned and whose vaccination history is uncertain must be evaluated, and completing missing polio doses for these children is essential. In addition, every suspected acute flaccid paralysis should be evaluated for possible poliovirus infection and referred to specialized health units for further examination and confirmation without delay. This practice is vital in increasing the effectiveness of the surveillance system and preventing possible outbreaks.

ONE HEALTH APPROACH TO EPIDEMIC PREPAREDNESS

The One Health approach recognizes the close interconnection of human, animal, and environmental health and proposes integrated health management in these areas (World Health Organization [WHO], 2025b). This approach plays a central role in preventing infections. In particular, vector control, strengthening animal surveillance systems, monitoring of environmental factors, increasing veterinary-human health collaborations, and the integration of public health services can reduce the spread of infectious diseases (Centers for Disease Control and Prevention [CDC], 2023). This approach, also adopted by WONCA Europe (WONCA Europe, 2023), promotes an integrated surveillance and response system between human, animal, and environmental health. A holistic approach that includes interdisciplinary collaboration among physicians, veterinarians, and ecologists, early warning systems for the detection of zoonotic transmissions, and effective public communication strategies to reduce vaccine hesitancy and increase public participation will not only prevent the spread of infections, but also enable the construction of systems that are resilient to public health threats such as climate change, globalization, and biodiversity loss.

CONCLUSION

We are faced with increasingly complex viral threats both in our country and around the world. This comprehensive system, coupled with faster diagnostic methods and equitable vaccine distribution, holds the potential to mitigate these threats significantly. The future of research lies in developing models to predict zoonotic transmissions and building climate-resilient health systems.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-IP-10 · AI-Enhanced Triage and Clinical Decision Support Tools in Primary Care

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ABSTRACT

Background: Artificial intelligence (AI)-powered symptom checkers, risk stratification engines and embedded clinical decision support systems (CDSS) are now migrating from research centres to the front line of healthcare. By synthesising multimodal patient data against evidence-based algorithms in seconds, these tools promise earlier detection of time-critical conditions, better scheduling of critical appointments and reduced cognitive load for primary care physicians, who currently manage four out of five presenting complaints. Growing demand for remote access and post-pandemic services is driving the need for digital triage (World Health Organization, 2021).

Current evidence base: Real-world performance is encouraging but heterogeneous. A prospective study in 12 English practices found 95.8% agreement between an AI triage platform and clinicians for non-urgent cases, enabling an 18% reduction in telephone consultations. A cancer risk CDSS active in 1400 practices increased early cancer detection from 58.7% to 66.0% and accelerated referrals. Research showed that ChatGPT-assisted triage improved accuracy and halved documentation time. Conversely, a meta-analysis of 83 validation studies reported a pooled diagnostic accuracy of only 52.1%, highlighting marked variability between products and settings (Elhaddad & Hamam, 2024; Kaboudi et al., 2024).

Governance and standards: The World Health Organization's 2024 guidance on large multimodal models requires transparency reports, equity impact assessments and ongoing post-implementation monitoring. The NICE Evidence Standards Framework (revised 2023) specifies escalating levels of clinical, technical and economic evidence before digital health technologies are adopted (World Health Organization, 2024). A consensus statement adds detailed recommendations on bias assessment, prospective audit and maintaining human-in-the-loop oversight for AI-CDSS (National Institute for Health and Care Excellence [NICE], 2023).

Turkish context: In line with Türkiye's National Artificial Intelligence Strategy 2021-2025, pilot implementations in Istanbul and Ankara Family Health Centres have integrated cloud-based symptom checkers with the e-Nabız personal health record and the central medical appointment system (MHRS). Internal quality reports (2025) show a 12% reduction in inappropriate emergency referrals, a nine-minute reduction in median consultation length, and high patient satisfaction. Enablers include major standards for exchanging healthcare information electronically- HL7-FHIR interoperability layer, newly approved reimbursement codes for digital visits, and clinician-led curation of local rule sets; barriers remain compliance with the Data Protection Act (KVKK) and the lack of an AI-specific health regulation (Republic of Türkiye, Digital Transformation Office, 2021).

Future agenda and conclusion: To translate promising pilots into routine care, we may need and expect:

1. pragmatic multi-centre trials designed for patient-centred outcomes, safety and workload redistribution
2. federated learning architectures that update models locally without exporting personal data
3. incorporation of social determinants, wearable-derived vital signs and multimodal inputs to refine risk scores
4. participatory design frameworks that engage frontline professionals, patients and policy makers in governance.

AI-enabled triage and CDSS can strengthen accessible, equitable and high-quality primary care, provided their use remains evidence-based, transparently regulated and clinician-involved.

KEYWORDS
Artificial intelligence, electronic health records, family medicine, symptom checkers, triage

CONFLICT OF INTEREST DECLARATION
There is no commercial, financial, or personal conflict of interest in this study.

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ABSTRACT

Background: Early detection is critical to reduce cancer mortality, but conventional screening methods have significant limitations.
Objective: To explore innovative technologies that enhance early cancer detection beyond current screening practices.
Summary: Emerging tools such as liquid biopsy (ctDNA), AI-based imaging, genetic/epigenetic profiling, microbiome modulation, nanotechnology, and wearable devices offer non-invasive, sensitive, and personalized approaches. Multi-cancer early detection tests allow simultaneous screening for multiple cancers from a single blood sample.
Conclusion: Integrating these technologies into clinical practice promises improved outcomes but requires addressing ethical, financial, and equity concerns.

KEYWORDS

Cancer screening, liquid biopsy, artificial intelligence, ctDNA, genetic screening, microbiome,

INTRODUCTION

Cancer is a group of diseases characterized by the disruption of cellular regulation and uncontrolled proliferation due to genetic and epigenetic factors. Today, early diagnosis and treatment aim to reduce cancer-related mortality, and cancer screenings play a critical role in this effort. However, current screening programs have limitations such as accessibility, false positive/negative results, and patient compliance.
Epidemiology and Etiology of Cancer: According to the World Health Organization (WHO) data from 2022, cancer is among the most common causes of morbidity and mortality worldwide (World Health Organization, 2022). Specifically in Turkey, the WHO Country Report 2020 highlights premature cancer-related deaths as a significant public health issue (World Health Organization, 2020). Both hereditary and environmental factors play a role in cancer etiology.
Limitations of Current Screenings: The U.S. Preventive Services Task Force (USPSTF) currently recommends routine screening only for breast, cervical, colorectal, and lung cancers (U.S. Preventive Services Task Force, 2021). In Europe, screening programs are even more limited. As a result, over 60% of malignancies without a screening test are diagnosed at a late stage.

NEW APPROACHES IN EARLY DETECTION

Liquid Biopsy: Liquid biopsies analyze tumor DNA (ctDNA) or circulating tumor cells (CTC) from blood samples. This method is noninvasive, repeatable, and promising for the detection of early-stage cancers. Multi-Cancer Early Detection (MCED) tests can screen for multiple cancer types from a single blood sample (e.g., Galleri test) (Klein et al., 2021; Wan et al., 2017).
Examples of FDA-approved uses: NSCLC; EGFR mutation. Colorectal cancer; RAS mutation. Prostate cancer; AR-V7 variant. Breast cancer; ESR1 mutation.
AI-Assisted Diagnosis: Artificial intelligence (AI) is used in image analysis (e.g., mammography, CT, colonoscopy) to detect abnormalities that the human eye may miss. It also enables the development of

personalized treatment plans based on genetic data. AI-powered virtual assistants improve medication adherence (Hossain & Kar, 2020).
In 2024, the FDA approved an AI-powered device with 95.5% sensitivity for skin cancer detection. Google Health/DeepMind models have outperformed radiologists in breast cancer screening (McKinney et al., 2020; U.S. Food and Drug Administration, 2024).
Pathology and Molecular Diagnostics: Next-generation pathology provides faster and more objective results through the integration of genomic, transcriptomic, and metabolomic data with AI (Kinzler & Vogelstein, 2018).

INNOVATIONS IN PREVENTIVE ONCOLOGY

Genetic and Epigenetic Screening: Mutations such as BRCA1/2, Lynch syndrome, and PALB2 allow early identification of high-risk individuals (Kinzler & Vogelstein, 2018). Polygenic Risk Scores (PRS) and DNA methylation analyses enable personalized risk profiling.
Vaccine Technology: HPV vaccine; significantly reduced cervical cancer incidence. HBV vaccine; plays a crucial role in preventing hepatocellular carcinoma.
Microbiota and Cancer: Gut microbiota may influence cancer development through immune modulation and inflammation. Prebiotics, probiotics, and engineered bacteria are gaining prominence in preventive strategies (Chen et al., 2021).
Digital Health and Lifestyle Interventions: Wearable technologies digitally monitor physical activity, nutrition, obesity, and stress management. Home testing kits for HPV and smartphone-based screening tools are becoming prominent in low-resource settings.
Nanotechnology and Biosensors: Nanoparticles can target cancer cells, deliver drugs, or be used for imaging. Wearable sensors allow monitoring of cancer biomarkers through the skin. Turkish scientist Canan Dağdeviren's wearable ultrasound device offers promise for breast cancer screening (Dağdeviren et al., 2022).
Ethical and Social Challenges: Implementing new technologies brings ethical and socioeconomic concerns such as data security, healthcare inequality, false positives, and cost (Tan & Barker, 2023).

CONCLUSION

Cancer research is undergoing a major transformation in genetics, immunology, and digital health. These advances should be integrated into healthcare systems while considering ethical and financial aspects. Updating clinical practices to include these innovations is essential to improve survival and quality of life in cancer patients.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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ABSTRACT

Background: Lung cancer is the leading cause of cancer-related deaths both worldwide and in Türkiye. A major challenge is the late-stage diagnosis in the majority of cases, significantly lowering survival rates.
Objective: This presentation aims to emphasize the significance of early detection in lung cancer, discuss current global screening strategies—particularly low-dose computed tomography (LDCT)—and reflect on Türkiye's current situation and needs.
Summary: According to 2020 data, 59% of lung cancer patients in Türkiye were diagnosed at stage 4. Studies like the National Lung Screening Trial (NLST) have demonstrated that LDCT screening reduces lung cancer mortality by 20% in high-risk populations. Despite international progress, Türkiye lacks a national screening program. Early diagnosis not only increases survival but also improves quality of life and reduces economic burden.
Conclusion: Family physicians have a key role in identifying high-risk individuals and referring them appropriately. There is a need to establish cost-effective, evidence-based screening strategies tailored to Türkiye's healthcare system to enable earlier detection and better outcomes in lung cancer.

KEYWORDS

Lung cancer, early diagnosis, LDCT screening, lung cancer screening

INTRODUCTION

Lung cancer is one of the most commonly diagnosed cancers both in our country and globally, and it remains the leading cause of cancer-related deaths (GLOBOCAN, 2022). According to data from the Public Health General Directorate of the Republic of Türkiye, in 2020, 30,004 individuals were diagnosed with lung cancer, and 59% of these cases had distant metastasis at the time of diagnosis. These figures highlight that lung cancer is often diagnosed at an advanced stage, which significantly reduces survival rates (T.C. Sağlık Bakanlığı, 2020). According to 2022 data from the World Health Organization (WHO) and GLOBOCAN, lung cancer ranks first among cancer-related deaths in Türkiye, accounting for one in every four cancer deaths.
According to the 2020 Türkiye Cancer Statistics published by the Public Health General Directorate; when examining the age-standardized rates of the 10 most common cancers by gender, trachea, bronchus, and lung cancers rank first among men with a rate of 51.9 per 100,000, while breast cancer ranks first among women with a rate of 43.4 per 100,000, followed by trachea, bronchus, and lung cancers with a rate of 10.2 per 100,000. Among all age groups, the most common cancer by gender is trachea, bronchus, and lung cancer in men (23.9%). In women, trachea, bronchus, and lung cancer ranks fourth (10.2%), following breast, thyroid, and colorectal cancers. When examining the age-specific incidence rates of the most common cancers in men, trachea, bronchus, and lung cancer is observed to be the one that peaks most rapidly in the 40–44 age group. When we examine the stage distribution of diagnosed cancer types in our country, we see that trachea, bronchus, and lung cancers are detected at the distant metastasis stage (stage 4) in 59% of cases (T.C. Sağlık Bakanlığı, 2020).
One of the most important reasons why lung cancer is diagnosed at an advanced stage is that the disease usually does not present with symptoms in its early stages. The lungs are organs with low pain perception,

and patients often attribute symptoms such as coughing, sputum production, and shortness of breath to smoking, thus ignoring them. This results in delayed diagnosis and progression to advanced stages.
The impact of early diagnosis on survival is quite significant. In patients diagnosed at stage 1 or 2, the five-year survival rate can reach 60–80%, while in stage 4, this rate drops to 5–10%. Therefore, early diagnosis of lung cancer not only extends life expectancy but also improves quality of life and offers the opportunity for surgical intervention. Additionally, early diagnosis reduces the economic burden on the healthcare system and prevents workforce loss. At this point, the role of primary healthcare services and family physicians is of critical importance.
One of the most significant global developments in this area is the National Lung Screening Trial (NLST) published in the United States in 2011. In this study, more than 55,000 individuals aged 55–75 who were current or former smokers were evaluated. In the group screened with low-dose computed tomography (LDCT), a 20% reduction in lung cancer–related mortality was observed (National Lung Screening Trial Research Team, 2011). These results showed that LDCT is much more effective than chest radiography and led to the revision of screening guidelines.
However, like all screening programs, lung cancer screenings also have some disadvantages. False-positive results may lead to unnecessary further investigations or even risky surgical procedures. Additionally, repeated LDCT scans may expose healthy individuals to radiation, increasing their risk of developing cancer. Therefore, screening should only be recommended for individuals at high risk of developing the disease, who are eligible for surgery, and who do not have serious comorbidities that would limit their life expectancy (US Preventive Services Task Force, 2021).
European-based studies such as the NELSON trial have also shown that screening positively affects smoking cessation rates (van der Aalst et al., 2010). Countries like Canada and the United Kingdom also have screening programs with LDCT in place. Japan is one of the pioneering countries in this field. The ALCA project, which began in Tokyo in 1993, implemented LDCT screening as a pilot study. The results showed that more than 76% of individuals diagnosed in the early stage had a five-year survival rate (Japan Anti-Lung Cancer Association [ALCA], 1993).
Currently, there is no national lung cancer screening program in Türkiye. However, progress can be made in this area through stronger tobacco control efforts, the reinforcement of preventive healthcare services, and the accurate identification of high-risk individuals. Future screening programs must accurately identify high-risk groups, minimize potential harms, and be cost-effective to ensure successful implementation.

CONCLUSION

In conclusion, early diagnosis in lung cancer saves lives. Family physicians play a crucial role in identifying and guiding high-risk individuals. Expanding scientifically-supported screening programs and raising awareness among healthcare professionals will be a significant gain for public health.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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ABSTRACT

Drug discovery and development is one of the oldest practices in human history. The process of drug development has evolved throughout history to protect human health and treat disease. The first use of drugs was mostly carried out by empirical methods, and the ancient civilizations of Mesopotamia, Egypt and China laid the foundations of pharmacopoeia (Balick & Cox, 1997). With the development of modern chemistry in the 19th century, the first pure active compounds such as morphine and aspirin were isolated. With the development of synthesis techniques, the era of synthetic drugs began (Newman & Cragg, 2020). The discovery of antibiotics and the beginning of controlled clinical trials in the mid-20th century established the modern drug development paradigm (Sneader, 2005).

Computer-aided drug design (CADD) has become an influential area of research, especially with the development of high-throughput screening (HTS) and computational methods since the late 20th century (Lipinski & Hopkins, 2004). CADD has begun to play a critical role in drug discovery and development, enabling faster, more targeted, and lower-cost design of new drugs. These approaches include structure-based drug design (SBDD), which is based on the three-dimensional structure of the target protein, and ligand-based drug design (LBDD), which is based on known active molecules (Schneider & Baringhaus, 2008). Virtual screening approaches allow rapid screening of large compound libraries (Lounnas et al., 2013). The Quantitative Structure-Activity Relationship (QSAR) method, which models the mathematical relationship between the molecular structures of chemical compounds and their biological activities, is especially used in toxicity and activity predictions (Cherkasov et al., 2014). By using CADD strategies, the binding forms and energies of molecules with target proteins are calculated (Meng, Zhang, Mezei, & Cui, 2011). With the help of molecular dynamics simulations performed against time, more realistic results are produced. Especially in the last century, CADD, which has become a high-tech process by integrating with scientific disciplines, enables systematic modeling of drug candidates. Artificial intelligence (AI) and machine learning (ML) methods have revolutionized drug discovery. In particular, deep learning-based generative models are used in the automatic design of new compounds (Zhavoronkov et al., 2019). Additionally, tools such as AlphaFold 2 have greatly accelerated structure-based design processes by predicting target protein structures with high accuracy (Jumper et al., 2021).

This report focuses on the historical development starting from traditional herbal treatments to the modern pharmaceutical industry and CADD. The integration of CADD technology into drug development processes, its evolution, basic approaches, current application areas and the integration of artificial intelligence into the system were examined. It was emphasized how advances in artificial intelligence, big data and molecular simulation technologies will affect drug discovery processes in the coming years.

KEYWORDS

Drug discovery, computer aided drug design (CADD), molecular modeling, QSAR, docking, molecular dynamics, artificial intelligence

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-IP-14 · Meningococcal and Rotavirus Vaccines
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ABSTRACT

Rotavirus and invasive meningococcal infections are major causes of morbidity and hospital admissions among infants and young children. Vaccination remains the most effective preventive measure against both diseases. Rotavirus vaccines significantly reduce severe gastroenteritis and associated healthcare burden, while meningococcal conjugate and recombinant vaccines offer long-lasting protection against life-threatening meningitis and sepsis (Akdeniz & Erkek, 2016; Carvalho & Gill, 2019).

Family physicians play a critical role in implementing national immunization programs. They are well-positioned to educate caregivers, address vaccine hesitancy, and ensure timely administration during routine well-child visits. Conjugate meningococcal vaccines (MenACWY) induce strong immune responses in all age groups and reduce bacterial carriage, supporting herd immunity. Recombinant MenB vaccines, developed through genomic sequencing, provide protection against serogroup B, which presents unique immunological challenges (Akdeniz & Erkek, 2016; Hollingshead & Tang, 2019).

This presentation highlights current vaccine recommendations, safety profiles, and implementation strategies in primary care. Promoting both rotavirus and meningococcal vaccinations can significantly reduce disease burden and contribute to the WHO's global goals for meningitis elimination by 2030. Equipping family physicians with up-to-date knowledge ensures effective communication with families and strengthens routine immunization coverage in early childhood.

KEYWORDS

Rotavirus, meningococ, vaccine

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-IP-15 · AI-Driven Diagnostic Imaging in Primary Care

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ABSTRACT

Artificial intelligence (AI), which is increasingly encountered and used in daily life, has led to revolutionary developments across various fields, especially with data processing and machine learning technologies. In the field of healthcare, AI makes significant contributions to healthcare professionals in various aspects such as screening, diagnosis and individualised treatment. In many areas such as interpretation of radiological images, classification of skin lesions, diabetic retinopathy screening, AI-supported systems have achieved similar accuracy rates with specialists. The integration of these technologies into primary healthcare improves diagnostic accuracy and enhances the efficiency and timeliness of patient management.

KEYWORDS

Artificial intelligence, diagnostic imaging, digital technology, family practice, primary health care

INTRODUCTION

The concept of artificial intelligence (AI) was first mentioned in the 1950s by John McCarthy as 'the science and engineering of making intelligent machines' (Reddy, Fox, & Purohit, 2019). According to the definition made by the European Commission, AI refers to systems that are designed by humans, perceive, analyse, interpret the environment, determine the best action based on this information and exhibit intelligent behaviours, and take actions with a certain degree of autonomy to achieve specific complex goals (European Commission, 2025).

Nowadays, it is possible to evaluate complex health data obtained from large data sources and to make predictions based on these data with AI. These developments provide significant contributions to healthcare professionals, especially in diagnostic processes, early detection of diseases, screening and follow-up, and individualised treatment approaches. These technologies, which are considered as a part of digital transformation in the field of healthcare, are widely used in many fields of practice from clinical decision support systems to the analysis of medical images (Reddy, Fox, & Purohit, 2019).

METHODS

In recent years, AI technologies have been widely used in the interpretation of radiological images by both radiology specialists and non-radiologist clinicians. As a result of a meta-analysis aiming to compare AI and healthcare professionals in the interpretation of radiological images, the sensitivity of deep learning models in diagnosis was 87% and specificity 92.5%, while the sensitivity of healthcare professionals was 86.4% and specificity 90.5% (Liu et al., 2019).

Imaging technologies are one of the areas where AI is used most frequently in a wide range from magnetic resonance imaging (MRI) to ultrasonography (USG), from computerised tomography (CT) to mammography. Food and Drug Administration (FDA) has approved more than 200 commercial radiological AI products. They offer benefits such as detection of suspicious positive findings such as intracranial haemorrhage, pneumothorax, detection and classification of lesions such as pulmonary nodules and breast abnormalities, image reconstruction. These systems are also capable of detecting tissue densities and predicting future adverse events. The usage of alternative options instead of invasive diagnostic methods has increased with AI. The use of advanced AI models by family doctors in their clinical practice may reduce the complexity of technical interpretation. A study has shown that residents using AI in pulmonary X-ray interpretation have

similar performance compared to specialist radiologists. Especially in rural areas where consultation to radiologists is restricted, AI will empower the family doctors. Portable and cost-effective imaging techniques are also often supported by AI. Portable ultrasound probes, paired with AI-enabled smartphone applications, provide accessibility and manoeuvrability to family doctors in the use of ultrasound in echocardiography or obstetric care (Rajpurkar & Lungren, 2023).

RESULTS

On the other hand, early diagnosis of cancers in radiological images and pathologies with the help of machine learning and deep learning algorithms has recently been on the agenda. These technologies have been reported to have comparable performance with specialists (Gaur & Jagtap, 2022). AI can be used in the detection of malignant lesions from skin photographs, interpretation of mammography images, pathological evaluation of tissue samples, and analysis of colonoscopy videos to identify polyps with high accuracy. Further investigations should be carried out to improve the quality assessment, sensitivity and specificity of these systems. Today, there is a potential for overdiagnosis with these technologies (Elemento, Leslie, Lundin, & Tourassi, 2021).

In a study conducted in 2023, there were significant increases in cancer detection rate, recall rate and positive predictive value with AI assistance that automatically detected and emphasised lesions suspicious for breast cancer (Elías-Cabot et al., 2024). With the use of AI in mammography examination, breast cancer risk estimation is performed, lesions are identified and classified, and responses to treatment are predicted. With faster and more accurate interpretation, the quality of healthcare services is improved, workload is reduced and unnecessary biopsies are prevented (Subasi & Özçelik, 2023).

The primary healthcare settings have many patients applying with dermatological complaints. It is very critical for family doctors to recognise suspicious skin lesions at an early stage by performing appropriate diagnostic triage for these patients. According to a systematic review conducted on AI algorithms for early diagnosis of skin cancers in primary health care, AI-supported systems provided diagnostic accuracy of 89.5% in melanoma, 85.3% in squamous cell carcinoma, 87.6% in basal cell carcinoma and 88.8% in the discrimination of benign-malignant lesions. AI supported systems require training according to different skin types and colours. At the same time, the specificity of these systems should be increased to avoid overdiagnosis and unnecessary biopsies (Jones et al., 2022). According to a systematic review published in 2024, there are performance differences between these devices. Larger and more diverse datasets tend to produce more robust and generalisable results when combined with high-quality images and reliable data sets (Furriel et al., 2024).

Diabetes mellitus is a chronic disease that requires long-term follow-up due to its microvascular and macrovascular complications. Globally, diabetic retinopathy is the most common cause of vision loss. As the first point of contact for these patients, family doctors play an important role in the early diagnosis and prevention of diabetic retinopathy. Diabetic retinopathy screening is performed every one to two years in diabetic patients and family doctors periodically refer their patients to the secondary or tertiary healthcare centre (Alnahdi et al., 2023). Nowadays, AI- supported cameras are developed to screen for retinopathy in primary care without the need for fundus dilatation. In a study comparing ophthalmologists, retina specialists and AI in terms of detecting more than mild diabetic retinopathy (mtmDR), the sensitivity of retina specialists was 59.5% and specificity was 98.9%, while the sensitivity of the AI system was 97% and specificity was 88%. In general ophthalmologists, the sensitivity was 20.6% and specificity was 99.8%, while the sensitivity of AI was 96.5% and specificity was 86% (Lim et al., 2022).

In a research assessing the diagnostic classification of ocular diseases including diabetic retinopathy and glaucoma, the prognosis of ocular diseases such as the risk of neovascular age-related macular degeneration (AMD) in the contralateral eye over a 1-year period, and the 3-year prediction of cardiovascular and neurodegenerative diseases from these images, it was found that an AI-supported system analysing retinal images performed reasonably well (Zhou et al., 2023).

DISCUSSION

There are many AI-supported systems that can be used for diagnosis in primary healthcare and physicians can make faster and more accurate diagnoses with these systems. With the integration of digital technologies into the health systems of countries and the development of AI algorithms, it is expected that the effect of AI on medical diagnosis will increase even more in the future (Umapathy et al., 2023).

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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ABSTRACT

Artificial intelligence (AI) is rapidly transforming family medicine by addressing persistent challenges in documentation, decision-making, patient engagement, and system efficiency. Key technical barriers, AI hallucinations, data privacy, algorithmic bias, and automation bias, are being mitigated through retrieval-augmented generation frameworks, federated learning, and rigorous bias-reduction protocols. Regulatory initiatives, such as the European Union (EU) AI Act and evolving Food and Drug Administration (FDA) guidelines, are establishing high-risk classifications for healthcare that mandate continuous monitoring and safety assessments. In practice, AI-driven ambient documentation systems are reducing after-hours charting and enhancing clinician-patient interaction. AI-powered health coaches improve chronic disease self-management, while symptom checkers like Ada and Babylon optimize triage workloads. Clinical decision support tools synthesize electronic health record data to flag high-risk patients and guide preventive care. Administrative AI automates appointment scheduling, referral routing, and inbox triage, freeing physicians to focus on empathetic care.

Looking ahead, strategic priorities include integrating AI literacy into medical curricula and adopting standardized reporting to ensure the transparent evaluation of AI interventions. Ethical oversight bodies and patient advisory panels will safeguard the core bioethical principles of beneficence, non-maleficence, autonomy, and justice. Advances in multimodal and personalized AI, underpinned by federated learning, promise to tailor decision support to local practice patterns without compromising data security. Ultimately, AI will not replace family physicians, but rather augment their expertise, enabling deeper patient connections, reducing administrative burden, and delivering more equitable care.

KEYWORDS

Artificial intelligence, digital technology, family practice, primary health care

INTRODUCTION

Artificial Intelligence (AI) is reshaping the landscape of family medicine by offering solutions to long-standing challenges in documentation, decision-making, patient engagement, and health system efficiency. However, its integration into primary care requires thoughtful navigation of technical, ethical, and structural concerns to ensure equitable and responsible implementation.

CHALLENGES AND CORRESPONDING SOLUTIONS IN PRIMARY CARE AI

Family medicine stands at the forefront of integrating AI into practice, but this comes with significant challenges. Key issues include AI hallucinations, privacy and data protection, algorithmic bias, clinician over-reliance on AI, and the digital divide in access.

Retrieval-augmented generation (RAG) frameworks have been developed to reduce hallucination errors. These systems supplement AI model outputs with real-time retrieval from verified databases, producing grounded and transparent results (Guo et al., 2024). Such mechanisms are vital in clinical education and documentation tools.

Data protection is another key concern. Regulations like HIPAA in the U.S. and GDPR in Europe provide the backbone for secure AI usage. Emerging technologies like federated learning – training models locally without moving data – and data encryption methods bolster privacy compliance (Meszaros et al., 2022). The EU's proposed AI Act also categorizes healthcare AI systems as "high risk," mandating safety assessments and continuous monitoring.

Algorithmic bias remains a persistent issue, particularly in underrepresented groups. A recent scoping review identified effective bias mitigation techniques, including pre-processing (e.g., reweighting or rebalancing data), human oversight, and use of fairness metrics like equalized odds (Sasseville et al., 2025). Inclusion of diverse datasets and community voices in AI design also enhances transparency and equity (Gilfoyle et al., 2024).

Clinician over-dependence on AI, known as automation bias, has been observed in both radiology and primary care settings. Less experienced physicians are especially prone to deferring to AI suggestions, even when erroneous (Kim et al., 2025). This underscores the importance of education. Liaw et al. (2022) proposed a six-domain competency model for AI in primary care, spanning technical literacy, ethical vigilance, and effective patient communication.

Moreover, successful AI integration hinges on interdisciplinary collaboration. Trials show that iterative improvements through feedback loops involving clinicians, developers, and ethicists lead to more clinically relevant tools (Shah et al., 2025).

At the systemic level, governments are implementing regulatory oversight to ensure AI safety and effectiveness. The U.S. FDA and European health authorities are gradually expanding their frameworks to include adaptive algorithms. Governance committees within health systems are also being formed to vet AI tools prior to deployment (Fleisher & Economou-Zavlanos, 2024).

CURRENT APPLICATIONS IN FAMILY MEDICINE

AI's footprint in primary care is already evident in multiple domains:

- Ambient AI documentation systems use natural language processing to transcribe consultations in real time. Tools like DAX and Suki AI have demonstrated significant reductions in after-hours charting and improved patient interaction time (Agarwal et al., 2024; Duggan et al., 2025).
- AI-powered health coaching platforms support chronic disease self-management. Interventions have led to clinically meaningful improvements in glycemic control, weight loss, and physical activity among patients with diabetes or cancer survivorship (Hassoon et al., 2021).
- Triage and symptom checkers, such as Ada and Babylon, assist patients in determining the level of care needed. The NHS anticipates that widespread use of such tools may relieve general practitioners by resolving minor complaints virtually (Large et al., 2025).
- Clinical decision support (CDS) tools are helping family physicians manage diagnostic complexity and preventive care. AI can now analyze EHR data, lab results, and symptom patterns to generate treatment suggestions or identify high-risk patients (Gilfoyle et al., 2024; Tu et al., 2025).
- Administrative AI is automating tasks like appointment scheduling, referral routing, and inbox message triage, streamlining care delivery and allowing physicians to focus on human-centric roles.

FUTURE PROJECTIONS AND STRATEGIC PRIORITIES

To fully capitalize on AI's potential, family medicine must prioritize training, regulation, ethical guidance, and innovation:

- Educational initiatives are expanding, such as the STFM's "AI in Primary Care" curriculum (2025), which provides medical trainees with ethical and practical AI literacy. This shift aims to cultivate not only AI users but also co-creators and evaluators among clinicians.
- Policy frameworks must evolve to regulate AI's life cycle, including real-time surveillance and algorithm audits. Tools like SPIRIT-AI and CONSORT-AI provide standardized methods for trialing and reporting AI interventions (Cruz Rivera et al., 2020).
- Ethical oversight is essential to ensure AI aligns with core bioethical principles: beneficence, non-maleficence, autonomy, and justice. Ethical review boards, patient advisory panels, and social science collaborations are becoming integral to AI deployment in primary care.

- Personalized and generalist AI systems are emerging, capable of synthesizing multimodal inputs (text, images, vitals) and learning from localized clinical patterns. Federated learning approaches enable such systems to train while preserving patient data confidentiality.
- Continuous learning ecosystems for both clinicians and AI will define the future. As Eric Topol (2019) notes, AI must enhance the "human touch" in medicine, empowering physicians to reinvest saved time into empathy and strategic care.

CONCLUSION

In conclusion, AI's integration into family medicine is not merely a technological shift but a philosophical one. When thoughtfully implemented, AI can enhance relational care, reduce administrative burden, and promote health equity. The future of primary care is likely to be shaped not by machines replacing doctors, but by doctors wisely guiding intelligent machines to support patient-centered care.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-IP-17 · Social Prescribing: The Portuguese Experience and its Global Implications

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ABSTRACT

Social prescribing (SP) connects patients with community-based resources to address social determinants of health, significantly impacting primary healthcare globally. Originating in the UK, SP links patients to activities and services that tackle mental health, physical inactivity, and socioeconomic issues, reducing healthcare utilization and enhancing quality of life. Portugal has adopted SP through pilot projects and the Social Prescribing Portugal Network, aiming for national integration. Despite promising outcomes, evaluating SP's effectiveness remains complex due to intervention variability. Future research requires standardized methodologies to conclusively demonstrate SP's efficacy, underscoring its potential as a holistic, patient-centered approach to healthcare.

KEYWORDS

Primary health care, social determinants of health, community health services, patient-centered care

INTRODUCTION

General practitioners (GPs) spend nearly 19% of consultation time addressing non-medical concerns, impacting the time available for direct healthcare. 80% of health outcomes are shaped by social determinants of health (SDOH) such as education, income, physical environment, and lifestyle (Citizens Advice, 2015). SDOH have been shown to have a greater influence on health than either genetic factors or access to healthcare services (Centers for Disease Control and Prevention [CDC], 2024).

The concept of addressing health needs through social means is not entirely new, with roots in community-focused initiatives that predate its formal recognition. However, the structured approach now known as social prescribing began to take shape in the late 20th century. In the United Kingdom, the Bromley by Bow Centre, established in 1984, pioneered a community-developed social prescribing model, demonstrating the potential of integrating social and medical approaches.

The past decade has witnessed a significant surge in the global interest and formalization of social prescribing. A major step forward was the integration of social prescribing into the NHS long-term plan (2019) as a key pillar of personalized care, with a commitment to fund link workers who connect people with various support and engagement opportunities. Other countries have also seen significant developments. The evolution of social prescribing models varies across different countries, reflecting their unique healthcare infrastructures and cultural contexts.

MATERIALS AND METHODS

This lecture is informed by a narrative review of relevant academic literature, policy reports, and documented case studies from countries with established social prescribing frameworks, notably the United Kingdom and Portugal. Sources were selected based on their relevance to contemporary primary care practice and their contribution to understanding the integration of social prescribing within healthcare systems. Thematic analysis was employed to synthesize key aspects related to the origin, development, implementation, and impact of social prescribing in the context of family medicine.

WHAT IS SOCIAL PRESCRIBING?

Social prescribing (SP) responds to the need to address these broader determinants. It connects individuals with community-based resources through referrals—typically made by GPs or other professionals—to Link Workers, who help identify needs and suitable local services. SP promotes a person-centered approach, shifting the focus from "What's the matter with you?" to "What matters to you?"
Globally, SP models can vary and are shaped by local healthcare systems and cultures.

IMPACT ON PATIENTS

Social isolation, mental health concerns, physical inactivity, and socioeconomic barriers: these are the pressing issues SP is targeting. Interventions such as walking groups or creative workshops complement traditional care and structured guidance also supports those facing unemployment, debt, or housing issues by connecting them with relevant services and community networks. As people engage in meaningful activities, their sense of purpose and autonomy grows, leading to better quality of life. Studies consistently report improvements in mental health among individuals participating in social prescribing programs. This includes reductions in symptoms of anxiety and depression, as well as a decrease in feelings of loneliness and social isolation. Engagement in social prescribing initiatives has also been linked to increased levels of physical activity and the adoption of healthier lifestyles. Referrals to exercise programs, walking groups, or gardening clubs can motivate individuals to become more physically active, which in turn has numerous benefits for both physical and mental health (Griffiths et al., 2022). Improvements in self-esteem and self-confidence are also frequently reported outcomes of social prescribing (Dayson et al., 2020). As individuals engage in new activities, develop new skills, and build connections with others, their sense of self-worth and ability to manage their own health can be significantly enhanced. Ultimately, these positive changes contribute to an overall improvement in patients' perceived quality of life and general well-being.

IMPACT ON THE HEALTHCARE SYSTEM

An important aspect of SP is its impact in currently overburdened healthcare systems. Evidence, particularly from the UK, suggests SP can reduce GP visits, emergency attendances, and hospital admissions. Specifically, there was a 42.2% reduction in GP appointments among 1,751 patients who accessed social prescribing in Tameside and Glossop and a 15.4%–23.6% reduction in A&E attendances among 5,908 patients who accessed social prescribing in Kent (National Academy for Social Prescribing, 2024). Cost analyses indicate potential savings, though results are mixed and evaluation is complex due to the diversity of interventions.

IN PORTUGAL

In Portugal, a pilot project was launched by a young family doctor in 2018. The framework involves social workers as link workers and is starting to become an important resource of the national healthcare service. Since 2018 multiple projects have flourished all across the country, targeting different demographics: the elderly, the migrant community, pregnant women, young adults and children.
In 2024, a significant step towards the formalization and expansion of social prescribing in Portugal was the launch of the Social Prescribing Portugal Network by NOVA National School of Public Health, with the support of the Portuguese government. This network serves as a hub for technical-scientific consulting, training, and skills strengthening for professionals involved in social prescribing initiatives across the country. SP implementation seems simple, but the results show that in practice, it faces a complex intervention with multiple stakeholders, diverse community responses and factors influencing project success. The network aims to foster collaboration among researchers, professionals, service users, managers, and policymakers to enhance the effective and sustainable implementation of social prescribing in Portugal (National Academy for Social Prescribing, 2024).

IN TURKEY

For Turkey, considering the prevalent social and health needs, including rising rates of mental health issues and the challenges of an aging population and refugee integration, social prescribing presents a promising avenue to complement its existing healthcare system. While the level of formal implementation among Turkish GPs appears to be in its early stages, the fundamental principles of addressing social determinants of health through community-based interventions hold significant relevance.

DISCUSSION

Overall, the evaluation of social prescribing's efficacy and cost-effectiveness is challenged by the complexity and heterogeneity of the interventions, the diverse range of activities involved, and the difficulty in standardizing outcome measures across different studies and contexts. While there is a growing body of evidence suggesting potential benefits, particularly in areas like mental health and physical activity, and promising indicators of cost-effectiveness when considering broader social outcomes, there is a clear need for more rigorous research using standardized methodologies and outcome measures to strengthen the evidence base and provide more definitive conclusions.

CONCLUSION

The journey of social prescribing, from its early grassroots beginnings to its increasing integration into national healthcare policies, underscores a growing recognition of the limitations of purely biomedical models in addressing the complex health challenges of modern society. The example of Portugal, where a single-family doctor launched a growing movement, can inspire young doctors alike to take action and become true leaders in getting healthcare closer to what really matters to patients.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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EBFMC25-IP-18 · AI-Enhanced Preventive Care in Family Medicine: From Cancer Screening to Lifestyle Management

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ABSTRACT

Preventive care in family medicine faces increasing demands due to aging populations and rising healthcare costs in Europe. Artificial intelligence (AI) emerges as a transformative solution, enhancing cancer screening accuracy, chronic disease detection, and lifestyle medicine through personalized interventions. European initiatives like EUCAIM and INCISIVE foster AI's integration into clinical practice, facilitating precise and resource-efficient care. Despite AI's promising capabilities, ethical concerns such as algorithmic bias, data privacy, and clinical workflow integration must be addressed. Effective AI implementation requires transparent, user-friendly systems that empower both patients and healthcare professionals, highlighting AI's significant potential to optimize preventive healthcare delivery in Europe.

KEYWORDS

Artificial intelligence, preventive health services, lifestyle, early detection of cancer

INTRODUCTION

Preventive care is a cornerstone of Family Medicine. Nowadays, the increasing strain on European healthcare systems- driven by factors such as aging populations and escalating costs- has sparked interest and adoption of AI-enhanced screening solutions. Consequently, AI offers a means to address these pressing issues by automating routine tasks, enhancing the precision of diagnostic processes, and optimizing the allocation of limited healthcare resources.

MATERIALS AND METHODS

A narrative review methodology was employed to explore the current applications of artificial intelligence (AI) in screening and lifestyle medicine within the European healthcare context. Peer-reviewed articles published between 2018 and 2025 were identified through electronic searches of databases including PubMed, ScienceDirect, and Google Scholar. Search terms included combinations of "artificial intelligence," "screening," "lifestyle medicine," "chronic disease," "cancer," "cardiovascular risk," and "Europe." Priority was given to studies evaluating AI's impact on diagnostic accuracy, cost-effectiveness, clinical workflow integration, and patient engagement. Additional data were drawn from European Commission-funded projects and official documentation to provide insight into regulatory and infrastructural developments. Only sources in English were considered.

AI IN CANCER SCREENING

AI can present as an advantage by analysing large numbers of medical images. In cancer screening, AI has demonstrated notable efficacy doing this. Recent studies, like PRAIM and MASAI, conducted in Europe, have shown that AI can improve breast cancer detection rates compared to traditional double reading by radiologists, without increasing false positives (Eisemann et al., 2025). Furthermore, newly founded european projects are fostering the development and implementation of these tools. EUCAIM has enabled the creation of a pan-European digital federated infrastructure of anonymized cancer images from real-world data. The goal is to provide a platform for researchers and developers to create and benchmark AI tools for precision medicine in cancer (EGI, 2020). Other initiatives such as INCISIVE are contributing to the development of

explainable AI tools and federated data infrastructures to support diagnosis and staging in multiple types of cancer.

AI IN CHRONIC DISEASE SCREENING

Since AI can stimulate learning with complex algorithms and advanced computational power, it can be applied to multimodal and big data sets, including genetics, epigenetics, proteomics, metabolomics, CV imaging, socioeconomic, behavioral, and environmental factors. When it comes to chronic diseases, this is used to identify individuals at risk for conditions like diabetes (Ellahham, 2020), hypertension (Chaikijurajai et al., 2020), and diabetic retinopathy (Nielsen et al., 2019). For cardiovascular diseases, AI-enhanced models can outperform traditional risk scores as seen in the PULsE-AI trial for atrial fibrillation (Hill et al., 2022). Research highlights AI's capacity to match or surpass traditional diagnostic tools and its potential for cost-effective, point-of-care deployment, which is especially useful in underserved areas.

AI IN LIFESTYLE MEDICINE

In lifestyle medicine, AI enables personalized health tracking and education, encouraging patients to become active agents of their own health. It supports tailored nutritional advice (Sosa-Holwerda et al., 2024), physical activity recommendations (Canzone et al., 2025), and can offer real-time biofeedback for chronic conditions, like hypertension. As for sleep disorders, AI can automate sleep study scoring and support diagnosis (BaHammam, 2024) and management of very common disorders like insomnia and narcolepsy (Verma et al., 2023). Another interesting AI tool are stress management applications that include interventions based on individual profiles, offering targeted support and continued monitoring (Manole et al., 2024).

CHALLENGES IN IMPLEMENTATION

The ethical risks of AI implementation need to be addressed cautiously. From algorithmic bias and data privacy to the need for transparency and human oversight, it is crucial to subject any AI application to a thorough evaluation process (Hasanzadeh et al., 2025). Transparency and explainability of AI-driven decisions are also paramount for building trust among both patients and healthcare professionals. Patients have a right to understand how AI is being used in their care, and clinicians need to be able to interpret the outputs of AI algorithms to make informed decisions. European regulations like the AI Act aim to ensure responsible, equitable implementation. In this realm, the European Health Data Space Regulation (EHDS), launched in 2025, aims to create a framework for the secure exchange and reuse of electronic health data for research, innovation, policy-making, and regulatory activities, including the development and evaluation of AI algorithms in healthcare. Moreover, effective AI adoption depends on seamless integration into clinical workflows. Tools that increase workload risk being abandoned, regardless of their accuracy or efficacy. In order to achieved sustained smooth integration, it is just as important to think about user-friendly interfaces and automation of decision steps.

CONCLUSION

The future of medical screening in Europe is poised for significant advancements driven by emerging AI technologies. One prominent trend is the move towards more personalized and risk-stratified screening approaches. This will enable healthcare providers to tailor screening strategies to an individual's specific risk profile, potentially leading to more effective and efficient use of resources. In lifestyle medicine, the potential benefits include enhanced patient engagement, improved adherence to lifestyle recommendations, and more informed decision making. Regardless of AI’s potential benefits in terms of cost-effectiveness and usability these aspects require careful evaluation and thoughtful implementation in real-world clinical settings. Thus, AI represents a transformative tool in preventive healthcare, and if implemented adequately, can increase screening accuracy, empower patients, and optimize care delivery. So, it is the job of any working family doctor to understand AI applications in screening in order to remain at the forefront of modern, patient-centered medicine.

CONFLICT OF INTEREST DECLARATION

There is no commercial, financial, or personal conflict of interest in this study.

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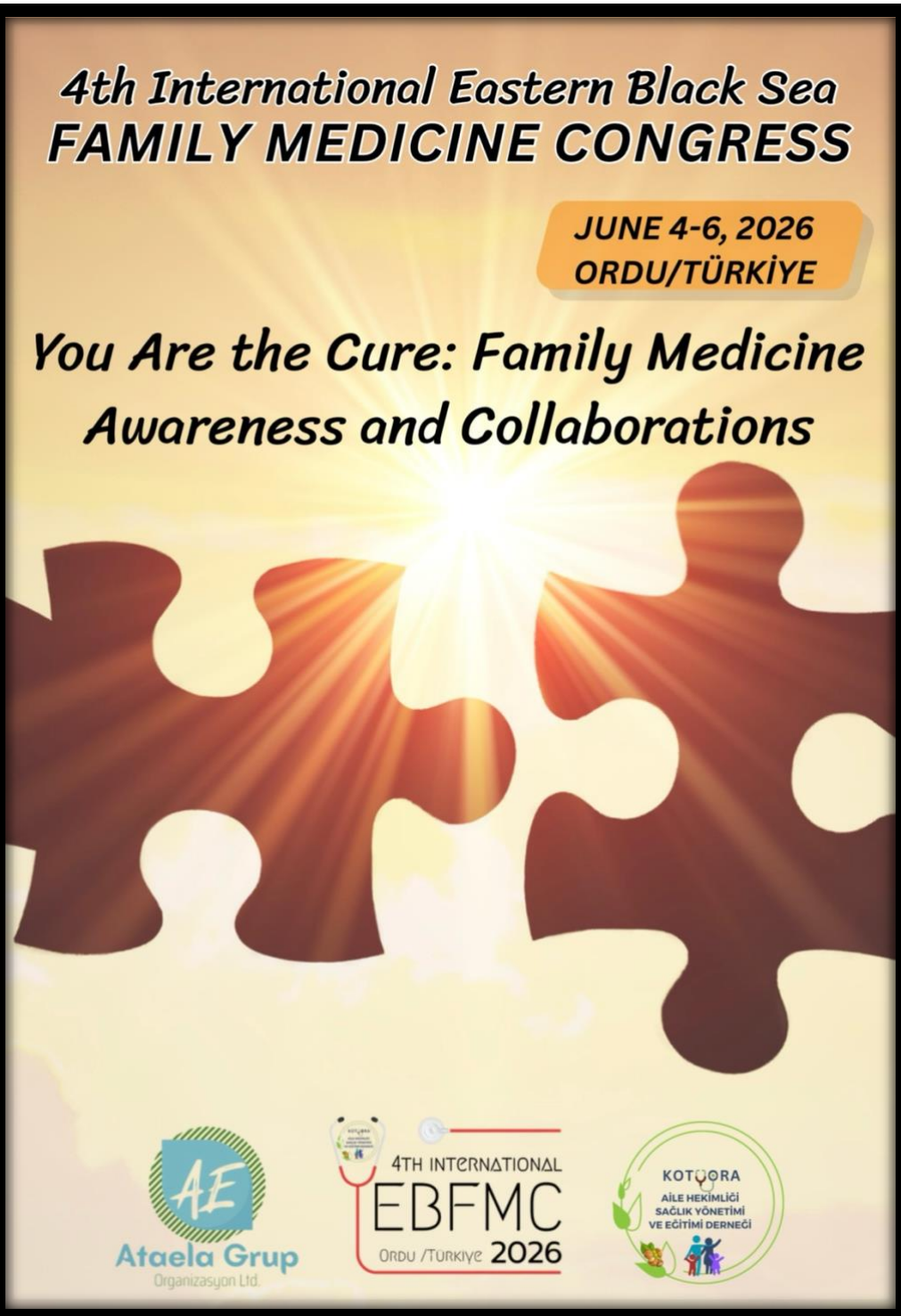

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