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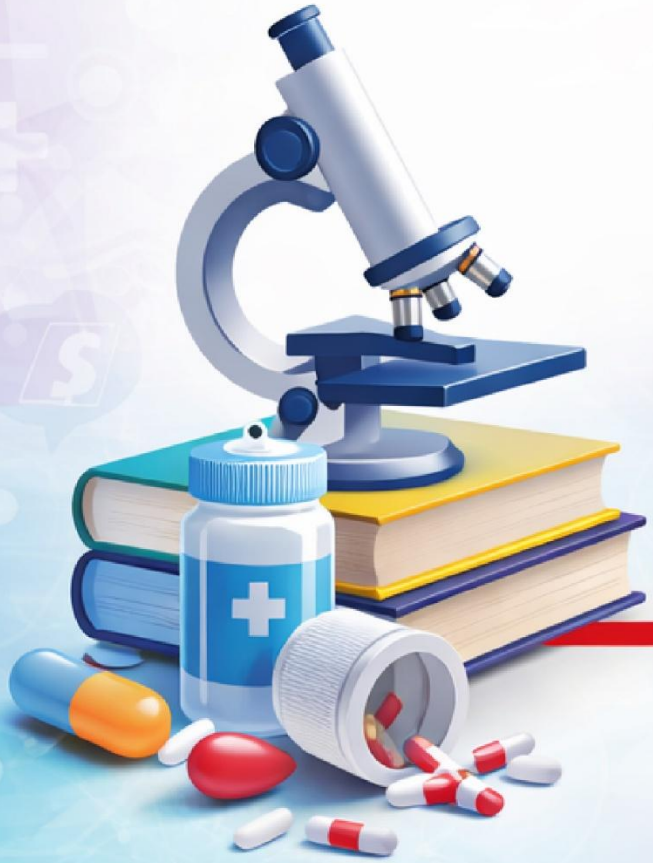
4th International Congress of Medical and Health Sciences Studies

ABSTRACTS BOOKLET



Editor
Ali Bilgili

BİDGE Yayınları

4th International Congress of Medical and Health Sciences Studies

Abstracts Booklet

13-14 Dec 2025

Ankara/Turkey

BIDGE Publications

4th International Congress of Medical and Health Sciences Studies Abstracts Booklet

ISBN: 978-625-8673-47-0

Editor: Ali Bilgili

Page Layout: Gözde YÜCEL

1st Edition: BIDGE Publications

Publication Date: 25.12.2025

Certificate No: 71374

www.bidgeyayinlari.com.tr - bidgeyayinlari@gmail.com

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Contents

Abstracts

4th International Congress of Medical and Health Sciences Studies

Radicular Cyst of the Mandible: Radiographic Appearance and Treatment Approach

Tuna SUMER[1]
Mahmut SUMER[2]

Abstract

The jaw is a common anatomical site for the development of odontogenic and non-odontogenic lesions. Because most cysts arise from the numerous remnants of odontogenic epithelium that persist after tooth development, they occur more frequently in the jaws than in other bones. Radicular cysts are the most common type of odontogenic cysts in the jaws and originate from a devital tooth. In the absence of secondary infection, they typically remain asymptomatic. Their management primarily involves surgical removal through excision or marsupialization, depending on lesion size and anatomical considerations. This report aims to present a case of a radicular cyst in the left mandible, treated initially with marsupialization and subsequently with complete surgical excision.

A 51-year-old male patient presented to our clinic with a complaint of swelling and a retained root in the left mandible. The patient's medical and family history was unremarkable. Radiographic evaluation revealed a radiolucent lesion with well-defined sclerotic borders in the region of the left posterior mandible. An incisional biopsy was performed, and the histopathological finding was consistent with a radicular cyst. Due to the size of the lesion, marsupialization was carried out as an initial treatment to reduce cyst volume, followed by total excision of the lesion. The postoperative course was uneventful, and histological examination of the excised specimen confirmed the diagnosis.

Radicular cysts typically present radiographically as well-defined, corticated, oval-shaped radiolucencies. They tend to occur more frequently in the maxilla, particularly around the incisor and canine teeth. This case demonstrates that large radicular cysts of the mandible can be successfully managed using a staged treatment approach. Routine radiographic follow-up plays a crucial role in detecting such lesions at an early stage, ensuring timely diagnosis, appropriate treatment, and prevention of further complications.

Keywords: radicular cyst, odontogenic cyst, panoramic radiograph

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Rehabilitation of Fully Edentulous Patients with Advanced Maxillary Resorption Using Hybrid Prostheses: Two Case Reports

Selin TARAK[1]

Abstract

Severe resorption of the maxillary alveolar ridge and increased interarch space pose significant challenges for implant-supported prosthetic rehabilitation. In such cases, implant-supported fixed prostheses (SP1–SP2) often fail to provide adequate soft-tissue support and satisfactory esthetics, making implant-supported hybrid prostheses (SP3) a more appropriate treatment alternative. This report presents the prosthetic rehabilitation of two fully edentulous patients with advanced hard- and soft-tissue loss who were treated with maxillary implant-supported hybrid prostheses. Both patients exhibited excessive interocclusal space, compromised facial support, and functional deficiencies. Following implant placement and osseointegration, definitive impressions were obtained using the splinted open-tray technique to enhance accuracy, and the passive fit of the metal frameworks was verified clinically. The maxillary hybrid prostheses were fabricated on screw-retained metal frameworks using PMMA-based acrylic resin and artificial teeth to re-establish esthetics, phonetics, and soft-tissue contours.

Mandibular treatment protocols differed between the two patients. In the first case, three implants were splinted with a bar, and the remaining natural teeth were restored with surveyed crowns, providing support for a bar-retained overdenture. In the second case, four posterior implants were restored with cement-retained fixed prostheses, while the anterior natural teeth received full-coverage crowns to achieve functional and esthetic harmony. At the 6-month follow-up, both patients demonstrated significant improvements in mastication, phonetics, facial profile, and lip support, with no mechanical or biological complications observed.

The favorable outcomes of these two cases indicate that, when combined with accurate impression techniques, proper framework design, and appropriate occlusal planning, implant-supported hybrid prostheses offer a predictable and effective treatment solution for patients with advanced maxillary resorption and high esthetic expectations.

Keywords: Hybrid prosthesis, maxillary resorption, open-tray impression, complete edentulism, prosthetic rehabilitation.

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Current Concepts in Maxillary Molar Distalization

Anıl Hikmet DEVECİ[1]
Alaattin TEKELİ[2]
Şirin Rabia ADIŞEN[3]
Türkan SEZEN ERHAMZA[4]

Abstract

In recent years, the growing emphasis on aesthetic concerns across multiple fields has led to an increased interest in, and greater emphasis on, orthodontic interventions within dental practice. The primary objective of orthodontic treatment is to correct existing anomalies and to achieve both functional and aesthetic improvements by the end of therapy, thereby enhancing patients' overall well-being and self-perception.

In patients presenting with dentoalveolar anomalies, the principal aim of orthodontic therapy is to achieve proper alignment of the teeth and to reestablish a normal, physiologic occlusion; within this process, the resolution of space discrepancies constitutes a fundamental step. Crowding may be managed through tooth extraction, dental arch expansion, anterior protrusion, or molar distalization. In Class II malocclusions, maxillary anterior crowding or increased overjet may be corrected through maxillary molar distalization or extraction of two premolars in the upper arch (Gelgör, 2002).

Molar distalization can be accomplished using various intraoral or extraoral mechanics. Intraoral distalization systems are often preferred because they are more acceptable aesthetically and provide continuous forces capable of achieving effective distal movement within relatively short periods (Bolla et al., 2002; Keles et al., 2000). However, the distalizing force applied may generate reactive forces on the anchorage teeth, potentially leading to undesirable anchorage loss (Oberti et al., 2009). To overcome these limitations, osseointegrated implants (Keles & Isguden, 1999), miniplates (Cornelis & De Clerck, 2007), and miniscrews (Escobar et al., 2007) have been introduced as anchorage units, with miniscrews emerging as a particularly effective modality for enhancing anchorage control.

Increasing aesthetic demands have also contributed to a growing preference for clear aligner therapy. Thanks to advancements in digital technology and biomechanical modeling, clear aligners are now utilized not only in mild malocclusions but also in more complex tooth movements, including molar distalization.

In this review, I aim to present the most recent developments related to maxillary molar distalization, a commonly employed treatment approach for Class II malocclusions. In addition to conventional fixed orthodontic mechanics, the biomechanics of molar distalization achieved with clear aligners and the factors influencing this movement are discussed. Finally, distalization with clear aligners is compared with traditional fixed appliances to provide a comprehensive overview of both modalities.

Keywords: Orthodontics, distalization, conventional treatment, clear aligner.

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Gömülü Dişlerin Ortodontik Olarak Sürdürülmesi: Teknikler, Başarı Kriterleri ve Komplikasyonlar

Ergin KALKAN[1]
Gürkan KAYA[2]

Abstract

Bu sistematik derlemenin amacı, gömülü dişlerin ortodontik olarak sürdürülmesinde kullanılan cerrahi ve ortodontik teknikleri, başarı kriterlerini ve komplikasyonları güncel literatür ışığında değerlendirmektir.
Bu makalenin amacı, gömülü dişlerin ortodontik olarak sürdürülmesine yönelik cerrahi ve ortodontik yaklaşımları, kullanılan temel mekanikleri, tedavi başarısını etkileyen faktörleri, ortaya çıkabilecek komplikasyonları ve tedavi seçeneklerinin iyi ve kötü yönlerini literatür ışığında değerlendirmektir.
PRISMA 2020 kılavuzuna uygun olarak PubMed, Scopus ve Web of Science veri tabanlarında 1970–2025 yılları arasında yayımlanmış çalışmalar tarandı. Dahil etme kriterleri; gömülü daimi dişlerin cerrahi ve ortodontik sürdürülmesine ilişkin klinik sonuçları raporlayan insan çalışmalarını içerdi.
Kullanılan cerrahi teknikler, uygulanan kuvvet mekanikleri, başarı oranları ve bildirilen komplikasyonlar açısından sentezlenmiştir. Toplam 342 makale incelenmiş, kriterleri karşılayan 27 çalışma derlemeye dahil edilmiştir. Çalışmaların çoğunda kapalı cerrahi teknik, periodontal dokuların korunması açısından daha avantajlı bulunmuştur. Başarı oranı %85–93 arasında değişmekte, en sık komplikasyonlar kök rezorpsiyonu ve periodontal çekilmedir.
Erken tanı, kök gelişimi tamamlanmadan tedaviye başlanması, uygun cerrahi yaklaşım ve fizyolojik kuvvetlerin kullanımı, gömülü dişlerin ortodontik sürdürülmesinde en önemli başarı faktörleridir.
Anahtar Kelimeler: Gömülü Diş, Ortodontik Sürdürme, Kanin, Traksiyon, Ankiloz, Kök Rezorpsiyonu.

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Generalized Enamel Hypoplasia Following Early Childhood Febrile Convulsion: A Case Report

Hatice HATİPOĞLU[1]
Nilay YILMAZ[2]
Burcu GÜÇYETMEZ TOPAL[3]
Özgür DOĞAN[4]

Abstract

Tooth development occurs through a series of sequential, reciprocal, and inductive biological interactions between the ectoderm and the underlying mesenchyme. Although this process is genetically regulated, it remains highly sensitive to environmental influences. Recent basic science research has demonstrated that ameloblasts are exceptionally susceptible to minor environmental perturbations; even relatively small stimuli—such as increases in temperature, hypocalcemia, or alterations in pH—may impair their functional capacity.

A variety of metabolic disorders, hypocalcemia, prematurity, radiation exposure, febrile illnesses, allergic reactions, post-immunization sequelae, infections, nutritional deficiencies, toxic exposures, and endocrine diseases may disrupt the process of enamel formation. Functional disturbances occurring in the cells responsible for tooth development lead to permanent morphological alterations. Developmental defects of enamel encompass a broad clinical spectrum ranging from changes in enamel translucency (enamel opacities) to a marked reduction or complete absence of enamel tissue (enamel hypoplasia).

A principal cause of enamel tissue damage is the direct influence of infectious agents on ameloblasts or the functional impairment induced by the high fever accompanying such infections.

This case report presents the clinical management of generalized enamel hypoplasia presumed to have developed following a systemic event. A twelve-year-old patient presented to our clinic with aesthetic concerns and complaints of dental caries. Intraoral examination revealed pronounced enamel hypoplasia located in the middle third of the maxillary central incisors, the incisal third of the maxillary lateral incisors, the cervical third regions of the mandibular central and lateral incisors, and the incisal third of the mandibular canines. Additionally, extensive carious lesions were detected in both maxillary and mandibular first molars. The patient's medical history revealed a febrile convulsion at 1.5 years of age, which corresponded with the mineralization timeline of the affected teeth and supported the presumed etiological association.

In the treatment phase, the hypoplastic areas in the anterior region were restored with composite resin to address aesthetic needs. Due to the extensive structural loss and pulpal pathology in the molars, root canal treatment and pulpotomy were performed as indicated, followed by the placement of stainless steel crowns to ensure long-term functional durability.

This case highlights the lasting impact that severe systemic events during early childhood can have on enamel formation. Furthermore, it provides a contemporary clinical example demonstrating that hypoplastic teeth can be successfully rehabilitated through a comprehensive approach that addresses aesthetic, functional, and biomechanical considerations.

Keywords: Enamel hypoplasia, Febrile Convulsion, Pediatric Dentistry, Aesthetic Restoration, Stainless Steel Crown

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A Pediatric Case of Overextended Root Canal Filling: Concomitant Palatal Abscess and Maxillary Sinus Infection

Hatice HATİPOĞLU[1]
Nilay YILMAZ[2]
Özgür DOĞAN[3]

Abstract

Palatal swellings are uncommon clinical findings in dental practice and may result from several conditions, including palatal abscess, nasopalatine duct cyst, pleomorphic adenoma, and fibroma. Palatal abscesses require prompt management to prevent the spread of infection to adjacent tissues. Odontogenic infections are the primary cause and typically extend from the affected tooth along anatomical pathways of least resistance, leading to abscess formation in the palatal region. Most palatal abscesses originate from the maxillary molar area. Clinically, they usually appear as compressible masses located lateral to the midline in the premolar–molar region, making diagnosis generally straightforward. However, in rare cases, localization near the midline may create diagnostic challenges.

Maxillary molar and premolar teeth frequently lie close to the maxillary sinus. In some individuals, the sinus floor is extremely thin or separated from the dental apices only by the Schneiderian membrane. This anatomical proximity increases the risk of complications during endodontic procedures, as excessive instrumentation or overextension of root canal filling materials may lead to their displacement into the maxillary sinus. While this may remain asymptomatic, it can also cause chronic sinusitis.

A 13-year-old female patient presented with pain in the left maxillary incisor region, sudden-onset purulent palatal swelling, and salty fluid drainage into the mouth. Examination revealed a midline palatal swelling with a pseudomembranous surface that discharged pus upon palpation, along with percussion sensitivity of the left maxillary central incisor. The patient reported recent root canal treatment of the left maxillary first molar at another clinic. Cone-beam computed tomography showed marked overextension of root canal filling material in all roots of the molar, with direct extension into the maxillary sinus and nasal floor. The sinus was filled with infected material, and the infection had spread toward the palate, forming an abscess.

The patient was referred to Oral and Maxillofacial Surgery, where palatal drainage was performed, and systemic antibiotics were prescribed following otorhinolaryngology consultation. After infection control, the affected molar was extracted. Follow-up revealed complete resolution of the palatal abscess and improvement of sinonasal findings. This case demonstrates that overextended root canal fillings can lead to significant palatal and sinonasal complications even in pediatric patients. Cone-beam computed tomography is essential for evaluating the infection source and its anatomical spread. Early diagnosis, multidisciplinary care, and timely surgical and medical intervention are critical for optimal outcomes.

Keywords: Palatal Abscess, Overextended Endodontic Treatment, Odontogenic Infection, Maxillary Sinusitis, Sinonasal Complications

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4th International Congress of Medical and Health Sciences Studies

Zygomatic and Conventional Implant Rehabilitation in a Patient with Severe Maxillary Atrophy: A Case Report

Bilal BAHAR[1]

Abstract

In cases characterized by complete maxillary edentulism, advanced bone resorption and sinus pneumatization, particularly developing in the posterior region, often render conventional implant placement unfeasible. Under these challenging anatomical circumstances, zygomatic implants provide an effective alternative to extensive grafting procedures, thereby facilitating the completion of functional and aesthetic rehabilitation within a shorter treatment period. This case report outlines the surgical treatment protocol employing the combined application of zygomatic and conventional implants in a patient presenting with severe maxillary atrophy.

A sixty-three-year-old male patient was referred to our clinic with chief complaints of nutritional deficiency and masticatory difficulty. Clinical examination revealed the presence of only periodontally compromised anterior teeth in the mandible, while the maxilla was completely edentulous, demonstrating advanced atrophy and marked sinus descent in the posterior segment. Radiographic evaluation confirmed the inadequacy of bone volume in the maxilla for conventional implant placement. Consequently, the treatment plan involved the placement of two zygomatic and three anterior conventional implants in the maxilla, and the application of an "all-on-five" concept with five implants in the mandible.

The operation was performed under intraoral and extraoral local anesthesia. Following full-thickness flap elevation, the sinus membrane was carefully elevated during the placement of the zygomatic implants. The region was supported with the Buccal Fat Pad (BFP) to prevent the subsequent exposure (dehiscence) of the implant shafts through the soft tissue. The surgical sites were primarily closed with 3/0 Vicryl sutures, and the patient was discharged with a postoperative regimen consisting of antibiotics, non-steroidal anti-inflammatory drugs (NSAIDs), and antiseptic mouthwash.

Following a three-month healing period, the peri-implant soft tissues were determined to be healthy; no signs of inflammation, tenderness, bleeding on probing, or fistulation were observed. Radiographic assessment revealed no resorptive changes suggesting early bone loss around the implants. These findings demonstrated successful osseointegration of the implants and confirmed that adequate stability and tissue health were achieved in both arches for the commencement of prosthetic rehabilitation.

Combined zygoma and conventional implants offer a reliable, graft-free option for patients with severe maxillary atrophy and sinus pneumatization. High primary stability and reduced treatment time make this approach a valuable alternative.

Keywords: Zygomatic implants, Maxillary atrophy, Sinus pneumatization, All-on-five concept, Severe bone loss.

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Ankiloglossi Tedavisinde Diyot Lazer Destekli Frenektomi Uygulamasının Fonksiyonel Sonuçları: Konuşma Bozukluğu Olan Bir Olgu

Ecem KILINÇ EDEER[1]
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Abstract

Ankyloglossia is a congenital anomaly characterized by an abnormally short, thick, or fibrotic lingual frenulum. This anomaly causes restricted tongue movement. The reduction in tongue mobility is clinically significant because it can affect not only oral functions such as speech, swallowing, and oral hygiene, but also craniofacial development. It can cause articulation disorders, difficulty producing certain letter sounds (especially alveolar sounds such as “l, n, r, t, d”), and social communication problems, particularly during childhood. Early diagnosis and appropriate treatment play a critical role in improving tongue function and correcting phonation. Laser frenectomy is frequently preferred today due to its minimally invasive nature, less postoperative pain, and faster recovery.This case presentation evaluates the clinical results of frenectomy performed with a diode laser (Solase® (Lazon Laser, Wuhan, China)) in a 13-year-old patient with speech disorder due to ankyloglossia. The patient presented to our clinic with significant difficulty pronouncing the "n" sound and a speech disorder described as "anne/alle." Clinical examination confirmed the diagnosis of ankyloglossia, and laser frenulectomy was performed at the same session. The patient was provided with a detailed postoperative massage and functional exercise protocol. At the 10-day follow-up, positive progress in healing was observed, and the patient was referred to a speech therapist.At the one-month follow-up, articulation had improved significantly, and at the six-month follow-up, speech functions had returned to normal limits. No complications were observed. The patient is awaiting orthodontic treatment and is being followed up. This case demonstrates that diode laser frenectomy is safe and effective, but also highlights the importance of a multidisciplinary approach with speech therapy for optimal phonation.

Keywords: Ankyloglossia, Frenectomy, Diode laser, Lingual Frenulum, Articulation

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Sabit Palatal Crib'in Orofasiyal Fonksiyonlar Üzerindeki Etkisi: Çocuk Hastalarda İki Olgu

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Abstract

Oral habits such as thumb sucking and infantile swallowing are parafunctional behaviors that significantly affect dentofacial development during childhood. Prolonged thumb sucking can cause malocclusions such as anterior open bite, posterior crossbite, increased overjet, and speech disorders. If infantile swallowing is not treated, it disrupts dentoalveolar balance due to anterior tongue placement and leads to anterior tooth protrusion, open bite development, and oral-facial muscle imbalance. The fixed palatal crib is an effective, passive appliance that breaks these habits while creating behavioral awareness. It helps improve orofunctional function by preventing the patient's tongue and finger movements, thereby correcting malocclusion.This case presentation evaluates the clinical outcomes of two pediatric patients treated with a fixed palatal crib. The first patient, aged 8 years, presented on January with a persistent thumb-sucking habit and associated anterior open bite. Deep dentin caries were also detected in some teeth. A fixed palatal crib was applied; at the 1-month follow-up, a decrease in the open bite tendency was observed, and at the 6-month follow-up, thumb sucking had completely ceased and the open bite had resolved. At the 1-year follow-up, no recurrence of the habit was observed, and the occlusion remained stable.The second patient was 9 years old and presented with infantile swallowing complaints in August 2024; a fixed palatal crib was applied on September, 2024. Infantile swallowing was observed to continue in the first month; adaptation to the appliance was achieved in the third month. Infantile swallowing behavior completely disappeared in the seventh month, and the appliance was removed. At the one-year follow-up, a normal swallowing pattern was maintained. Both patients were referred for orthodontic treatment.These two cases demonstrate that the fixed palatal crib appliance is an effective and stable approach for managing both thumb sucking and infantile swallowing.

Keywords: Palatal Crib, Infantile Swallowing, Openbite, Parafunction, Habit breaker

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A Contemporary Dıgıtal Restoratıve Strategy In Pedıatrıc Dentıstry: Cad/Cam Crown Rehabılıtatıon

Hilal Ecem KESKİNKILIÇ
Ayça Hande SARİ
Özgür DOĞAN

Abstract

The restoration of endodontically treated teeth with extensive coronal destruction remains a significant clinical challenge in terms of both function and esthetics. Conventional metal post systems, characterized by their high modulus of elasticity, often generate non-uniform stress distribution within the remaining tooth structure, increasing the risk of root fracture. In contrast, fiber posts demonstrate biomechanical advantages, as their elastic modulus is similar to that of dentin, allowing for more uniform stress distribution and reducing the likelihood of catastrophic failure. Furthermore, their favorable esthetic properties and minimally invasive application have made fiber posts the preferred choice in modern restorative dentistry.

Recent advances in CAD/CAM technologies have further transformed restorative approaches by offering superior dimensional accuracy, shorter fabrication times, and excellent marginal adaptation. In young patients, where the preservation of natural tooth structure is crucial, CAD/CAM-fabricated restorations reinforced with fiber posts provide a conservative yet durable solution. Literature reports indicate that CAD/CAM-customized fiber post systems exhibit improved adaptation, adhesive bonding, and fracture resistance compared with prefabricated alternatives. Similarly, CAD/CAM materials such as lithium disilicate and hybrid ceramics demonstrate exceptional mechanical properties and long-term clinical success.

This case report presents the restorative management of a mandibular right first molar (tooth #46) in a 14-year-old female patient presenting with pain due to deep caries and extensive coronal structure loss. Following a diagnosis of symptomatic irreversible pulpitis, root canal treatment was completed using a bioceramic-based sealer. After two weeks of asymptomatic follow-up, a fiber post was placed in the mesial root and luted with dual-cure resin cement, followed by composite core build-up. Crown preparation with a shoulder finish line was performed, and a digital impression was obtained using an intraoral scanner. The definitive restoration was designed and fabricated using a **Phrozen Sonic Mighty 8K CAD/CAM system,** ensuring high precision and excellent surface detail. A monolithic CAD/CAM full-ceramic crown was delivered within three days. Upon clinical evaluation, the restoration exhibited ideal marginal adaptation, occlusal harmony, and esthetic integration.

This case demonstrates that fiber post–reinforced CAD/CAM full-ceramic crowns represent an effective, conservative, and esthetically favorable treatment modality for endodontically treated teeth with significant coronal loss. The integration of fiber post reinforcement with **Phrozen Sonic Mighty 8K** digital technology enhances biomechanical performance, precision, and esthetic outcome, ensuring long-term functional stability and patient satisfaction.

Keywords: *CAD/CAM (Computer-Aided Design / Computer-Aided Manufacturing), Fiber post*, *Bioceramic putty, Pediatric dentistry*

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Pre- and Post- Dental Treatment Dental Anxiety in Children: The Role of Parenting Styles

Feyza Nur ALTAN[1]
Esra KIZILCI[2]
Kevser SOLAK KOLÇAKOĞLU[3]
Eda Nur GÜZELDEMİRCİ[4]

Abstract

The aim of this study was to examine the change in dental anxiety levels before and after treatment among children attending a pediatric dentistry clinic and to evaluate the relationship between dental anxiety and parental attitudes. The study was conducted with 336 children aged 5–10 years and their parents who attended the Pediatric Dentistry Clinic of Erciyes University Faculty of Dentistry. Children's dental anxiety was assessed before treatment and following routine clinical procedures using a 15-item dental anxiety scale. Scores were categorized as low (15–31), moderate (32–38), and high (≥39) anxiety. Parental attitudes were measured using the Parenting Styles and Dimensions Questionnaire adapted into Turkish. All data were analyzed statistically with SPSS 20.0 version.

The mean pre-treatment anxiety score was 39.50 ± 17.65, which decreased to 31.29 ± 16.80 post-treatment, indicating a statistically significant reduction in dental anxiety ($p<0.001$). Before treatment, 47.3% of the children exhibited high anxiety, whereas this proportion decreased to 25.3% after treatment, and the rate of low anxiety increased from 39.6% to 66.7%. A significant negative correlation was found between age and anxiety levels ($p<0.001$). No significant differences were observed between genders ($p>0.05$), and parental attitudes were not significantly associated with children's dental anxiety ($p>0.05$).

This study demonstrates that routine clinical experience significantly reduces dental anxiety in children. The higher anxiety levels observed in younger children emphasize the importance of early preparation and appropriate behavior guidance strategies. The absence of a significant relationship between parental attitudes and dental anxiety indicates that individual factors and clinical exposure may play a more dominant role. Structured anxiety-reducing approaches are recommended in pediatric dental practice.

Keywords: Behavior management, Child patients, Dental anxiety, Parenting styles, Pediatric dentistry

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Complex Odontoma Associated With An Impacted Mandibular Second Premolar In A Pediatric Patient: A Case Report

Hilal Ecem KESKİNKILIÇ
İsmail ÇALIŞKAN
İsmail Haktan ÇELİK DOĞAN

Abstract

Odontomas are the most common odontogenic tumors and are generally regarded as benign developmental anomalies or hamartomas resulting from disturbances in odontogenesis. They originate from the epithelial and ectomesenchymal tissues involved in tooth development. Histopathologically, odontomas are classified into two main types: compound and complex. Compound odontomas exhibit well-organized, tooth-like structures, whereas complex odontomas consist of irregular masses of enamel, dentin, cementum, and pulp tissue without morphological resemblance to a tooth. Clinically, most odontomas are asymptomatic and incidentally discovered on radiographic examination, often as the cause of delayed eruption of permanent teeth. They occur more frequently during mixed dentition and are most commonly located in the anterior maxilla (compound type) or posterior mandible (complex type). Early diagnosis and surgical removal are essential to prevent eruption disturbances, malocclusion, and esthetic complications.

A 13-year-old female patient presented with pain in the lower left mandibular region. Panoramic radiography revealed deep caries in tooth #36 and an unerupted tooth #45 associated with an irregular radiopaque mass. The adjacent tooth #44 was mesially inclined, and insufficient space for the eruption of tooth #45 was observed. Orthodontic consultation indicated poor eruption potential for tooth #45, and extraction was advised. To assess the lesion's morphology and its relationship with the mandibular canal, cone-beam computed tomography (CBCT) was performed. CBCT revealed an irregular radiopaque mass with enamel and dentin density, located above the crown of the impacted tooth #45, consistent with the radiographic characteristics of a complex odontoma.

Under local anesthesia, surgical enucleation of the radiopaque lesion and extraction of the impacted tooth #45 were performed in the same session. The specimen was sent for histopathological evaluation. The postoperative course was uneventful, and sutures were removed after two weeks. At the three-month follow-up, radiographic evaluation showed evidence of bone regeneration and partial mineralization in the surgical site. Histopathological analysis confirmed the diagnosis of complex odontoma, demonstrating disorganized deposits of enamel matrix, dentin, and pulp tissue.

Additionally, root canal treatment was performed on tooth #36 due to deep caries. The patient continues to be monitored through regular clinical and radiographic follow-ups.

This case highlights the importance of radiographic evaluation and multidisciplinary management in the diagnosis and treatment of odontomas, particularly in pediatric patients. Early surgical intervention prevents eruption disturbances and promotes favorable long-term outcomes.

Keywords: Complex odontoma, Impacted tooth, Pediatric dentistry, Cone-beam computed tomography (CBCT)

4th International Congress of Medical and Health Sciences Studies

Common Positioning Errors in Panoramic Radiography

İrem BULUT[1]

Abstract

Panoramic radiography is a frequently preferred method in dental practice due to its advantage of imaging a wide anatomical area at a low dose; however, the diagnostic quality of the image largely depends on correct patient positioning. Positioning errors negatively affect clinical evaluation by causing distortion of anatomical structures and loss of image in diagnostically critical areas. This review aims to summarize the most common positioning errors in panoramic radiography and their typical reflections on the image. Positioning the patient's head too far forward or too far back causes noticeable enlargement or reduction and loss of sharpness in the anterior teeth, while excessive upward or downward tilting of the jaw creates a characteristic “smiling face” or “flattened occlusal curve” appearance. Head rotation leads to an asymmetrical image with expansion and blurring on one side and narrowing and increased density on the other. Tongue position, which is often overlooked due to low awareness, is also a significant source of error; failure of the tongue to contact the palate creates a large, radiolucent air space under the hard palate, reducing the diagnostic value of the maxillary apical regions. In addition, patient movement causes widespread blurring throughout the image, while open lips lead to loss of detail, particularly in the anterior region. Correctly recognizing these errors and performing simple positioning checks before taking the image reduces the need for retakes and the associated unnecessary radiation exposure, thereby increasing the clinical effectiveness of panoramic radiographs. In this context, developing positioning awareness in panoramic imaging is critical for both patient safety and diagnostic accuracy.

Keywords: panoramic radiography, patient position, diagnostic accuracy

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Exposure of an Unerupted Tooth Using Electrocautery: A Clinical Case Report

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ECEM KILINÇ EDEER[2]
ÖZGÜR DOĞAN[3]

Abstract

Electrocautery provides both cutting and coagulation in soft tissue surgery, allowing for the creation of a bleeding-free, controlled, and minimally traumatic field. This case describes the surgical exposure of the unerupted right and left permanent first molars in the mandible of a 7.5-year-old girl who was systemically healthy, not taking any medications, had no allergies, and presented to our clinic for dental treatment complaining of pain. The overlying soft tissue was removed using electrocautery. Under local anesthesia, a precise incision and excision were made using electrocautery in the mucosa overlying the permanent teeth, exposing the crowns of the involved teeth. Thanks to the instantaneous coagulation achieved by electrocautery, bleeding during the procedure was minimal, and the surgical field was clearly visible. The patient reported only mild postoperative pain, and no postoperative bleeding or infection was observed. Regular follow-up examinations revealed satisfactory soft tissue healing, healthy mucosal formation, and the erupted teeth, with no necrosis or delayed epithelialization. Eruption of the involved teeth was also confirmed with orthopantographic and periapical radiographs. Compared to the traditional scalpel, electrocauterization provided a faster and more controlled surgical field without bleeding, shorter operative times, and improved visibility. When applied with appropriate parameters, as in this case, electrocauterization can be a reliable alternative for exposing unerupted teeth. It offers significant advantages, particularly in patients or procedures where bleeding control is critical.

Keywords: electrocautery; impacted tooth; soft-tissue excision; surgical exposure; hemostasis

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4th International Congress of Medical and Health Sciences Studies

Ultrasonography and CBCT in the Early Diagnosis of Intraoral BCC

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Abstract

Basal cell carcinoma (BCC) is a common epithelial malignancy typically localized to sun-exposed cutaneous surfaces, while its occurrence within the oral cavity is exceedingly rare. Intraoral BCC often mimics benign or inflammatory lesions, making early diagnosis challenging and potentially delaying appropriate treatment. This case report highlights the diagnostic value of ultrasonography (USG) and cone-beam computed tomography (CBCT) in the early identification of a rare intraoral BCC, emphasizing the importance of multimodal imaging in accelerating clinical decision-making. A 62-year-old male patient presented with progressive swelling, pain, and erythematous mucosa in the left maxillary posterior region. Intraoral examination revealed an indurated, mildly ulcerated lesion extending toward the maxillary tuberosity. USG imaging demonstrated a 23-mm, iso-to-hyperechoic, heterogenous solid mass with increased venous flow on Doppler evaluation, suggesting an aggressive and vascularized lesion. Additionally, extraoral USG revealed multiple irregular lymph nodes lacking a defined hilum, raising suspicion for regional involvement. CBCT evaluation provided detailed characterization of the lesion's extent, demonstrating cortical expansion and perforation in both buccal and palatal directions, as well as superior extension into the maxillary sinus through bony destruction. The lesion exhibited soft-tissue density and invasive behavior without evidence of distant spread. These radiologic findings strongly supported a preliminary diagnosis of intraoral BCC, prompting urgent referral to maxillofacial surgery. Surgical excision was performed, and histopathological analysis confirmed the diagnosis of basal cell carcinoma. Early identification through USG and CBCT allowed timely intervention, preventing further tissue invasion and potential complications. This case underscores the significance of early radiologic assessment in uncommon intraoral malignancies. Multimodal imaging not only facilitates accurate preliminary diagnosis but also expedites appropriate surgical management, ultimately improving patient outcomes.

Keywords: intraoral basal cell carcinoma, ultrasonography, cone-beam computed tomography.

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4th International Congress of Medical and Health Sciences Studies

WEARABLE DENTAL TECHNOLOGIES: The FUTURE of ORAL and DENTAL HEALTH

Başak Yazkan[1]

Abstract

Wearable technologies have rapidly gained prominence in healthcare by enabling non-invasive and real-time monitoring of biological signals. The oral cavity, with its rich biomarker content and easy accessibility, offers an ideal biological environment for continuous health assessment. This review focuses on intraoral wearable sensors designed to evaluate dental caries, salivary biochemical parameters, and dietary habits. Initially developed for tracking basic physiological parameters such as body temperature, heart rate, and blood pressure, these sensors have evolved to detect biochemical signals with high precision. The semi-enclosed microenvironment of the oral cavity minimizes external interferences, thereby enhancing data reliability and ensuring user comfort for long-term monitoring. These devices represent a promising frontier in personalized health management, contributing to early diagnosis, disease prevention, and real-time health tracking. Furthermore, intraoral wearable sensors hold significant potential to reduce the incidence of dental caries, alleviate the economic burden of oral diseases, and support individualized dietary interventions, ultimately transforming the approach to preventive and personalized healthcare.

Keywords: Intraoral wearable sensors; oral cavity; salivary biomarkers; dental caries detection; personalized healthcare

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4th International Congress of Medical and Health Sciences Studies

Minimally Invasive Endodontic Treatment Protocols: Current Approaches and Clinical Perspectives

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Abstract

Minimally invasive endodontic (MIE) therapy has emerged as a central paradigm in contemporary endodontics, aiming to preserve as much of the natural tooth structure as possible while ensuring long-term treatment success. This review summarizes recent advances, core concepts, and clinical implementation protocols that define the modern MIE approach. In contrast to conventional wide access cavities and aggressive canal shaping, minimally invasive strategies emphasize the preservation of the pulp chamber roof, pericervical dentin, and canal walls. The use of dental operating microscopes, ultrasonic tips, digital planning, and three-dimensional imaging technologies has significantly enhanced precision and tissue conservation. Moreover, the development of nickel-titanium (NiTi) rotary systems with improved flexibility, controlled memory properties, and designs adapted to conservative canal geometries has minimized unnecessary dentin removal. In the irrigation phase, passive ultrasonic and sonic activation techniques provide effective disinfection with lower solution volumes, while bioceramic-based sealers and filling materials promote chemical bonding to dentin, minimize microleakage, and create a biologically favorable environment. Evidence from the literature indicates that minimally invasive endodontic procedures increase fracture resistance, reduce postoperative complications, and help maintain long-term functional integrity. Minimally invasive endodontic treatment represents the future standard of care in endodontics by prioritizing dentin preservation, biocompatibility, and structural integrity. When integrated with emerging technologies and advanced materials, MIE protocols strengthen the principles of conservative and biologically oriented dental practice.

Keywords: Endodontology, minimally invasive therapy, vital pulp therapy

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4th International Congress of Medical and Health Sciences Studies

Current Diagnostic Methods for Oral Cancers

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Abstract

Malignant lesions that develop on the lips, buccal mucosa, hard palate, floor of the mouth, anterior two-thirds of the tongue, and the gums surrounding the upper and lower teeth are classified as "oral cancer." Although oral cancer is among the five cancers with the lowest five-year survival rates, early diagnosis and treatment can increase survival rates to 70–90%. Therefore, early detection and management of these lesions are essential.

In addition to histopathological evaluation from biopsy—the primary diagnostic method—numerous other diagnostic techniques have been reported in the literature. Light-based systems employ light sources of varying wavelengths to differentiate visual characteristics between normal mucosa and oral white lesions. Biomarkers found in saliva, a biologically rich fluid with abundant genetic material, are valuable for diagnosis and prognosis. Omics technologies measure and characterize various biomolecules, analyze RNA, genes, and metabolites, and aid in identifying oral lesions. Radiomics, an emerging field that utilizes radiographic images and data characterization algorithms, extracts features such as shape, density, and surface texture from CT and MRI images that are imperceptible to the human eye. Liquid biopsy, which analyzes body fluids to obtain diagnostic information, shows promise for guiding treatment decisions in solid tumors. Optical coherence tomography provides cross-sectional, real-time, high-resolution images through optical reflectance measurements, enhancing diagnostic accuracy with an advanced user interface. In nanotechnology, nanoscale agents enable sharper imaging, adequate signal strength, subcellular spatial resolution, and real-time visualization. Laser capture microdissection is employed to identify the molecular basis of malignancy. Microfluidic systems miniaturize and integrate laboratory procedures onto a single device or chip and are used to assess the risk of mucositis prior to disease development during early oral cancer treatment. Multispectral digital microscopy captures images that reveal deviations from the cell's natural composition and specific spectral patterns associated with disease etiology. Artificial intelligence, now integral to many aspects of life, comprises intelligent algorithms and iterative processes that enable machines to perform human-like tasks. It offers numerous advantages for automated oral cavity screening, including process automation, integration of variables at multiple levels, prediction of malignant transformation in oral lesions, accurate analysis of large datasets, and ease of use in multicenter studies.

This study examines current diagnostic methods for oral cancer, a type of cancer with one of the lowest survival rates, and highlights the level of awareness about it both globally and in Turkey.

Keywords: Oral cancer; Oral Cavity; Mouth Neoplasms; Diagnosis

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Management of Dentigerous Cysts in Children: Two-Case Presentation

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Abstract

Dentigerous cysts are among the most common developmental odontogenic cysts and are typically associated with impacted or unerupted teeth. As they generally present asymptomatically, most cases are detected incidentally during routine radiographic examinations. Although these lesions can occur in all age groups, their appearance in the first decade of life is relatively rare. However, dentigerous cysts diagnosed during the mixed dentition period hold particular clinical importance due to their potential impact on the development of permanent teeth. In this age group, treatment strategies aim to preserve erupting permanent teeth and support the regenerative capacity of the surrounding tissues in an optimal manner.

Treatment modalities for dentigerous cysts vary depending on several factors, including patient age, cyst size, presence of infection, and the developmental status of the associated permanent tooth. Because pediatric patients exhibit exceptional regenerative potential, minimally invasive approaches frequently take precedence. Marsupialization and decompression techniques reduce intracystic pressure, enabling gradual reduction of the lesion and facilitating the natural eruption process of the associated permanent tooth. However, in cases where the cyst is infected or preservation of the related tooth is deemed unfeasible, more radical approaches such as enucleation with extraction may be preferred. This management is particularly effective in teeth with poor prognosis, providing faster healing and a complication-free follow-up period.

This report presents the clinical and radiographic findings of two dentigerous cyst cases diagnosed during the mixed dentition period, along with their treatment outcomes. In both patients, enucleation of the cyst and extraction of the associated permanent tooth were performed based on the tooth's prognosis. Our findings support that, when appropriately indicated, enucleation combined with extraction is a safe and effective treatment option for pediatric dentigerous cysts.

In conclusion, early diagnosis and age-specific treatment planning of dentigerous cysts are essential for achieving surgical success and maintaining long-term functional integrity. Although conservative approaches are generally prioritized in pediatric patients, individualized treatment protocols should be established by considering the characteristics of the lesion and the prognosis of the affected tooth.

Keywords: Dentigerous cyst, Tooth eruption, Pediatric odontogenic lesions, Enucleation, Permanent tooth development

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Controlled Extraction of Permanent First Molars in Children: Two Case Reports

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Abstract

Permanent first molars (PFMs) play a pivotal role in establishing the occlusal arrangement of the permanent dentition, contributing significantly to masticatory function and serving as key guiding elements for the eruption patterns of other permanent teeth. However, due to their early eruption, caries-prone fissure morphology, and exposure to the initial cariogenic challenges within the oral cavity, PFMs are among the most frequently decayed and subsequently lost teeth in the permanent dentition when timely treatment cannot be provided.

Treatment planning for PFMs requires the combined assessment of multiple factors, including the stage of dentition, existing crowding, patient age, skeletal and dental relationships, and overall occlusal balance. Inappropriate or poorly timed treatment decisions may lead to several adverse outcomes such as tipping of adjacent teeth into the extraction space, overeruption of the antagonist tooth, midline deviation, development of asymmetric masticatory patterns, and periodontal complications associated with atrophic changes in the alveolar bone. Conversely, timely and well-controlled extraction of PFMs with poor prognosis can reduce the need for or complexity of future orthodontic treatment and support the establishment of ideal occlusion.

Among the primary goals of pediatric dentistry are not only restorative interventions but also the promotion and maintenance of preventive dental care. A healthy oral environment is essential for adequate nutrition, preservation of normal masticatory function, and continuation of overall growth and development in children. Therefore, minimizing caries incidence and preventing early tooth loss are of great importance. Considering that PFMs are the teeth most affected during the transition to permanent dentition—and that many parents remain unaware that these teeth are permanent—the significance of regular dental check-ups and oral health awareness becomes even more critical.

In two pediatric patients who presented to the Department of Pediatric Dentistry at Afyonkarahisar University of Health Sciences with complaints of dental pain, planned and controlled extractions were performed for PFMs with poor prognosis. The clinical and radiographic healing processes of the cases were monitored at regular intervals, and treatment outcomes were evaluated.

This study aims to highlight the dental and functional importance of permanent first molars and to demonstrate that, when properly indicated and optimally timed, controlled extractions can facilitate physiological closure of the extraction space, thereby positively influencing long-term prognosis.

Keywords: Permanent first molar, Tooth extraction, Occlusal development, Dental prognosis, Space management

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4th International Congress of Medical and Health Sciences Studies

Panoramic radiographic assessment of impacted teeth in patients 75 years and older

Tuna SUMER[1]

A.Pınar SUMER[2]

Abstract

Advancements in medicine and healthcare have led to an increase in average life expectancy and consequently, a growing proportion of the elderly population. As a result, dentists are now providing care to an increasing number of older patients in clinics. The elderly population can be classified as “youngest-old” between 65 and 74 years, “middle-old” between 75 and 85 years, and “oldest-old” for those aged 85 years and above. This classification serves as an important reference for determining healthcare needs. The aim of the present study was to evaluate impacted teeth in patients aged 75 years and older on panoramic radiographs and to assess pathologies associated with these teeth.

Panoramic radiographs of 785 patients aged 75 years and older, who presented to the clinic over a 1.5-year period, were evaluated. The presence of impacted teeth and any related pathologies were recorded.

The evaluation revealed that 60 impacted teeth were detected in a total of 50 patients (32 males and 18 females). Three impacted teeth were observed in one patient, two in eight patients, and one in each of the remaining patients. Among these teeth, 24 were impacted mandibular third molars, 18 were maxillary third molars, and 14 were maxillary canines. In addition, two patients had impacted supernumerary teeth, one had an impacted mandibular canine, and one had an impacted mandibular second premolar. Internal resorption was observed in nine of the impacted teeth, and one tooth was associated with an odontogenic cyst.

The findings suggest that the prevalence of impacted teeth in patients aged 75 years and older is low, and these teeth are generally not associated with pathological conditions. However, when present, such teeth should be radiographically follow-up to prevent potential complications.

Key words: impacted tooth, elderly, panoramic radiograph

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4th International Congress of Medical and Health Sciences Studies

Gardner Syndrome Incidentally Identified During Routine Dental Examination: A Case Report

Emre HAYLAZ [1]

Abstract

Gardner syndrome is a rare genetic disorder inherited in an autosomal dominant manner and characterized by high penetrance. Clinically, it presents with a complex phenotype that includes multiple colorectal polyposis as well as various mesenchymal tumors of the skin and soft tissues. An important component of the syndrome involves dental and craniofacial anomalies. Approximately 30–70% of patients exhibit mandibular osteomas, supernumerary teeth, odontomas, hypodontia, impacted or unerupted teeth, and morphological disturbances of dental development. A 22-year-old male patient presented to our clinic with progressively enlarging hard masses on both sides of the lower jaw. Extraoral examination revealed bilateral, well-defined, firm, oval-shaped bony protrusions palpated in the mandibular corpus region. Panoramic radiography and cone-beam computed tomography (CBCT) performed for radiological evaluation demonstrated osteomas associated with the inferior cortex in the right and left posterior mandible; numerous osteomas and exostoses of varying sizes in both the maxilla and mandible; and bilateral, osteosclerotic, multifocal radiopaque areas. The presence of supernumerary impacted teeth in the posterior mandible was also noted. Multiple osteomas were reported in the maxillary and ethmoid sinuses. From a dental perspective, multiple osteomas and dental anomalies in the craniofacial region serve as critical indicators for the early diagnosis of Gardner syndrome. Therefore, comprehensive clinical and radiographic evaluation is essential for appropriate referral and early intervention before systemic manifestations become apparent.

Keywords: Dental anomalies, Gardner syndrome, Osteoma

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4th International Congress of Medical and Health Sciences Studies

Keratocystic Odontogenic Tumor: A Case Report

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Abstract:
Odontogenic keratocyst (OKC) is a developmental odontogenic cyst that typically presents as a unilocular or multilocular radiolucency with uniform sclerotic borders, arising from remnants of the dental lamina. It is often associated with an unerupted tooth, most commonly an impacted third molar. Because it tends to expand within the bone in an anteroposterior direction, cortical expansion and clinically detectable swelling usually appear at a later stage. OKCs account for approximately 10–14% of all jaw cysts and are characterized by locally aggressive behavior and a high recurrence rate. A 16-year-old male patient was referred following the detection of a radiolucent lesion associated with an unerupted tooth in the posterior mandible on a panoramic radiograph obtained during a routine dental examination. Cone-beam computed tomography (CBCT) performed after intraoral evaluation revealed a radiolucent lesion extending from the mesial aspect of the impacted mandibular right third molar to the ramus, exhibiting septations and lingual cortical perforation. An incisional biopsy confirmed the diagnosis of an odontogenic keratocyst. Due to the lesion's size and anatomical location, the patient was referred to the relevant surgical department for marsupialization followed by planned surgical enucleation. Although Because they often remain asymptomatic until advanced stages and have a high recurrence potential, accurate diagnosis, appropriate imaging, and meticulous treatment planning are essential. This case highlights the importance of early detection of an asymptomatic OKC in guiding the treatment approach in a young patient.
Keywords: Cone-Beam Computed Tomography, Keratocystic Odontogenic Tumor, Oral and Maxillofacial Radiology.

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Giant Radicular Cyst Deforming the Anterior Maxilla: A Case Report

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Abstract

A radicular cyst is the most common inflammatory odontogenic cyst of the jaws. It typically develops at the apex of a non-vital tooth following pulpal necrosis caused by caries or trauma. If left untreated, a simple apical granuloma may gradually enlarge and transform into a cyst capable of affecting adjacent anatomical structures. Radicular cysts arise from the epithelial rests of Malassez within the periodontal ligament after pulpal necrosis. Radiographically, radicular cysts appear as well-defined, round or oval, unilocular radiolucencies with a radiopaque sclerotic margin in the periapical region of the associated tooth. The involved teeth are usually devital. These cysts most commonly occur between the third and sixth decades of life, show a male predominance, and are frequently located in the anterior maxilla. Treatment options vary according to lesion size: small cysts are typically managed with total enucleation, whereas larger lesions may require marsupialization for decompression.

Although radicular cysts often grow slowly and painlessly, they may lead to bone expansion, root resorption, tooth mobility, or displacement. Secondary infection can result in symptoms such as pain and swelling. Definitive diagnosis requires a combination of clinical, radiographic, and histopathological evaluation.

A 29-year-old male patient with no systemic diseases presented to our clinic after a cystic lesion was incidentally detected at another center. The patient was asymptomatic. Cone-beam computed tomography obtained previously revealed a well-circumscribed unilocular radiolucent lesion in the left anterior maxilla, extending from the central incisor to the second premolar region.

A panoramic radiograph taken in our clinic showed that teeth #21 and #22 had undergone previous endodontic treatment and apical resection. Extraction of the affected teeth together with surgical enucleation of the cyst was planned. The patient was referred to the Department of Oral and Maxillofacial Surgery with a preliminary diagnosis of a radicular cyst.

The excised specimen was submitted for histopathological examination, which confirmed the diagnosis of a radicular cyst measuring 1.5×1×0.5cm. At the 5-month postoperative follow-up, radiographic evaluation demonstrated complete healing of the surgical site.

This case aims to present the surgical enucleation and postoperative healing of an extensive radicular cyst involving four permanent teeth.

Keywords: radicular cyst, enucleation, maxilla, panoramic radiograph, inflammatory odontogenic cyst

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Sialolith Cases in the Submandibular Gland: Findings on Routine Panoramic Radiography

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Abstract

Sialolithiasis is the most common pathology of the major salivary glands and is characterized by calcified structures forming within the ducts or glandular parenchyma. It predominantly affects the submandibular gland due to its viscous and alkaline saliva, the long upward course of Wharton's duct, and relatively slower salivary flow. Sialolith formation typically begins with an organic nidus that becomes progressively surrounded by concentric calcium-rich mineral layers.

Clinically, sialolithiasis may present with painful swelling, recurrent infections, or salivary obstruction leading to dysphagia and speech difficulties. In some cases, ulceration may occur secondary to chronic obstruction. Nevertheless, many sialoliths remain asymptomatic, particularly when obstruction is partial or intermittent. For this reason, such lesions are frequently detected incidentally during routine dental radiographic examinations, especially panoramic radiographs commonly obtained for diagnostic and treatment planning purposes.

This report presents two cases of submandibular gland sialolithiasis detected incidentally on panoramic radiography, highlighting the diagnostic value of routine dental imaging in identifying clinically silent salivary gland pathologies.

Case 1: A 56-year-old female patient with controlled hypertension presented for implant planning in the left maxillary region. Routine panoramic imaging revealed a radiopaque mass consistent with a sialolith in the left submandibular gland. The patient reported xerostomia but denied pain, swelling, or a history of infection.

Case 2: A 60-year-old male patient with diabetes, hypertension, hyperlipidemia, and Parkinson's disease presented for prosthetic rehabilitation. Panoramic radiography showed a sialolith in the right submandibular region. Cone-beam computed tomography confirmed a 16 × 16.3 mm sialolith. The patient recalled a previous infection in the same area but reported no current symptoms.

In both cases, the sialoliths were large, and surgical removal would likely have required excision of the submandibular gland. Therefore, conservative management with periodic clinical and radiographic monitoring was preferred.

These cases underscore the importance of evaluating panoramic radiographs carefully, as asymptomatic sialoliths may otherwise remain undetected. Early identification is essential for appropriate management planning and for preventing complications associated with salivary gland obstruction.

Keywords: sialolith, submandibular gland, panoramic radiograph, calcified structure, mandible

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Surgical Extrusion Application In A Case Of Crown-Root Fracture

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Abstract

The aim of this case report is to emphasize that surgical extrusion treatment is a feasible and important treatment option as an alternative to tooth extraction and dental implants in cases of crown-root fracture following dental trauma.

In this case report, we will present the surgical extrusion treatment performed on a patient who presented to our clinic with a traumatic crown-root fracture of her upper anterior tooth, number 11, which had previously undergone root canal treatment. The patient presented to the clinic a few days after the trauma. Clinical examination revealed tenderness and mobility in the involved tooth, but no pain or swelling was observed upon palpation. Radiographic evaluation revealed that the involved tooth had previously undergone root canal treatment, and the crown-root fracture had occurred following dental trauma. After local anesthesia, the coronal fragment was atraumatically surgically extruded to the radicular fragment and transplanted into its original socket with a 180° rotation. A splint was then applied to the involved tooth. The splint was removed after 2 weeks, and the final restoration was completed using a fiber post. A prosthetic crown was then applied to the involved tooth using a metal-supported porcelain crown.

Clinical examination after long-term follow-up revealed that the involved tooth was asymptomatic and functional. Radiographic examination revealed healing in the periapical area.

Conclusions: Considering the successful long-term results achieved in this particular case, a combined treatment protocol of root canal treatment and surgical extrusion can be considered an appropriate treatment method for crown-root fractures.

Keywords: Crown-root fracture, surgical extrusion, dental trauma

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4th International Congress of Medical and Health Sciences Studies

Prosthetic Rehabilitation of Generalized Enamel Defects Caused by Dental Fluorosis

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Abstract

An 18-year-old male patient with no history of systemic disease presented to the Department of Oral and Maxillofacial Radiology at Gulhane Faculty of Dentistry, University of Health Sciences, with a chief complaint of generalized tooth discoloration affecting all permanent teeth, more prominently in the anterior region. The patient's medical history revealed that the discoloration had been present since childhood and that similar findings were observed in his siblings, suggesting a possible environmental or familial etiology. Clinical examination demonstrated a wide spectrum of enamel alterations, ranging from chalky white opacities to brownish discolorations. Based on the clinical findings and radiographic evaluation, a diagnosis of dental fluorosis was established.

It was noted that elevated fluoride levels in the drinking water of the region where the family had resided for many years had previously been reported, representing a strong environmental factor explaining the manifestation observed both in the patient and his siblings. Accordingly, treatment planning was carried out by considering the severity of fluorosis, along with the patient's esthetic concerns and functional requirements.

Initially, existing carious lesions and restorative needs were addressed. Due to advanced enamel mineralization defects, widespread discoloration, and extensive areas of opacity, conservative treatment approaches were deemed insufficient to achieve satisfactory esthetic results. Therefore, full-mouth rehabilitation using metal-supported porcelain restorations was planned and performed for all teeth.

Following treatment, a marked improvement was achieved in the patient's esthetic appearance, accompanied by a noticeable enhancement in social confidence and overall satisfaction. This case highlights the strong association between dental fluorosis and environmental factors and emphasizes the importance of a multidisciplinary approach in the esthetic rehabilitation of patients affected by fluorosis.

Keywords: dental fluorosis, enamel hypomineralization, esthetic dentistry, prosthetic rehabilitation, metal-ceramic restoration

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Late-Onset Sinus Complication Caused by a Root Fragment

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Abstract

Root fragments accidentally displaced into the maxillary sinus during tooth extraction may remain asymptomatic for long periods; however, in later stages they can lead to serious complications such as mucosal thickening, chronic sinusitis, and acute infection. In this case report, we present a late-onset sinus complication caused by a retained root fragment that had migrated into the maxillary sinus following a tooth extraction performed many years earlier.

A systemically healthy 36-year-old female patient presented to our clinic with complaints of dental fracture in the right maxillary region and pain in the right mandibular region. Routine panoramic radiography revealed a radiopaque structure within the left maxillary sinus consistent with a retained root fragment. The patient's medical history indicated that the corresponding tooth had been extracted approximately 12 years earlier. She reported experiencing recurrent episodes of pain and discharge in the affected area, as well as difficulty in breathing.

During clinical examination, an oroantral communication was observed between the alveolar crest and the maxillary sinus. Cone-beam computed tomography (CBCT) demonstrated a retained root fragment measuring approximately **8.4 × 6.5 × 4.7 mm**, embedded within the sinus membrane. In addition, diffuse mucosal thickening and surrounding granulation tissue were observed within the sinus cavity.

Surgical intervention was performed using a buccal approach to create a bony window into the maxillary sinus. The retained root fragment and associated pathological tissues were completely removed. Postoperative clinical follow-up revealed full resolution of the patient's symptoms.

This case highlights the importance of exercising particular caution during dental extractions, especially for teeth whose roots are located in close proximity to or within the maxillary sinus. It also emphasizes that complications associated with displaced root fragments may manifest even many years after the initial extraction and underscores the indispensable role of CBCT imaging in achieving accurate diagnosis and optimal surgical planning.

Cone-beam computed tomography (CBCT) imaging showed a retained root fragment measuring approximately 4.7 mm in length accompanied by widespread mucosal thickening and granulation tissue formation within the sinus cavity. Surgical intervention was performed by creating a buccal window to access the sinus, followed by removal of the pathological tissues and the root fragment. Postoperative follow-up revealed complete resolution of the patient's symptoms.

This case highlights that complications related to maxillary sinus involvement following tooth extraction may develop even many years later and emphasizes the indispensable role of CBCT in achieving accurate diagnosis and optimal surgical planning.

Keywords: maxillary sinus, root fragment, CBCT, oroantral communication, sinus surgery

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4th International Congress of Medical and Health Sciences Studies

Canine Fossa Abscesses of Maxillary Canine Origin: A Clinical and Radiological Case Series

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Abstract

Canine fossa abscess is a rare but potentially life-threatening clinical condition that results from the spread of maxillary canine tooth infections along the anterior surface of the maxilla and typically presents with localized infraorbital swelling. This study aimed to evaluate the clinical and radiographic characteristics of canine fossa abscesses and to emphasize their importance in differential diagnosis.

In this case series, three systemically healthy patients who presented to our clinic on different occasions were assessed. All patients reported pain originating from the maxillary canine region followed by the development of unilateral facial swelling. Clinical examination revealed localized edema limited to the infraorbital area. Panoramic radiographs demonstrated periapical radiolucent lesions associated with the affected canine teeth. Based on the clinical and radiographic findings, a diagnosis of canine fossa abscess was established in each case. Following endodontic evaluation, appropriate dental treatment targeting the infectious source was planned and administered for all patients.

Because of the risk of spread to the orbital region or deep facial spaces, canine fossa abscess represents a potentially life-threatening infection that requires prompt diagnosis and timely management. This case series highlights localized infraorbital swelling as a key clinical indicator of this condition and underscores the importance of radiologically supported clinical evaluation for accurate diagnosis and prevention of serious complications.

Keywords: canine fossa abscess, infraorbital swelling, odontogenic infection, periapical radiolucency, panoramic radiography.

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4th International Congress of Medical and Health Sciences Studies

Investigating the Depression Levels of Dentistry Faculty Students: A Survey Study

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Ayşe Zeynep ZENGİN[3]

Abstract

The aim of this study is to evaluate the depression levels of dental students based on demographic factors and their year of study in dental education. In addition, this study seeks to provide a broader understanding of how the demanding structure of dental training, academic workload, and psychosocial stressors may influence the mental well-being of students throughout their undergraduate years. By identifying potential associations between educational progression and mental health indicators, the study aims to contribute data that may guide future curriculum improvements and student support programs within dental faculties.

A survey was developed and distributed online via Google Forms to students from the Faculty of Dentistry. It consisted of six multiple-choice questions addressing the year of study, antidepressant use, and receipt of psychological support, together with the Beck Depression Inventory (BDI) to assess depression levels. Responses were collected and recorded electronically.

A total of 596 students participated in the study, including 265 males (44.5%) and 331 females (55.5%). According to the results of the BDI assessment, while 29.9% participants exhibited minimal depressive symptoms, 9.2% individuals were identified with severe depressive symptoms. No statistically significant relationship was found between depression levels and the year of study in dental education. However, it was observed that as year of study increased, the use of antidepressant medication and the rate of actively seeking psychological support also increased.

Revising the dental curriculum to address these issues may promote the development of healthier dentists.

Keywords: Dental education, Dental students, Depression.

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4th International Congress of Medical and Health Sciences Studies

Erupted Compound Odontoma: A Rare Case Presentation

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Abstract

Among odontogenic tumors, odontomas are the most frequently encountered type. Rather than true neoplasms, odontomas are considered developmental anomalies (hamartomas). These lesions are generally classified into two groups: compound and complex. A compound odontoma consists of numerous small, tooth-like structures, whereas a complex odontoma is formed by an irregular mass of enamel and dentin that does not resemble a tooth anatomically.

Most odontomas are detected during the first two decades of life, and the mean age at diagnosis is approximately 14 years. These lesions are typically asymptomatic and are most often discovered during routine radiographic examinations or during the evaluation of an unerupted tooth. In very rare cases, the eruption of a complex odontoma into the oral cavity has been reported.

Radiographically, a compound odontoma appears as multiple tooth-like structures of various sizes and shapes surrounded by a narrow radiolucent band. This study aims to evaluate the effectiveness of the conventional surgical approach used in the treatment of odontomas in terms of clinical outcomes, follow-up period, and histomorphologic characteristics.

A 69-year-old male patient presented to the Department of Oral and Maxillofacial Radiology, Faculty of Dentistry, Ondokuz Mayıs University, for the extraction of a tooth root located in the right maxilla. Clinical examination revealed erupted tooth-like structures in addition to root tissue in the right canine region.

Panoramic radiography, periapical radiography, and cone-beam computed tomography (CBCT) images were obtained. Imaging revealed that tooth #13 was impacted, and multiple tooth-like structures surrounded by a radiolucent band were present adjacent to it.

The compound odontoma was completely removed using a conventional surgical technique. Histopathological examination of the excised specimen confirmed the diagnosis of odontoma. During the one-year follow-up period, no recurrence or complications were observed. The healing process progressed uneventfully, and the outcome was considered highly successful.

Although compound odontomas rarely erupt into the oral cavity, detailed radiological evaluation of such cases is critical for establishing an accurate preliminary diagnosis and planning an appropriate treatment approach.

Keywords: Diagnosis, Odontoma, Oral surgery

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4th International Congress of Medical and Health Sciences Studies

Effects of Household Drying Methods on the Total Phenolic Content and Antioxidant Activity of Autumn Olive *(Elaeagnus umbellata)*

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Emine KOCYIGIT[2]

Abstract

Autumn olive (*Elaeagnus umbellata*), commonly known as Japanese silverberry, is a fruit recognized for its rich phenolic profile and strong antioxidant activity. The concentrations of these bioactive constituents can vary considerably depending on processing techniques and the thermal conditions applied. Although drying is an effective method for prolonging fruit shelf life, it can markedly influence total phenolic content (TPC) and antioxidant activity. Consequently, evaluating the practicality and nutrient-preserving potential of household drying methods is essential for understanding their effects on functional quality. This study aimed to comparatively examine the impact of three different household drying techniques on the TPC and antioxidant activity of autumn olive.

Uniformly selected fruits were washed and cut into equal halves prior to treatment. Three household drying methods were applied: air-fryer drying (40 °C for 4 h), microwave drying (100 W, 15 min), and conventional oven drying (75 °C for 3 h). For all procedures, samples were arranged in a single layer with equal spacing to ensure consistent heat exposure. After drying, samples were cooled to room temperature, ground, and prepared for analysis. Raw, untreated samples were also extracted for comparison. TPC was determined using the Folin–Ciocalteu assay, while antioxidant activity was assessed by ferric reducing antioxidant power (FRAP) and 2,2-diphenyl-1-picrylhydrazyl (DPPH) radical scavenging assays. Statistical analyses were performed to evaluate differences among treatments.

Significant differences were observed among the groups. TPC values increased in the order of raw (0.87 mg GAE/g) < air-fryer (1.26 mg GAE/g) < microwave (3.17 mg GAE/g) < oven (4.20 mg GAE/g) ($p < 0.05$). Antioxidant activity followed a similar trend in both FRAP and DPPH assays; raw and air-fryer samples exhibited comparatively low activity, whereas microwave- and oven-dried samples demonstrated significantly higher antioxidant activity ($p < 0.05$).

The variability in TPC and antioxidant activity was closely associated with the drying method applied. Microwave drying likely enhanced the release of phenolic compounds by rapidly disrupting cellular structures, whereas oven drying may have promoted greater phenolic liberation through sustained thermal exposure and increased cellular permeability. In contrast, raw and low-temperature–dried samples exhibited lower values due to limited phenolic release. In conclusion, both oven and microwave drying resulted in the highest TPC and antioxidant activity in autumn olive, indicating that these two methods are the most effective for enhancing the fruit's functional properties.

Keywords: Autumn olive, drying, total phenolic content, antioxidant activity

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4th International Congress of Medical and Health Sciences Studies

The Role of Functional Foods in Weight Management

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Abstract

Functional foods have gained significant attention in recent years due to their potential to provide health benefits beyond basic nutrition through their bioactive components. Traditional strategies for weight management and obesity prevention include reducing energy intake, increasing physical activity, and improving dietary habits; however, the potential supportive effects of functional foods on these strategies have become an important area of research. Clinical and experimental studies examining green tea, matcha, coffee, onion, garlic, olive oil, fish oil, quinoa, oats, buckwheat, flaxseed, chia seeds, ginger, turmeric, kefir, and spirulina suggest that these foods may influence metabolic processes through various mechanisms. These mechanisms include enhanced thermogenesis, increased lipid oxidation, improved satiety hormone regulation, modulation of postprandial glycemic response, reduction of inflammation, and positive modulation of the gut microbiota. Despite these potential effects, the literature emphasizes that functional foods do not produce substantial weight loss on their own, and their benefits often vary among individuals and remain controversial. Current evidence indicates that functional foods may support weight management when incorporated into a balanced diet but may not provide expected outcomes if consumed excessively. In conclusion, while functional foods can serve as complementary components in weight management strategies, further well-designed, long-term, and large-scale studies are needed to clarify their true effectiveness.

Keywords: Functional foods, weight management, obesity, bioactive compounds, metabolism

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4th International Congress of Medical and Health Sciences Studies

The Relationship Between Social Media Addiction in Adolescents and Hedonic Hunger and Dietary Habits

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Abstract

During adolescence, the increasing use of social media heightens exposure to food-related content, becoming an environmental stimulus that may influence young individuals' eating desire and dietary behaviors. The aim of this study was to examine the relationship between social media addiction, hedonic hunger, and dietary habits among adolescents.

This cross-sectional correlational study collected its data through face-to-face interviews using a questionnaire administered to adolescents aged 11–19 years living in Çorum and Siirt. The questionnaire included general information about the adolescents, their dietary habits, the Social Media Addiction Scale for Adolescents (SMAS), and the Hedonic Eating Scale for Adolescents (HES-A). Ethical approval for the conduct of the study was obtained from the Siirt University Rectorate Ethics Committee (date: 30.10.2025, decision number: 2025/01/10/9). Assent forms were obtained from all participating children.

Of the 191 adolescents who participated in the study, 55% were male, and the mean age was 16.2±1.6 years. It was determined that 72.3% of the participants skipped meals, with breakfast being the most frequently skipped meal. Adolescents with higher levels of social media addiction were found to have lower vegetable ($p=0.016$), fish ($p<0.001$), and milk consumption ($p=0.038$), while their consumption of sugary snacks was higher ($p<0.001$). In addition, adolescents with high social media addiction had higher hedonic hunger scores (HES-A scores) (70.3±13.0 vs. 58.9±16.5; $p<0.001$). According to the correlation analysis, as social media addiction increased, hedonic hunger ($r=0.379$; $p<0.001$) and the frequency of sugary snack consumption increased ($r=0.401$; $p<0.001$), while the frequency of milk consumption decreased ($r=-0.205$; $p=0.004$).

It was observed that as social media addiction increased among adolescents, hedonic hunger and the frequency of sugary snack consumption also increased, while the consumption of healthy food groups decreased. The findings suggest that social media addiction may have negative effects on eating behaviors and indicate a need for interventions that support healthy dietary habits and enhance digital awareness in adolescents.

Keywords: Adolescent, dietary habits, hedonic hunger, social media addiction, sugary snack consumption

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4th International Congress of Medical and Health Sciences Studies

Investigation of the Relationship Between Water Consumption Levels, Mediterranean Diet Adherence, and Body Composition in Adults

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Murat BAŞ [2,3]
Tuğçe Nur TOKU [4]

Abstract

The Mediterranean diet is recognized as the gold standard in the prevention of chronic diseases; however, the role of hydration in adherence to this dietary pattern remains insufficiently explored. Accordingly, this study aimed to investigate the relationships between daily water intake, dietary habits, Mediterranean Diet Adherence Screener (MEDAS) scores, and body composition in adults. The study was conducted with 96 adult volunteers attending a private nutrition center in Kırklareli, with a mean age of 40.42 ± 13.49 years, 60.4% of whom reported no chronic disease. A post-hoc power analysis demonstrated a statistical power of 99.8%. The sample consisted predominantly of women (79.2%), and 63.6% were university graduates. Data were collected through face-to-face questionnaires and bioelectrical impedance analysis (Tartı Fast). The mean MEDAS score was 7.02 ± 2.28, indicating moderate adherence, with 22.9% classified as low, 63.5% as moderate, and 13.5% as high adherence. The mean body mass index (BMI) was 26.82 ± 5.25 kg/m², and the mean body fluid percentage was 49.48 ± 4.71%. No significant differences were found between self-reported water intake categories and BMI or body fat percentage ($p > 0.05$). The primary barriers to adequate water intake included daily workload (44.8%) and lack of perceived thirst (40.6%). Conversely, hydration assessed through urine color demonstrated significant differences in body composition ($p = 0.014$ for fat percentage; $p = 0.025$ for fluid percentage). No correlations were observed between consumption of tea, coffee, or carbonated beverages and anthropometric variables.

The most prominent finding emerged from the Backward-LR Binary Logistic Regression analysis, which revealed that lower daily water intake markedly increased the risk of low MEDAS adherence. Compared with the reference group consuming ≥9 glasses of water per day, individuals drinking 0–2 glasses had a 23.8-fold higher risk (OR = 23.817), while those consuming 3–4 glasses had an 8.2-fold higher risk (OR = 8.213). Age was identified as a protective factor, with each additional year associated with a 4.4% reduction in the likelihood of low adherence. Although water intake alone did not significantly alter obesity-related indicators, these findings underscore hydration as a substantial determinant of diet quality and highlight insufficient water consumption as a meaningful clinical marker for identifying unhealthy dietary patterns.

Keywords: Body composition, Diet quality, MEDAS, Mediterranean diet, Water consumption.

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4th International Congress of Medical and Health Sciences Studies

Mindful Eating and Food Neophobia in Health Sciences Undergraduates: A Cross-Sectional Study

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Abstract

This study aimed to examine the relationship between mindful eating and food neophobia among Turkish university students enrolled in health sciences programs, and to explore how these constructs vary by demographic and anthropometric characteristics. A cross-sectional survey was conducted among 526 undergraduate students from Nutrition and Dietetics, Child Development, and Midwifery departments at Atatürk University. Ethical approval for the study was obtained from the Ethics Committee of Atatürk University Faculty of Health Sciences (date: 06 November 2025, number: 2025/11/10). Data were collected via structured self-report questionnaires, including the Four-Factor Mindful Eating Scale (FFaMES) and the Food Neophobia Scale (FNS), along with demographic and anthropometric information. Internal consistency was assessed using Cronbach's α and McDonald's ω. Correlation and multivariable linear regression were conducted. The mean age of participants was 21.3 ± 2.72 years, and 91.4% were female. FNS and FFaMES demonstrated acceptable to good internal reliability (α = 0.788 and 0.706, respectively). FNS scores showed weak but significant correlations with two FFaMES subscales: positively with Non-Reactance (r = 0.145, p = 0.024) and negatively with Non-Judgment (r = −0.154, p = 0.017). Regression analysis indicated that mindful eating dimensions did not significantly predict food neophobia after adjustment. However, academic department and class year were independent predictors of food neophobia. In contrast, higher body mass index (BMI) was significantly associated with lower total mindful eating scores (B = −0.432, p = 0.002). Group comparisons showed that mindful eating scores varied significantly across BMI categories and class levels, while food neophobia did not. While food neophobia and mindful eating are largely independent constructs, specific attitudinal dimensions of mindful eating are weakly associated with neophobic tendencies. BMI emerged as a key factor negatively linked with mindful eating but not with food neophobia. These findings suggest that interventions aimed at improving dietary quality in young adults may benefit from targeting mindful eating, particularly in individuals with elevated BMI, while also considering educational context in relation to food neophobia.

Keywords: Nutrition, Food Neophobia, Health Sciences, Mindful Eating

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4th International Congress of Medical and Health Sciences Studies

Health Effects of Long-Chain Polyunsaturated Fatty Acids in Children with Phenylketonuria

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Abstract

Phenylketonuria (PKU) is an inherited metabolic disorder characterized by impaired phenylalanine (FA) metabolism due to a deficiency of the phenylalanine hydroxylase enzyme. If left untreated, it leads to severe neurocognitive impairments. Diet is fundamental to treatment, and a phenylalanine-restricted diet is followed for life. Long-chain polyunsaturated fatty acids (LCPUFA) are classified as linoleic acid (LA), arachidonic acid (AA), and alpha-linolenic acid (ALA). These fatty acids are essential fatty acids. The main dietary sources of LCPUFA are fish, animal products (beef, chicken, eggs, and milk), fatty seeds, flaxseed, chia seeds, algae, and seaweed. FA is found in all animal sources, and PKU patients do not consume animal products throughout their lives. Therefore, the amount of LCPUFA obtained through nutrition is lower than that of healthy children. LCPUFA is known to be beneficial for brain development, vision, and overall metabolic health. Previous studies examining the effects of docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA), which are types of ALA, in children with PKU have reported improvements in neurocognitive performance, attention span, academic skills, and fine motor skills. Furthermore, it has been suggested that LCPUFA may lower triglycerides in blood parameters and reduce inflammation and the risk of cardiovascular disease. Given that children with PKU are at risk of obesity and dyslipidemia, the cardiometabolic benefits of LCPUFA come to the fore. Guidelines do not yet specify the amount of LCPUFA that should be routinely supplemented for children with PKU. Although studies on clinical benefits in children with PKU exist, evidence regarding supplementation is limited, and more randomized controlled and cohort studies are needed.

Keywords: Phenylketonuria, long-chain polyunsaturated fatty acids, children, diet, supplementation

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4th International Congress of Medical and Health Sciences Studies

Emotional Eating and its Cyclical Effects in Obesity Management

Elif Kübra BOSTANCI[1]
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Abstract

Obesity is a multifactorial public health problem whose etiology involves an intricate interplay of genetic, environmental, and behavioral factors. Although traditional obesity approaches often focus on energy balance, overlooking the psychological mechanisms that drive eating behavior is one of the primary reasons for treatment failures. In this context, "emotional appetite" or "emotional eating," which develops independently of physiological hunger, particularly in response to negative emotional states (stress, anxiety, sadness, loneliness), stands out as a significant maladaptive coping mechanism. The purpose of this paper is to evaluate the role of emotional appetite in the pathogenesis of obesity, its neurobiological and psychological foundations, and its inhibitory effects on weight control, in light of current literature.

Current research indicates a significantly higher prevalence of emotional eating behavior in individuals with a high Body Mass Index (BMI). During emotional eating episodes, individuals often turn to "comfort foods," which are typically high in fat and sugar, and energy-dense. This preference is reinforced because these foods activate the brain's reward system, providing temporary pleasure and emotional relief. However, this transient relief is usually followed by feelings of guilt, remorse, and shame; these negative emotions, in turn, trigger the urge to eat again, trapping the individual in a "vicious cycle." Furthermore, alexithymia (difficulty identifying and expressing one's own emotions), frequently observed in obese individuals, makes it difficult for them to differentiate emotional hunger from physical hunger, leading to unnecessary energy intake.

Emotional appetite is a powerful psychological factor acting as both a trigger and a perpetuator of obesity. Interventions based solely on dietary restriction often fail in the long term because they cannot resolve this underlying emotional regulation problem. For sustained success in obesity treatment, the integration of psychological support, such as Cognitive Behavioral Therapy (CBT), which aims to improve patients' skills in coping with their emotional states, with nutritional therapy is essential.

Keywords: Emotional Eating, Obesity, Emotion Regulation, Reward System, Eating Behavior.

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4th International Congress of Medical and Health Sciences Studies

Evaluation of Sustainable and Healthy Eating Behaviors and Adherence to the Mediterranean Diet Among Students Living Alone and Those Living with Their Families

Kardelen Büşra EGE GÜNDÜZ[1]
Burçin OKUN2[2]

Abstract

Introduction: Nutrition is a fundamental factor that directly affects individual health while also contributing to environmental impacts due to food production processes. Sustainable dietary models have gained importance in recent years as they support both health and environmental conservation, with the Mediterranean diet being one of the leading examples (Deli, 2024; Altunay, 2023). The Mediterranean diet is rich in fruits, vegetables, legumes, whole grains, and nuts, and emphasizes olive oil as the primary fat source, while promoting lean and white meats over red and processed meats (Şenay, 2022). This study aims to examine sustainable eating behaviors and adherence to the Mediterranean diet among students at Haliç University.

Materials and Methods: This cross-sectional study was conducted with students of Haliç University. Sociodemographic information and anthropometric measurements (body weight, height, waist and hip circumferences) were collected. In addition, the 14-item Mediterranean Diet Adherence Scale and the Sustainable and Healthy Eating Behavior Scale were administered. This study was approved by the Haliç University Non-Interventional Research Ethics Committee with the decision number 311, dated 27 March 2025.

Results: A total of 164 participants were included in the study. The mean age of the sample was 22.90 ± 2.44 years, and 66.5% were female. The mean body mass index (BMI) was 23.68 ± 4.60 kg/m²; mean waist circumference was 79.41 ± 13.89 cm; hip circumference 98.43 ± 9.52 cm; waist-to-hip ratio 0.80 ± 0.09; and waist-to-height ratio 0.46 ± 0.07. The mean WWI value was 9.59 ± 0.79. Half of the participants lived with their families. Sustainability scores did not differ significantly between students living alone and those living with their families ($p = 0.244$). The mean sustainability score was 3.697 among students living alone and 3.864 among those living with their families. Likewise, Mediterranean Diet adherence scores showed no significant difference between the groups ($U = 3208.5$, $Z = –0.512$, $p = 0.609$). A moderate, positive, and statistically significant correlation was found between sustainability scores and Mediterranean Diet adherence ($\rho = 0.457$, $p < 0.001$). Additionally, a low, negative but statistically significant correlation was observed between Mediterranean Diet adherence and waist/hip ratio ($\rho = –0.155$, $p = 0.048$).

Conclusion: Although no significant differences were observed between students living alone and those living with their families regarding sustainability scores or Mediterranean Diet adherence, higher adherence to the Mediterranean diet was generally associated with more favorable sustainable eating behaviors and certain anthropometric indicators.

Keywords: sustainability, sustainable nutrition, university students, mediterranean diet, healthy eating

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4th International Congress of Medical and Health Sciences Studies

The Role of Chrononutrition and Circadian Rhythm in Metabolic Health

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Abstract

Chrononutrition is an emerging field that investigates the relationship between the timing of food intake and biological rhythms. This review aims to summarize the interaction between circadian rhythm and eating behaviors and to evaluate the effects of meal timing on metabolic health. This study is a narrative review based on a comprehensive examination of current literature addressing the relationship between chrononutrition and circadian rhythms. Human and animal studies on meal timing, chronotype, metabolic responses, shift work, and gut microbiota were screened and synthesized. The human body functions according to circadian rhythms operating on an approximately 24-hour cycle, which regulate numerous physiological processes including hormone secretion, metabolism, sleep–wake patterns, and immune function. Environmental cues such as light exposure, food intake, sleep, temperature, and physical activity synchronize the circadian system. However, factors associated with modern lifestyles, such as artificial light exposure, shift work, irregular eating patterns, and late, night food consumption can disrupt these rhythms. Circadian rhythm, through the actions of the suprachiasmatic nucleus and peripheral clocks, regulates endocrine, metabolic, and immune processes, as well as hormone release, glucose tolerance, energy metabolism, and gastrointestinal functions. Nutrition acts as a major zeitgeber influencing peripheral clocks, and meal timing exerts powerful effects on metabolic responses. One component of chrononutrition is the distribution of meal frequency and eating windows across the day. Shifting energy intake toward earlier hours and adopting regular eating habits may support body-weight regulation. In shift workers, both circadian rhythms and eating behaviors tend to be more disrupted, contributing to increased risk of diabetes, obesity, and cardiovascular diseases. Consumption of the majority of daily energy intake during the early hours of the day improves glycemic control, whereas consuming high-energy meals late in the day increases the risk of obesity. Evening chronotypes more frequently exhibit late eating, social jetlag, and unhealthy dietary behaviors. Additionally, the gut microbiota is sensitive to circadian rhythms, and disruptions in meal timing and sleep may alter microbial composition. **Conclusion:** A dietary pattern aligned with circadian rhythms is essential for maintaining metabolic health. Shifting meals to earlier hours, establishing regular eating routines, and adopting chronotype-appropriate nutrition strategies may reduce the risk of obesity, insulin resistance, and other metabolic disorders. Implementing chrononutrition principles, especially in high-risk populations such as shift workers, represents a valuable public-health approach.

Keywords: chrononutrition, circadian rhythm, meal timing, chronotype

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4th International Congress of Medical and Health Sciences Studies

DIGITAL FATIGUE AND TECH STRESS: THE NEW REALITY FOR SURGICAL NURSES

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Hatice ERDOĞAN [2]

Abstract

The digitization of healthcare services requires operating room nurses to intensively use technology in clinical decision-making, patient monitoring, and electronic record-keeping processes. While increasing efficiency, this process also brings new risk areas such as “technostress” and “digital fatigue.” Technostress consists of dimensions such as excessive digital load, complexity, uncertainty, and the pressure to be constantly connected, and it can lead to burnout by straining nurses' cognitive capacity.

The increase in technological devices, decision support systems, and robotic equipment in the operating room environment directly affects nurses' attention levels, time management, and communication quality. In particular, constant system updates, mandatory electronic records, and alarm overload can negatively affect both job satisfaction and patient safety. Studies conducted in Turkey have revealed that healthcare workers have high levels of technostress and that this is significantly related to job turnover.

In recent years, the cognitive and psychological effects of digital fatigue have been studied; long screen time, the pressure of multitasking, and constant online presence have been reported to be associated with increased stress, distraction, and error rates among nurses.

This situation increases the risk of errors in the demanding tasks of nurses working in surgical units, especially those based on high technology.

In reducing digital fatigue and technostress, organizational support, digital literacy training, ergonomic system design, and setting limits on technology use are of great importance. Consequently, psychosocial factors, not just technical ones, should be considered in surgical nurses' adaptation to technological transformation. This approach will both protect nurse health and enhance the quality of patient care.

Keywords: Technostress, digital fatigue, operating room nursing, perioperative nursing, technological stress

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4th International Congress of Medical and Health Sciences Studies

Bibliometric Analysis of Postgraduate Theses on First and Emergency Aid

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Abstract

The aim of this review is to make a bibliometric analysis of postgraduate theses on First and Emergency Aid in Turkey. Postgraduate theses were searched using the keyword "First and Emergency Aid" in the National Thesis Center database of the Council of Higher Education (YÖK). A total of 16 postgraduate theses, 10 of which are open to access and 6 of which are closed to access, without any year limitation, were included in this study. It was found that 81.25% of the postgraduate theses using the keyword "First and Emergency Aid" were master's theses and 18.75% were Medical Specialization Theses. While the method of 4 of the postgraduate theses using the keyword "First and Emergency Aid" was unclear, it was seen that 58.3% of the 12 were made with a descriptive method. In line with the postgraduate theses examined, it was determined that the majority of the studies were master's theses, most of the advisor titles were Professors, and the descriptive method was mostly used. It is thought that more theses should be conducted on First and Emergency Aid to contribute to the national literature. It is thought that training programs should be planned for the public on First and Emergency Aid.

Keywords: First aid, first and emergency aid, bibliometric analysis, postgraduate thesis, bibliometrics

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4th International Congress of Medical and Health Sciences Studies

First and Emergency Aid Nursing in Turkey: A Literature Review

Arzu KARABAĞ AYDIN[1]
Murat DENİZ[2]

Abstract

First aid includes interventions that can be performed by a person (or victim) at the scene of an incident with minimal or no medical equipment. It is the first aid or treatment provided to the victim in case of any injury or sudden illness before the ambulance or qualified medical care arrives. This is done by using the facilities and materials available at the time and on the scene. The extent of first aid provided is determined by the first aid provider's level of training, available equipment and resources, the general situation, and need. Pre-hospital emergency health care services include a chain of intervention that includes providing emergency care support at the scene of an accident, illness or disaster and transporting people in need of immediate assistance to the hospital safely. The primary goal of these services is to reduce mortality and morbidity related to chronic illness, major trauma, and sudden health problems. First aid is one of the essential professional skills expected of nurses. The ability to administer first aid ensures immediate rescue in an emergency, which prevents missing crucial moments for the survival of an injured person and reduces the risk of unfortunate accidents. Nurses must not only have excellent professional knowledge but also have a high level of awareness of risk estimation to increase the effectiveness of first aid and improve the prognosis of patients. The purpose of this review is to examine the role of nurses in first and emergency aid. A literature search was conducted in Google Scholar, PubMed and YÖK (Higher Education Council) Thesis databases with the keywords “first and emergency aid”, “first aid”, “nurse”, “the role of the nurse”, “nurse in first and emergency aid”. Eight research articles, two reviews and two theses were examined. As a result of the literature review, it was observed that nurses' first and emergency aid knowledge levels were generally high. It should be emphasized that nurses are at the forefront of first and emergency aid practices and disasters, and studies on the role of nurses in first and emergency aid should be increased.

Keywords: First and emergency aid, first aid, nurse, the role of the nurse, nurse in first and emergency aid.

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4th International Congress of Medical and Health Sciences Studies

Anger Expression Styles and Predictors in Cancer Patients

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Abstract

This study aims to assess the levels of anger, anger expression styles, and their predictors in individuals diagnosed with cancer. The research is descriptive and cross-sectional in design, with the population consisting of cancer patients receiving outpatient treatment at Sivas Cumhuriyet University Health Services Application and Research Hospital between May 20 and October 20. The sample included 164 cancer patients who agreed to participate. Data were collected using a Personal Information Form and the State-Trait Anger Expression Inventory (STAXI). The data were analyzed using the Mann–Whitney U test, Kruskal–Wallis H test, Spearman correlation analysis, and linear regression analysis. Among the patients, 51.2% were female, 59.8% lived with their spouse, 47.6% were housewives, and 46.3% were retired. Additionally, 35.4% of the patients were diagnosed with breast, ovarian, uterine, cervical, or endometrial cancer. The highest average score on the State-Trait Anger Expression Inventory was found in the anger control subscale (24±2.44), while the lowest average score was in the externalized anger subscale (11±1.74). It was observed that the internalized anger expression style varied based on gender, living situation, occupation, and cancer type ($p<0.05$). The factors influencing state anger, externalized anger, and anger control showed similar patterns. In conclusion, it is important to assess how individuals, particularly women, those living with a nuclear family, and those diagnosed with breast or reproductive organ cancers, express and internalize anger, as this has significant implications for their mental health.

Keywords: cancer, anger, trait anger, anger expression, nursing

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4th International Congress of Medical and Health Sciences Studies

Clinical Practice Improvement Interventions In Medication Administration Via Enteral Feeding Tubes: A Scoping Review

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Abstract

This comprehensive review aims to identify education, protocols, and quality improvement interventions for enteral feeding tube medication administration in clinical practice, to identify their scope, and to examine the results reported in the literature.

The review was conducted in accordance with the comprehensive review reporting guidelines. Studies published between 2014 and 2025 were identified through a systematic search of PubMed, Ovid (MEDLINE), Scopus, and Web of Science databases in the fields of health, nursing, and clinical sciences. A total of 17 studies that met the inclusion criteria were included because they included education, protocols, guidelines, checklists, or quality improvement interventions for enteral feeding tube medication administration and reported outcomes for nurses. Study selection was conducted through a two-stage screening process; data from eligible studies were extracted and classified according to the type of intervention and reported outcomes.

The findings demonstrated that education programs conducted with the active participation of clinical pharmacists and models that include instant feedback in the field are effective in increasing nurses' knowledge and reducing inappropriate dosage form use. Interventions combining education with protocol, standardization, and equipment support have reported reductions in medication errors of up to 80–95% and a significant decrease in feeding tube obstruction rates. Two studies also reported significant reductions in care costs, demonstrating the economic value of the interventions.

While the studies generally yield positive results, the fact that most studies were limited to intensive care and inpatient wards, the lack of standardized measurement tools, and the limited participation of different disciplines limit the generalizability of the findings. However, structured, multicomponent interventions for enteral feeding tube medication administration appear to have significant potential to improve both the quality of clinical practice and patient safety. Future research is recommended to be conducted in different clinical settings, with larger sample sizes and standardized assessment tools.

Keywords: Enteral nutrition, medication administration errors/prevention and control, nursing education, clinical protocols, quality improvement, patient safety, enteral medication administration

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4th International Congress of Medical and Health Sciences Studies

Psychosocial Effects of Motherlessness in Boys and Nursing Approach

Behiye ELÇİ[1]

Özet

Annesizlik, çocukların psikososyal gelişimi üzerinde derin, çok boyutlu ve kalıcı etkiler yaratan önemli bir toplumsal ve gelişimsel olgudur. Annenin yokluğu; ölüm, ayrılık, terk edilme, göç veya sosyoekonomik zorluklar gibi nedenlerle ortaya çıktığında, çocuğun duygusal güvenlik, bağlanma, kimlik ve benlik saygısı gelişiminde ciddi kesintilere yol açabilmektedir. Özellikle erkek çocukları bu süreçten daha fazla etkilenmekte; özgüven eksikliği, düşük benlik saygısı, akademik başarı düşüklüğü, sosyal ilişkilerde zorlanma, duygusal ifade yetersizliği ve davranışsal uyum sorunları yaşayabilmektedir. Bağlanma kuramı, annesizliğin çocuğun temel güven duygusunu zedeleyerek ilerleyen yaşam dönemlerinde kaygı, depresyon, öfke kontrol güçlüğü ve kişilerarası ilişkilerde sorunlar oluşturabileceğini açıklamaktadır. Literatürde, annesiz erkek çocuklarda sosyal izolasyon, duygusal kırılganlık ve davranışsal risklerin artış gösterdiği bildirilmiştir. Ancak güçlü aile desteği, öğretmen ilgisi, akran ilişkileri ve toplumsal dayanışma bu olumsuzlukları azaltıcı yönde etki gösterebilmektedir. Hemşirelik yaklaşımı açısından annesiz çocuklara yönelik bakım, sadece fiziksel değil, aynı zamanda duygusal ve sosyal iyilik halini desteklemeye odaklanmalıdır. Çocuk ve aile merkezli bakım, okul temelli danışmanlık, psikoeğitim programları, empati ve dayanıklılığı güçlendiren toplum temelli girişimler bu çocukların sağlıklı gelişimi için önem taşımaktadır. Bu derleme çalışmasının amacı, annesizliğin erkek çocukların psikososyal gelişimi üzerindeki etkilerini bağlanma kuramı çerçevesinde değerlendirmek, hemşirelik uygulamalarında kullanılabilecek destekleyici yaklaşımları ortaya koymak ve gelecekte yapılacak multidisipliner araştırmalara yön vermektir. Bu kapsamda çalışma, hem klinik uygulamalara hem de koruyucu ruh sağlığı hizmetlerine rehberlik edecek niteliktedir.

Anahtar Kelimeler: Annesizlik, Erkek Çocuk, Psikososyal Etki, Hemşirelik Müdahalesi, Sosyal Destek

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4th International Congress of Medical and Health Sciences Studies

Holism, Spirituality and Nursing

Cemre ÖZTÜRK[1]
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Abstract

The concepts of holism and holistic are derived from the Greek word holos, meaning “whole”; they refer to addressing all aspects of a person. Holism is a philosophical approach that argues that the individual, together with their family and environment, is a whole comprising physical, psychological, social, cultural, and spiritual dimensions. The search for holistic treatment and healing has a 5,000-year history in human civilization. In many societies, practices such as the evil eye, amulets, and lead casting have been viewed as religious-magical practices. Shamanism holds an important place in magical treatments. The Sumerians attributed illness to evil spirits, purified themselves through prayer, and then applied medical treatment. The Hittites associated illness with sin. In Egypt, illness was considered divine wrath or the influence of jinn.

Holism was first used in nursing in 1971 by Myre Levine. A holistic nurse is a licensed, evidence-based nurse who treats the mind, body, spirit, and emotions as a whole. Holistic nursing aims to improve the individual's biopsychosocial and spiritual well-being from birth to death.

The fundamental characteristics of a holistic nurse are as follows: They understand that self-healing is a continuous process. The nurse recognizes their strengths and weaknesses and is open to self-improvement. They are aware of the steps in personal development. They show unconditional respect and love for every individual. They want to offer suggestions for life problems. They guide individuals in finding creative solutions. They have effective and active listening skills. They support patients' belief that they can cope with life. They use non-judgmental, accepting communication. Establishing a strong relationship with the patient is fundamental to holistic care.

In holistic care, the human body, mind, and spirit are treated as a whole. The spiritual dimension comes to the fore during illness, stress, death, and times of crisis; individuals question the meaning of life, hope, and sources of strength. Spiritual health is fundamental to holistic care; nurses play an important role in spiritual care. However, there are fundamental barriers to spiritual care. These can be addressed under three headings.

Holistic care advocates that all dimensions that constitute a person—physical, spiritual, cultural, psychological, and social—must be addressed as a whole. Therefore, nursing care should be organized in a way that addresses all dimensions of the individual.

Keywords: care, holism, nursing, holism, spirituality

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4th International Congress of Medical and Health Sciences Studies

Overprotection or Hidden Threat? The Impact of Helicopter Parenting on Children's Health

Meltem ASLAN[1]

Abstract

Today, parenting roles are undergoing a significant transformation due to technological advances, increased social competition, and security concerns. A notable result of this transformation is helicopter parenting, defined as an overly intrusive parenting style that constantly controls children's lives and limits their opportunities to make mistakes and learn through experience. While this approach aims to protect children from dangers in the short term, it can have negative effects on their physical, mental, and social development in the long term. The effects of helicopter parenting on children's health are multifaceted. Overprotective attitudes hinder the development of independence, self-efficacy, decision-making, and stress management skills in children, resulting in psychosocial problems such as anxiety, depression, low self-esteem, and social isolation. Furthermore, limiting physical activity promotes a sedentary lifestyle and increases the risk of chronic health problems such as obesity. This situation poses a significant threat not only at the individual level but also in terms of public health. From the perspective of nursing and child health professionals, helicopter parenting is an important topic that should be addressed in parent education programs. Supporting a child's healthy development should encompass not only protection from illness but also the development of self-care, problem-solving, and autonomy skills. Therefore, it is crucial for parents to adopt boundary-setting, supportive, and autonomy-promoting approaches rather than overly protective attitudes for the sake of protecting children's health and sustainable parenting. This review will detail the definition of helicopter parenting, its causes, its effects on children's physical and psychosocial health, and approaches to preventing this behavior in nursing and child health.

Keywords: Child health, Helicopter parenting,Nursing

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4th International Congress of Medical and Health Sciences Studies

Incidental Facet Joint Synovitis on Abdominal MRI: A Pilot Study on Prevalence and Clinical Associations

İbrahim Feyyaz NALDEMİR[1]

Abstract

To determine the incidence of facet joint synovitis on abdominal MRI studies containing fat-suppressed T2-weighted sequences, regardless of clinical symptoms, and to investigate its association with paravertebral muscle degeneration (Goutallier classification), paraspinal subcutaneous fat thickness, and back pain.

A total of 1,152 abdominal MRI examinations performed between January and September 2024 for non–back pain indications were retrospectively reviewed. Facet joint synovitis was defined by the presence of joint space effusion, synovial thickening, or contrast enhancement, yielding 70 cases; 62 patients could be reached by phone and included in the study. Sixty-three age- and sex-matched controls were selected. Statistical analyses included Shapiro–Wilk, t-test/Mann–Whitney U, Chi-square, Spearman correlation, and multiple linear regression ($p<0.05$).

The incidence of synovitis was 6.08%. Patients with synovitis were older (61.5±9 vs 54.5±11 years; $p<0.001$) and had greater paraspinal subcutaneous fat thickness (29.9±13.1 vs 22.6±12.4 mm; $p=0.0005$). Goutallier scores did not differ significantly between groups ($p=0.3752$). Synovitis was more common in women ($p=0.035$). Back pain was significantly more prevalent in the synovitis group ($p<0.001$); in these patients, Goutallier scores showed a strong positive correlation with pain severity ($r=0.891$, $p<0.001$), whereas no association was found with age, sex, or fat thickness. In regression analysis, Goutallier was the only significant predictor of pain ($p<0.001$). In the overall cohort, Goutallier correlated moderately with age ($r=0.468$, $p<0.001$) but not with subcutaneous fat ($r=0.096$, $p=0.232$).

Incidental facet joint synovitis can be detected at a low-to-moderate frequency on fat-suppressed T2-weighted sequences and is clinically relevant due to its association with pain. While the occurrence of synovitis appears related to subcutaneous fat thickness and female sex, pain severity is primarily determined by paravertebral muscle fatty degeneration. These findings support the systematic reporting of synovitis and paravertebral muscle quality and highlight the need for further, preferably prospective, studies.

Keywords: Facet joint synovitis, Abdominal MRI, Low back pain, Paraspinal muscle degeneration, Goutallier classification

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4th International Congress of Medical and Health Sciences Studies

Diagnostic Value of Quantitative ADC and ADC Ratio in the Prediction of Clinically Significant Prostate Cancer

Mehmet Ali ÖZEL

Abstract

Prostate cancer (PCa) exhibits a wide spectrum of biological behavior, ranging from indolent to aggressive disease. Distinguishing clinically significant prostate cancer (csPCa) from insignificant forms is essential to avoid overtreatment and guide biopsy decisions. This study aimed to evaluate the diagnostic efficacy of quantitative diffusion-weighted imaging (DWI) parameters, specifically Apparent Diffusion Coefficient (ADC) values and ADC ratios, in predicting histopathological ISUP grades and tumor aggressiveness.

A retrospective analysis was conducted on 73 patients (mean age: 65.4 years) with histopathologically confirmed prostate cancer. Patients were stratified into two groups based on biopsy results: Clinically Significant PCa (ISUP grade ≥ 2, n=60) and Clinically Insignificant PCa (ISUP grade 1, n=13). Quantitative ADC values were measured from the index lesion, and ADC ratios were calculated by comparing the lesion to non-tumoral prostatic tissue. Statistical analysis was performed using the Mann-Whitney U test to compare groups, and Receiver Operating Characteristic (ROC) curve analysis was utilized to determine diagnostic performance.

Quantitative analysis revealed significant differences between the groups. The mean ADC value was significantly lower in the clinically significant group (0.573 ± 0.147 x 10-3 mm2/s) compared to the insignificant group (0.820 ± 0.092 x 10-3 mm2/s) ($p < 0.001$). Similarly, the mean ADC ratio was significantly lower in patients with ISUP ≥ 2 tumors (0.39 ± 0.13) compared to those with ISUP 1 (0.58 ± 0.10) ($p < 0.001$). ROC analysis demonstrated excellent diagnostic accuracy for absolute ADC values in detecting clinically significant cancer, yielding an Area Under the Curve (AUC) of 0.91. The ADC ratio also showed strong diagnostic performance with an AUC of 0.88. Quantitative DWI parameters are robust non-invasive biomarkers for stratifying prostate cancer aggressiveness. Both absolute ADC values and ADC ratios can effectively discriminate between clinically significant and insignificant tumors. An ADC value ≤ 0.573 x 10-3 mm2/s is a strong predictor of high-risk disease. Integrating these quantitative metrics into routine multiparametric MRI reporting protocols may improve risk stratification and support more accurate biopsy decision-making.

Keywords: Prostate Cancer, Multiparametric MRI, Apparent Diffusion Coefficient, ADC Ratio, ISUP Grade.

4th International Congress of Medical and Health Sciences Studies

Evaluation of the Relationship Between Lower Extremity Venous Insufficiency and Venous Diameter

Ali SALBAS[1]

Abstract

The aim of this study is to evaluate the relationship between Great Saphenous Vein (GSV) diameters at different anatomical levels and the presence of reflux in patients with lower extremity venous insufficiency, and to determine the optimal diagnostic cut-off values for each level.

A total of 120 lower extremities of 60 patients who underwent bilateral venous Colour Doppler Ultrasonography (CDUS) were included in the study. Great Saphenous Vein (GSV) diameters were measured at 3 cm distal to the saphenofemoral junction (GSV1), mid-thigh (GSV2), knee level (GSV3), and mid-calf (GSV4). A reflux duration of >0.5 seconds was considered indicative of venous insufficiency.

The study included 60 patients, comprising 42 females (70%) and 18 males (30%). The mean age was 49.13 ± 14.01 years (range: 21–79 years). Venous reflux was detected in 27.5% (n=33) of the 120 evaluated lower extremities. Reflux was observed unilaterally in 17 patients and bilaterally in 8 patients. Venous reflux was detected in 27.5% (n=33) of the 120 evaluated lower extremities. GSV diameters were found to be significantly higher in the reflux group compared to the control group at all levels ($p<0.001$). According to the ROC analysis, the optimal cut-off values for predicting reflux were determined as follows: 6.8 mm for GSV1 (AUC: 0.97), 4.5 mm for GSV2 (AUC: 0.97), 4.8 mm for GSV3 (AUC: 0.93), and 3.2 mm for GSV4 (AUC: 0.92).

A strong relationship exists between increased GSV diameter and venous insufficiency across all anatomical levels. Notably, the high diagnostic performance observed at the proximal levels (GSV1 and GSV2) suggests that venous diameter measurements can serve as a reliable parameter in clinical assessment and treatment planning.

Keywords: Great Saphenous Vein; Chronic Venous Insufficiency; Doppler Ultrasonography; Venous Reflux; Vein Diameter

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4th International Congress of Medical and Health Sciences Studies

Evaluation of ChatGPT-4o's Responses to Frequently Asked Questions About Thyroid Fine-Needle Aspiration Biopsy

Ali SALBAS[1]
Rasit Eren BUYUKTOKA[2]

Abstract

This study aimed to evaluate the quality of ChatGPT-4o's responses to frequently asked patient questions regarding thyroid fine-needle aspiration biopsy (FNAB).

A cross-sectional study was conducted to evaluate the quality of ChatGPT-4o's responses to patient questions regarding thyroid FNAB. Patient-centered questions were identified through a Google search using the phrase "frequently asked questions about thyroid biopsy." After eliminating duplicates and semantically similar items, 20 questions were selected. Each question was individually submitted to ChatGPT-4o in separate sessions to avoid in-context adaptation. Responses were assessed by 12 radiologists, who were blinded to the source of the answers. Evaluations were performed using a 5-point Likert scale across four predefined criteria: relevance, accuracy, clarity, and completeness. Descriptive statistics were calculated, and interrater reliability was analyzed using the intraclass correlation coefficient (ICC).

All 20 questions were evaluated, and each received scores between 3 and 5 across all criteria. The overall mean score was 4.72±0.12, reflecting high quality. Among the criteria, relevance received the highest mean score (4.95±0.06), while clarity had the lowest (4.61±0.23). The interrater reliability analysis demonstrated poor agreement, with ICC values of –0.028 (P = .863) for relevance, 0.061 (P = .005) for accuracy, 0.072 (P = .002) for clarity, 0.031 (P = .016) for completeness, and 0.061 (P = .002) for total scores.

ChatGPT-4o was able to generate highly relevant, accurate, and comprehensive responses to frequently asked patient questions about thyroid FNAB. However, the low interrater reliability highlights variability in expert assessments, particularly regarding clarity and completeness. While ChatGPT-4o shows potential as a supplementary tool in patient education, its responses should be reviewed and adapted by healthcare professionals before clinical integration.

Keywords: Thyroid Nodule; Biopsy, Fine-Needle; Patient Education; Natural Language Processing; Artificial Intelligence

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4th International Congress of Medical and Health Sciences Studies

Prevalence and Distribution of Incidental Findings in Lumbar Spine MRI: A Retrospective Analysis of a Large Patient Cohort

Ali SALBAS[1]
Rasit Eren BUYUKTOKA[2]

Abstract

In this retrospective descriptive study, we sought to evaluate the occurrence and organ/system distribution of incidental findings observed on lumbar magnetic resonance imaging (MRI) in a sizable patient group.

Lumbar MRI scans conducted between January and April 2024 were retrospectively analyzed using the hospital's imaging archive. The study included 2,243 patients who met the eligibility criteria and had only one MRI examination. All images were independently assessed by two radiologists, and incidental findings were categorized by organ or system and their frequencies determined.

Among the 2,243 patients evaluated, the mean age was 55.0±15.7 years, with 64.9% females (n=1,455) and 35.1% males (n=788). At least one incidental finding was detected in 730 patients (32.6%). Altogether, 780 incidental findings were recorded. The kidney represented the most frequently involved organ (n=431, 55.3%), followed by the ovary (n=107, 13.7%) and the uterus (n=69, 8.8%). Renal cysts (n=336, 43.1%), ovarian cysts (n=102, 13.1%), and myomas (n=47, 6.0%) were the most common lesions.

Incidental findings are frequently encountered in lumbar MRI studies, with the majority being benign. Nevertheless, their detection is clinically important since some may carry potential clinical or medicolegal consequences. This study offers recent data from our country, aiming to increase awareness among radiologists and clinicians and to highlight the need for a systematic approach in lumbar MRI interpretation.

Keywords: Lumbar Vertebrae, Magnetic Resonance Imaging, Incidental Findings, Renal Cyst, Ovarian Cysts

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4th International Congress of Medical and Health Sciences Studies

Investigation of the Relationship Between Symptom Severity and Supportive Care Needs of Gynecological Oncology Patients According to Their Treatment

Hilal GEÇİT ÇETİN[1]
Nuriye PEKCAN[2]

Abstract

This study was a descriptive and correlational research to determine the relationship between symptom severity and supportive care needs according to the type of treatment received by women diagnosed with gynecological oncology.

A total of 240 female patients participated in the study. Data were collected using the Personal Information Form, the Nightingale Symptom Assessment Scale (N-SAS), and the Supportive Care Needs Survey–Short Form 34 (SCNS-SF34). Chi-square test, ANOVA, and Pearson correlation analyses were employed, with a significance level of $p < 0.05$.

Of the participants, 54.2% received radiotherapy, 13.7% chemotherapy, and 32.1% combined therapy. The mean N-SAS score was 1.13±0.75. The mean SCNS-SF34 total score was 107.64±24.44, with the highest needs reported in the domains of psychological support and health system/information. Patients receiving only radiotherapy reported lower needs, whereas those undergoing chemotherapy or combined therapy had significantly higher scores. A positive and significant correlation was found between N-SAS and SCNS-SF34 scores across all groups. Logistic regression analysis identified psychological support needs, health system/information needs, and sexual needs as the strongest predictors of poor quality of life.

the results demonstrate that treatment type, individual characteristics, and oncological features directly affect both symptom burden and supportive care needs. The findings highlight the necessity of developing holistic care programs focusing on symptom management education and psychosocial support for women with gynecological cancers.

Keywords: Gynecology, Oncology, Supportive Care, Needs, Symptom, Nursing

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4th International Congress of Medical and Health Sciences Studies

ISOLATED TUBAL TORSION IN PREGNANCY: A RARE CASE REPORT

Emre Yılmaz[1]
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Abstract

Adnexal torsion is a rare but significant cause of acute abdomen during pregnancy. Isolated torsion of the fallopian tube without ovarian involvement is extremely uncommon, with an estimated incidence of approximately 1 in 1,000,000. Right-sided torsion is more frequent, likely due to the protective effect of the sigmoid colon on the left side. Patients typically present with sudden lower abdominal pain, often accompanied by nausea and vomiting, although these symptoms are nonspecific. Color Doppler ultrasonography may aid in diagnosis but can yield normal findings, making laparoscopy the gold standard for confirmation and management. We report a case of isolated left tubal torsion in a 39-week and 4-day pregnant woman without prior pelvic surgery or adnexal pathology. Laparoscopic exploration revealed the left tube twisted upon itself, markedly edematous, and gangrenous. The tube spontaneously detorsioned when the uterus was gently anteverted with an atraumatic instrument. The intraoperative findings were recorded on video (Video 1). The patient subsequently had an uneventful vaginal delivery of a healthy 2600 g female infant. Isolated tubal torsion should be considered in pregnant patients presenting with acute abdomen and normal adnexal Doppler findings. Early recognition and prompt surgical intervention are essential for favorable maternal and fetal outcomes.

Keywords: Isolated tubal torsion, laparoscopy, pregnancy, torsion

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4th International Congress of Medical and Health Sciences Studies

Evaluation Of The Relationship Between The Severity Of Ketonuria And Hematologic Inflammatory Indices In Patients With Hyperemesis Gravidarum

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Abstract

Hyperemesis gravidarum (HEG) is a debilitating condition characterized by severe nausea and vomiting during early pregnancy, often leading to dehydration, electrolyte imbalance, and weight loss. Ketonuria is widely used in clinical practice to estimate the severity of HEG, but the contribution of systemic inflammation to its pathophysiology remains underexplored. Hematologic inflammatory indices such as neutrophil-to-lymphocyte ratio (NLR), platelet-to-lymphocyte ratio (PLR), monocyte-to-lymphocyte ratio (MLR), and systemic immune-inflammation index (SII) have been proposed as accessible markers of inflammation in various clinical settings. This study aimed to examine the relationship between the severity of ketonuria and these inflammatory indices in patients diagnosed with HEG. A total of 32 pregnant women in the first trimester with confirmed HEG were included. Demographic and clinical data were collected retrospectively. Patients were divided into three groups based on their ketonuria levels (2, 3, and 4), and inflammatory indices were compared accordingly. The results showed a statistically significant increase in NLR, PLR, MLR, and SII with rising ketonuria levels ($p < 0.05$ for all). These findings suggest that inflammatory indices are positively associated with the severity of ketonuria, indicating that systemic inflammation may play a role in HEG. The use of these indices may offer a simple and cost-effective way to assess clinical severity in affected patients.

Keywords: Hyperemesis gravidarum, Ketonuria, Inflammatory indices, Neutrophil-to-lymphocyte ratio

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4th International Congress of Medical and Health Sciences Studies

Electrophysiological evaluation of central and peripheral nerve conduction according to retinopathy level in type II diabetic patients

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Betül ÖZENÇ
Derya BAYRAK
Pelin Yenilmez YEŞİLDAŞ

Abstract

To evaluate central and peripheral nerve conduction in patients with type 2 diabetes mellitus (T2DM) using visual evoked potentials (VEP) and nerve conduction studies, and to investigate their relationship with diabetes duration and diabetic retinopathy severity.

This retrospective cross-sectional study included 100 T2DM patients and 100 age- and sex-matched healthy controls. P100 latency was measured for central conduction, while distal latency, amplitude, and conduction velocity of the tibial, ulnar, and sural nerves were assessed for peripheral conduction. Statistical analyses included t-tests, Mann–Whitney U tests, Chisquare tests, ANOVA, Kruskal–Wallis tests, and Spearman's correlations.

P100 latency was significantly prolonged in the diabetic group compared with controls (113.07±4.66 ms vs. 104.10±3.25 ms; $p<0.001$). All motor and sensory nerves exhibited prolonged distal latencies, reduced amplitudes, and slower conduction velocities ($p<0.001$ for all). No significant correlation was found between diabetes duration and either P100 latency or nerve conduction parameters ($p>0.05$). P100 latency did not significantly differ between retinopathy severity groups ($p=0.094$).

Both central and peripheral nerve conduction abnormalities are present in T2DM patients, independent of diabetes duration or retinopathy severity. Combined VEP and nerve conduction studies may provide a more comprehensive approach for the early detection of diabetic neuropathies.

Keywords: Type 2 diabetes mellitus, visual evoked potentials, peripheral neuropathy, nerve conduction studies, diabetic retinopathy

4th International Congress of Medical and Health Sciences Studies

The Association of Lipid Profile Ratios with Stroke Subtypes, Severity, Hemorrhagic Risk and Clinical Outcomes

Işıl YAZICI GENÇDAL[1]
Banu BAYRAMOĞLU[2]

Abstract

Stroke is one of the leading causes of global mortality and morbidity, and dyslipidemia is known to play a significant role in its pathogenesis. In addition to traditional lipid parameters (triglycerides, LDL-C, HDL-C, and total cholesterol), composite indicators such as the triglyceride/HDL-C, LDL-C/triglyceride, and total cholesterol/HDL-C ratios have attracted growing interest due to their associations with cardiovascular events. However, studies investigating the impact of these ratios on stroke subtypes, severity, risk of hemorrhagic complications, and functional outcomes remain limited.

This study aimed to assess the relationship between triglyceride levels and the triglyceride/HDL-C, LDL-C/triglyceride, and total cholesterol/HDL-C ratios—measured at hospital admission—and stroke subtypes, stroke severity (NIHSS score), risk of intracranial hemorrhage, and clinical outcomes at least 3 months after discharge.

This retrospective study included 292 patients diagnosed with ischemic stroke who were admitted to our stroke center between 2019 and 2024 and had a lipid profile measured within the first 24 hours. Stroke subtypes were classified according to the TOAST criteria. Lipid ratios (TG/HDL-C, LDL-C/TG, TC/HDL-C) were measured using standard biochemical methods. Hemorrhagic transformation, stroke recurrence, and mRS scores (modified Rankin Scale) at ≥3 months were recorded.

Among 292 ischemic stroke patients included in the study (101 women, 191 men), triglyceride levels were highest in the small-vessel disease group, while LDL-C, TG/HDL-C, and cholesterol/HDL-C levels were highest in the large-artery and small-vessel disease groups ($p < 0.05$). Hemorrhagic transformation occurred in 50 of the 292 patients. Triglyceride levels were significantly lower in the hemorrhage group, whereas LDL-C/TG ratios were higher ($p < 0.05$). Composite lipid parameters did not reach statistical significance in predicting stroke recurrence, severity, or clinical outcomes.

These findings suggest that lipid ratios may not only reflect atherogenic burden but also serve as potential biomarkers for predicting stroke subtypes and hemorrhagic transformation. Larger prospective studies are warranted to validate the integration of these parameters into clinical decision-making algorithms.

Keywords: Lipid ratios, Ischemic stroke subtypes, hemorrhagic transformation

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4th International Congress of Medical and Health Sciences Studies

Social Interaction And Psychosocial Adjustment In Multiple Sclerosis Patients: Challenges And Recommendations

Ellina VOLAHENİNTSOA[1]
Murat TERZİ [2]

Abstract

This study aims to examine the social interaction processes and psychosocial adjustment levels of individuals diagnosed with multiple sclerosis (MS). MS not only leads to neurological impairments but also significantly affects patients' social lives, emotional balance, and societal roles due to its chronic and unpredictable nature. The research evaluates MS patients' difficulties in social interaction, their psychosocial adjustment status, and the influence of demographic factors on these processes. MS is a progressive neurological disorder characterized by demyelination and neurodegeneration within the central nervous system. Beyond physical disability, psychosocial problems such as social isolation, depression, anxiety, and stigmatization considerably reduce the quality of life in individuals with MS. Therefore, MS must be assessed within a biopsychosocial framework to understand the multifaceted challenges experienced by patients. The study was conducted between April 14 and July 1, 2025, with 105 MS patients and 105 healthy controls who applied to the Neurology Outpatient Clinic of Ondokuz Mayıs University. Data were collected using a socio-demographic form, the Hospital Anxiety and Depression Scale (HADS), and the Psychosocial Adjustment to Illness Scale (PAIS-RS). Statistical analyses were performed using SPSS. Results indicated that MS patients had significantly higher HADS and PAIS-RS scores compared to the control group ($p < 0.001$). A strong positive correlation was found between levels of anxiety–depression and psychosocial adjustment difficulties. Additionally, demographic factors such as gender and educational level were shown to influence psychosocial adjustment. These findings suggest that psychosocial adjustment challenges in MS patients are associated not only with clinical symptoms but also with social support deficiencies, stigmatization, and isolation. Increased levels of anxiety and depression negatively affect psychosocial adjustment and diminish overall quality of life. In conclusion, MS patients experience pronounced difficulties in social interaction and psychosocial adjustment. Developing social support programs, expanding psychological interventions, and integrating psychosocial perspectives into clinical practice are recommended for improving patient outcomes.

Keywords: Multiple sclerosis, Social interaction, Psychosocial adjustment, Anxiety, Depression

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4th International Congress of Medical and Health Sciences Studies

Ror1 Expressıon Is Important For Car-T Cells In Trıple Negatıve Breast Cancers

Merve ÖZ[1]
Nusret AKPOLAT[2]

Abstract

Triple negative breast cancers are a subtype of breast cancer associated with early recurrence and metastasis that exhibit aggressive behavior. Immunotherapy is seen as a promising treatment in UNMCs where new treatment regimens are needed. ROR1 is a good target molecule for immunotherapy. We aimed to evaluate the expression level of ROR1 and the prognostic importance of ROR1 in UNMKs and to show its relationship with high TIL rates. We determined the ROR1 expression level by RT-PCR. As a result, we revealed that ROR1 protein expression was higher in UNMKs than in adjacent non-tumor tissue ($p<0.001$). ROR1 overexpression was observed in 15% of the entire cohort using the cutoff value of 1 or in 25% of cases using the median value as the threshold. Patients with high TIL rate showed higher ROR1 expression ($p<0.05$). In conclusion, ROR1 may be a potential therapeutic target molecule for immunotherapy, a new treatment regimen in patients with UNMK. Studies with a larger patient group and symmetric patient distribution may support this benefit.

Keywords: Triple negative breast cancer, ROR1, TIL

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4th International Congress of Medical and Health Sciences Studies

Distribution of Histopathological Findings in Appendectomy Specimens, Clinical Correlation, and Frequency of Incidental Lesions: A Retrospective Analysis

Burcu SANAL YILMAZ[1]

Abstract

The histopathological evaluation of appendectomy specimens offers an important diagnostic opportunity beyond confirming the diagnosis of acute appendicitis, namely the detection of clinically unforeseen incidental lesions. This study aims to reveal the distribution of histopathological findings in a large series of appendectomies; to determine the frequency of incidental neoplastic and non-neoplastic lesions; and to evaluate the relationship of these findings with morphometric parameters such as age, gender, appendix length, and tumour diameter.

This retrospective study included 2.732 appendectomy cases operated on with a preliminary diagnosis of acute appendicitis between 2017 and 2025. The demographic characteristics, macroscopic findings, and histopathological diagnoses of the cases were obtained from electronic records and pathology reports. All cases were classified into three main groups: inflammatory, benign/non-neoplastic, and neoplastic. Morphometric measurements such as appendix length and tumour diameter were recorded; intergroup differences were analysed using appropriate statistical methods.

58.1% of cases were male and 41.9% were female; the mean age was 31.1±18.0 years. In the histopathological distribution, inflammatory lesions were the most common group at 84.9%. Reactive/non-neoplastic lesions were observed in 13.5%, while neoplasms were seen in 1.6% (NET (neuroendocrine tumour) 0.5%; LAMN (Low Grade Adenomatous Mucinous Neoplasm) 0.6%; adenocarcinoma 0.1%). A gender-based variation in pathological distribution was evident ($p<0.001$). Neoplastic cases were predominantly observed in older individuals. The mean appendix length was 6.22±1.59 cm, and this measurement was significantly greater in males ($p<0.001$). Patients within the neoplastic group also tended to have longer appendices, with an average length of 6.66 cm. Tumor diameter differed notably among groups ($p=0.0096$); mean sizes were 1.13 cm for NETs, 3.04 cm for LAMNs, and 2.90 cm for adenocarcinomas.

This study demonstrates that detailed histopathological examination of appendectomy specimens is not limited to confirming the diagnosis of acute appendicitis, but is also indispensable for the early diagnosis of clinically silent neoplasms and other incidental pathologies. The evaluation of morphometric parameters such as appendix length and tumour diameter strengthens the characterisation of lesions with a tendency to expand, such as LAMN, and fills an important gap in the literature. Our findings strongly support the routine histopathological examination of all appendectomy specimens as a requirement that directly influences clinical management.

Keywords:Acute appendicitis, Histopathology, Incidental

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4th International Congress of Medical and Health Sciences Studies

Histopathological Spectrum in Appendectomy Specimens: Retrospective Analysis

Merve AKAYDIN KILIÇ[1]

Abstract

Appendectomies are the most common type of acute abdominal surgery performed for acute appendicitis; however, unexpected and clinically significant additional pathologies may sometimes be detected. The aim of the study is to retrospectively evaluate the histopathological diagnosis distribution of cases undergoing appendectomy with a preliminary diagnosis of acute appendicitis. The study included a total of 611 cases who underwent appendectomy with a preliminary diagnosis of acute appendicitis at Sinop Atatürk State Hospital between 2020 and 2024. 64.8% of patients (n=396) were male, and 35.2% (n=215) were female. The age range of the cases was 3–94 years, with the majority concentrated in the young adult age group; the most common age ranges were 10–19 years (26.3%) and 20–29 years (22.9%). The most common diagnosis in histopathological examination was acute appendicitis, reported in 567 cases (92.7%). This was followed by lymphoid hyperplasia in 35 cases (5.7%) and fibrous obliteration in 7 cases (1.1%). When the pathological findings accompanying acute appendicitis cases were examined, peritonitis was detected in 246 cases (40.2%) and perforation in 75 cases (12.2%). Unexpected/clinically significant additional pathologies were detected in a total of 9 cases (1.4%). One case presented with adenocarcinoma, one with a neuroendocrine tumour, one with LAMN (low-grade appendiceal mucinous neoplasm), serrated lesions in 2 cases, endometriosis in 1 case, mucinous cystadenoma in 1 case, and Enterobius vermicularis in 2 cases. It was observed that almost all premalignant/malignant lesions seen apart from neuroendocrine tumours were in the adult age group. The detection of unexpected diagnoses in appendectomy specimens supports the necessity and importance of continuing routine histopathological examination of these samples.

Keywords: Appendectomy, Appendicitis, Lymphoid Hyperplasia, Malignancy, Enterobius Vermicularis

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4th International Congress of Medical and Health Sciences Studies

Histopathological Differential Diagnosis Of Balloon Cell Nevus: A Rare Case

Merve ÖZ[1]

Abstract

Balloon cell nevus is a rare variant of melanocytic nevus, reportedly accounting for less than 0.1% of all nevi. This entity, which can be diagnostically challenging, often presents a benign pigmented lesion clinically and can be easily confused with a typical nevus. Therefore, a definitive diagnosis is usually made by histopathological examination following dermatoscopic examination. Histopathologically, the lesion is characterized by a predominance of ballooned melanocytes with abundant, pale cytoplasm. These cellular features can sometimes mimic the degenerative changes seen in malignant melanoma, necessitating careful consideration in the differential diagnosis. Another important possibility to consider in the differential diagnosis is renal cell carcinoma (RCC) metastasis. Because RCC metastases can also exhibit cellular structures with clear cytoplasm, they may exhibit histological similarities to balloon cell nevus, particularly in small biopsies or in the absence of significant pigmentation. Therefore, immunohistochemical evaluation plays a critical role in the differential diagnosis. Balloon cell nevi are reported in the literature to occur most frequently on the trunk, extremities, and head and neck; however, there is no clear anatomic predilection. Because of their rarity and the histopathological confusion with other pigmented lesions, accurate identification of these lesions is crucial. This case report presents a rare case that presented suspicious features on clinical examination and was diagnosed as a balloon cell nevus after histopathological evaluation. The case discusses the diagnostic clues, differential diagnosis process, and relationship to the literature regarding this entity.

Keywords: Balon, melanositik, nevüs

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Calcaneal Congestive Syndrome: A Rare and Overlooked Cause of Chronic Heel Pain — A Case Report

Oğulcan ÖZKAN[1]
Tayfun AMAN[2]
Tuhan KURTULMUŞ[3]
Osman Yüksel YAVUZ[4]

Abstract

Calcaneal Congestive Syndrome is an emerging and uncommon cause of heel pain, characterized by persistent calcaneal bone marrow edema that often mimics more frequent pathologies such as Achilles tendinopathy, plantar fasciitis, and enthesopathic conditions. Because its clinical features overlap with these disorders, diagnosis may be delayed and typically requires advanced imaging modalities, particularly magnetic resonance imaging (MRI). This report presents a rare case of chronic, treatment-resistant calcaneal bone marrow edema managed successfully with percutaneous decompression.

A 55-year-old male presented with ongoing right heel pain following a fall from a height of approximately two meters. Initial radiographs showed no acute osseous injury; however, MRI demonstrated subcortical bone marrow edema at the infralateral calcaneus accompanied by soft-tissue edema, plantar muscular strain, and mild Achilles tendinopathy. Despite NSAIDs, analgesics, and 15 sessions of physical therapy, symptoms improved only temporarily and later recurred. Subsequent MRI scans revealed persistent and progressive bone marrow edema with microtrabecular fracture. Rheumatologic markers were negative, and conservative treatment over several months failed to achieve symptomatic resolution. The clinical and radiologic picture was consistent with Calcaneal Congestive Syndrome.

The patient underwent percutaneous calcaneal decompression under fluoroscopic guidance using 2.5-mm drill channels. The postoperative course was uneventful, with progressive weight-bearing achieved by day 25. Pain levels improved markedly (VAS 8/10 to 3/10), and functional scores increased substantially (AOFAS 54/100 to 87/100). A follow-up MRI was scheduled at two months to evaluate marrow response.

This case highlights the importance of considering Calcaneal Congestive Syndrome in persistent heel pain and suggests that percutaneous decompression may offer significant clinical benefit when conservative measures fail.

Keywords: Calcaneal Congestive Syndrome, Heel pain, Bone marrow edema, Calcaneus decompression, Microtrabecular fracture, Achilles tendinopathy, Chronic heel pain, Rare orthopedic conditions

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Comparison of Orthoroentgenography and Weight-Bearing Standard Knee Radiographs in the Evaluation of Knee Osteoarthritis and Determination of Surgical Indication

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Hubeyb ÜNAL[3]
Uğur Kerem ZOROĞLU[4]
Ömer GENÇOSMANOĞLU[5]
Osman Yüksel YAVUZ[6]
Tuhan KURTULMUŞ[7]

Abstract

Objective: Knee osteoarthritis (OA) is a degenerative joint disease that is directly affected by the mechanical alignment of the lower extremity, resulting in impaired load sharing, imbalance of loading on the medial or lateral compartment due to genetic or other predisposing factors, and cartilage loss from the joint surface. The aim of this study was to evaluate is there any significant difference between orthoroentgenography and weight-bearing standard knee radiographs in surgical decision-making among patients assessed for knee osteoarthritis.

Methods: Orthoroentgenograms and weight-bearing standard radiographs of patients over 55 years of age who presented with knee pain between 2019 and 2024 were retrospectively analyzed. Six orthopedic specialists blindly and randomly evaluated both imaging modalities, and determined surgical or conservative treatment options and Kellgren–Lawrence (KL) staging. Data were analyzed using SPSS 27.

Results: Surgical indication rates did not show differ statistically significantly between orthoroentgenograms and standard radiographs. Inter-expert agreement was assessed using Fleiss kappa coefficients, demonstrating perfect agreement for both imaging modalities. The number of surgical decision changes between radiographs decreased significantly with increasing experience.

Conclusion: Although orthoroentgenograms do not significantly alter surgical decision-making rates, they remain an important diagnostic tool for accurate assessment of the lower extremity mechanical axis and sensitivity of deformity analysis. When used in conjunction with standard radiographs, they are a complementary method that increases the reliability of surgical planning.

Keywords Orthoroentgenogram ,knee osteoarthritis, total knee arthroplasty, Kellgren–Lawrence grading, determining surgical indication

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4th International Congress of Medical and Health Sciences Studies

Impact of Surgical Timing on Early Postoperative Outcomes in Acetabular Fracture Surgery

Emre GÖÇER[1]

Abstract

This study aimed to evaluate the impact of surgical timing on early postoperative outcomes in patients undergoing operative treatment for acetabular fractures. A total of 46 patients were retrospectively analyzed and classified into early (<72 hours) and delayed (≥72 hours) surgery groups. Demographic variables, surgical delay, operation duration, mobilization timing, weight-bearing progression, and early postoperative complications were compared between groups. Early surgery was associated with significantly shorter operative time, earlier mobilization, and earlier achievement of full weight bearing. Although the incidence of early postoperative complications was lower in the early surgery group, the difference did not reach statistical significance, likely due to the modest sample size. These findings suggest that early surgical fixation may offer meaningful advantages in perioperative efficiency and functional recovery without increasing short-term complication risk. Larger prospective studies are warranted to validate the potential benefits of early intervention in acetabular fracture management.

Keywords: Acetabular Fracture; Surgical Timing; Early Fixation; Postoperative Outcomes

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4th International Congress of Medical and Health Sciences Studies

Evaluation of Preoperative Surgical Anxiety Using the Surgical Anxiety Questionnaire in Patients Scheduled for Knee and Hip Arthroplasty

Bünyamin ARI[1]

Abstract

This study aims to evaluate preoperative surgical anxiety levels in patients scheduled for elective total knee or hip arthroplasty using the Surgical Anxiety Questionnaire (SAQ). Preoperative anxiety in arthroplasty candidates is influenced by multiple factors, including concerns about the surgical procedure, anesthesia, postoperative pain, rehabilitation challenges, and potential loss of independence. Consistent with the existing literature, patients awaiting knee arthroplasty demonstrated higher anxiety levels compared to those preparing for hip arthroplasty. This elevated anxiety is thought to be associated with the longer and more demanding rehabilitation process following knee replacement, heightened expectations of postoperative pain, and uncertainty regarding functional recovery.

The study also examined the effects of individual characteristics—such as gender, age, educational level, chronic disease status, and prior surgical experience—on anxiety levels. Female patients, individuals with lower educational attainment, those without previous surgical experience, and patients with chronic comorbidities exhibited significantly higher anxiety scores. Additionally, anxiety levels tended to decrease with increasing age, whereas younger and middle-aged patients experienced greater anxiety, likely due to concerns related to work, social responsibilities, and postoperative role limitations.

Overall, the findings emphasize the importance of structured psychosocial assessment during the preoperative period. Tailored educational interventions, visual information materials, and individualized counseling may effectively reduce surgical anxiety and improve postoperative outcomes. The results also support the SAQ as a reliable and comprehensive tool for evaluating surgical anxiety in patients undergoing major joint arthroplasty.

Keywords: Surgical anxiety; knee arthroplasty; hip arthroplasty; preoperative period; SAQ; anxiety assessment.

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Combinatory Treatment of Enzalutamide and 1,25(OH)2D3 May Potently Reduce Prostate Cancer Cell Tumorigenesis via Synergistic Modulation of Androgenic Signaling

Yağmur DOĞANLAR [1]
Yalçın ERZURUMLU [2]

Abstract

Androgenic signaling plays a key role in the formation and progression of prostate cancer. Therefore, androgen deprivation therapy (ADT) is considered the gold standard approach for treating localized, advanced and metastatic prostate cancer. Flutamide and enzalutamide are widely used for this purpose. Although patients initially respond well to ADT, a significant percentage of patients develop resistance to treatment within approximately two years and die due to the aggressive and metastatic form of castration resistance prostate cancer. Thus, extremely important to elucidate new potential molecules and evaluate their synergistic effects with existing treatments. Recent studies have revealed that $1,25(OH)_2D_3$, the active metabolite of vitamin D, plays a regulatory role in androgenic signaling. Based on this, we aimed to investigate the synergistic anticancer effects of $1,25(OH)_2D_3$ and enzalutamide, an antiandrogenic agent, on prostate cancer cells in the present study. First, the effects of enzalutamide and $1,25(OH)_2D_3$ combination applications on the proliferation of androgen-responsive human prostate cancer LNCaP cells were investigated by the WST-1 test. Additionally, the effects of combinational administration on the levels of androgen receptor (AR) and nuclear translocation of AR under androgenic stimulation were tested by immunoblotting. It was determined that the proliferative capacity of prostate cancer cells was significantly limited by the combined administration of enzalutamide and $1,25(OH)_2D_3$. Moreover, combinatory treatment significantly reduced the protein expression of AR and restricted the nuclear translocation of AR protein compared to enzalutamide and $1,25(OH)_2D_3$ alone. The present *in vitro* findings suggest that the combined administration of enzalutamide and $1,25(OH)_2D_3$ may be a promising option that may contribute to the design of new therapeutic approaches in the treatment of prostate cancer.

Keywords: $1,25(OH)_2D_3$, Androgenic signaling, Enzalutamide, Prostate cancer

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4th International Congress of Medical and Health Sciences Studies

Multifunctional Pyrazole and Benzenesulfonamide Derivatives: Design, Synthesis, and Biological Evaluation

Mehtap TUGRAK SAKARYA[1]

Abstract

The present study focuses on the rational design, synthesis, and comprehensive biological evaluation of novel pyrazole and benzenesulfonamide derivatives as potential multifunctional therapeutic agents. Initially, core scaffolds based on pyrazole and benzenesulfonamide were selected due to their well-documented pharmacological relevance. A series of structural modifications were introduced to enhance enzyme selectivity and bioactivity. The synthesized compounds were purified and structurally confirmed through spectroscopic techniques, including nuclear magnetic resonance (NMR) and mass spectrometry (MS).

To investigate their enzyme inhibitory profiles, *in vitro* assays were carried out against a panel of clinically relevant enzymes: carbonic anhydrase (CA) isoforms, acetylcholinesterase (AChE), and monoamine oxidase A (MAO-A). These enzymes are closely associated with diseases such as glaucoma, Alzheimer's disease, and depression, making them significant pharmacological targets. The inhibition data were analyzed to determine the potency and selectivity of the compounds toward specific isoforms or enzyme classes [1-5].

Additionally, the cytotoxic potential of the compounds was evaluated using MTT assays against selected human cancer cell lines. IC_{50} values were calculated to assess their antiproliferative efficacy. In a parallel investigation, the antidiabetic potential was examined by evaluating the inhibition of carbohydrate-hydrolyzing enzymes, specifically α-glucosidase and α-amylase, which are critical in postprandial glucose regulation.

Structure–activity relationship (SAR) analyses were employed to correlate specific structural features with observed bioactivities. This analysis facilitated the identification of lead compounds exhibiting dual or multiple enzyme inhibition along with favorable cytotoxic and antidiabetic profiles. These multifunctional characteristics are particularly valuable for the development of therapeutic agents targeting complex diseases with multifactorial pathophysiology [1-5].

In conclusion, the study successfully identifies promising lead compounds that warrant further preclinical evaluation. The findings lay a foundation for subsequent optimization efforts and future *in vivo* studies aimed at developing effective therapeutic candidates with a broad spectrum of biological activity.

Acknowledgements: Thank you Prof.Dr. H. Inci GUL for financial support, Ataturk University (Erzurum, Turkey) for NMR spectra and Prof. Dr. I. Gulcin and Prof. Dr. H. Sakagami for biological tests.

Keywords:

Pyrazole derivatives, benzenesulfonamide, enzyme inhibition, cytotoxicity, synthesis, structure-activity relationship

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4th International Congress of Medical and Health Sciences Studies

Cytotoxic Activity of Seeds from Two Vincetoxicum Taxa against the HaCaT Cell Line

Sevda GÜZEL KARA[1]

Abstract

The genus *Vincetoxicum* Wolf (Apocynaceae; Asclepiadoideae) comprises approximately 140 species that are naturally distributed in Africa, Australia, Asia, and Europe[1]. Some species of the genus have been used in traditional medicine within Chinese and European treatment systems. Various members of the genus have been traditionally used to treat external cancers, injuries, swelling, cholera, asthma, ulcers, trauma, scabies, dysentery, snake/insect bites, leprosy, scorpion stings, and inflammation[2]. *Vincetoxicum* is one of the largest genera of the subfamily in Anatolia and is represented by 10 taxa, three of which are endemic to Turkey[3]. *V. fuscatum* subsp. *fuscatum* (Hornem.) Reichb. is known as "gavur biberi"[4], while *V. canescens* (Willd.) Decne. subsp. *pedunculata* Browicz (endemic) is known as "saplı zilasur" in Turkey[5]. The current study aims to investigate the cytotoxic effects of ethanol extracts from seeds of *V. canescens* subsp. *pedunculata* and *V. fuscatum* subsp. *fuscatum* that grow wild in Turkey. The cytotoxicity of seed extracts at different concentrations (0.25-1 mg/mL) was tested on the HaCaT cell line, an immortalized human keratinocyte model widely used for *in vitro* studies on skin biology, toxicity, and wound healing[2], using the MTT assay. All experiments were performed in triplicate, and the results were expressed as the mean ± SD. The 1 mg/mL concentration of the *V. canescens* subsp. *pedunculata* seed extract exhibited a cytotoxic effect on the HaCaT cell line, whereas no cytotoxic effect was observed at lower concentrations. In contrast, none of the tested concentrations of the *V. fuscatum* subsp. *fuscatum* seed extract showed any cytotoxic effect. To the best of our knowledge, this is the first report on the cytotoxic activity of ethanol extracts obtained from seeds of *V. canescens* subsp. *pedunculata* and *V. fuscatum* subsp. *fuscatum* against the HaCaT cell line.

Keywords: *Vincetoxicum*, seed, HaCaT cell line, MTT

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4th International Congress of Medical and Health Sciences Studies

Evaluation of the Distribution and Multidrug Resistance Rates of Microorganisms Isolated from Intensive Care Units: A Two-Year Retrospective Analysis

Soner KINA[1]
Nurullah ÇİFTÇİ[2]

Abstract

Antimicrobial resistance is a significant public health issue that increases morbidity, mortality, and treatment costs in intensive care units. Therefore, monitoring resistance patterns is crucial for the development of appropriate antibiotic usage policies. This study aims to determine the distribution of microorganisms isolated from intensive care units, identify the rates of multidrug resistance, and evaluate the clinical and demographic factors that may be associated with the development of resistance.

Between January 2023 and October 2025, 1529 strains isolated from samples sent from the Anesthesia and Reanimation Intensive Care Unit and Palliative Care Unit to the Medical Microbiology Laboratory were retrospectively examined. Bacterial identification was performed using conventional methods (catalase, coagulase, and other biochemical tests) and the VITEK 2 automated system. Antibiotic susceptibility testing was carried out according to EUCAST criteria using the Kirby-Bauer disk diffusion method and the VITEK 2 automated system. Statistical analyses were performed using SPSS 26.0 software.

Of the patients, 53.3% were male and 46.7% were female (815/714), with an average age of 72.54±13.76 years. The most frequently detected positive cultures were from urine (41.7%), blood (32.8%), and tracheal aspirates (22%). The most common microorganisms were, methicillin-resistant coagulase-negative Staphylococcus (MRCNS) (28%), *Escherichia coli* (16%), methicillin-sensitive coagulase-negative Staphylococcus (MSCNS) (10.4%), and *Klebsiella spp.* (10%), respectively. The rate of multidrug resistance was 6.0% (n=91). The most frequent resistant isolates were *Acinetobacter spp.* (48.4%), *Klebsiella spp*. (28.6%), and *Escherichia coli* (16.5%). Of the resistant cases, 83.5% occurred in the Anesthesia and Reanimation Intensive Care Unit, while 16.5% were seen in the Palliative Care Unit. The distribution of isolated microorganisms is presented in Table 1, and the distribution of positive samples is presented in Graph 1.

The findings indicate widespread drug resistance (XDR) detected in *Acinetobacter baumannii* and *Klebsiella pneumoniae* species in intensive care units. Other strains showed high rate of multidrug resistance (MDR). This result highlights the need for regular monitoring of antibiotic resistance patterns, strengthening infection control programs, and considering local resistance data in empirical treatment approaches.

Keywords: Microorganism, Antibiotic susceptibility testing, Multidrug resistance (MDR), Extensive drug resistance (XDR), Intensive care unit

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4th International Congress of Medical and Health Sciences Studies

Between Faith and Life: The Anesthesiologist's Difficult Decision in a Polytraumatized Jehovah's Witness Patient

Ertay Boran[1]

Abstract

In modern medicine, balancing patient rights, medical necessities, and individual beliefs often leads to complex ethical and legal dilemmas, especially in life-threatening situations. Jehovah's Witnesses (JWs), who categorically refuse blood and blood product transfusions due to their faith, represent a unique patient group that challenges clinicians to reconsider intervention boundaries. This presentation discusses the ethical dilemmas, legal responsibilities, and clinical management strategies faced by the anesthesiologist in a JW patient requiring emergency surgery due to polytrauma.

A 28-year-old female patient was admitted after a non-vehicular traffic accident with ischium-pubis fracture, right pneumothorax, lung contusion, and suspected intra-abdominal hemorrhage. Vital signs were stable. Diagnostic peritoneal lavage (DPL) was positive, prompting emergency surgical intervention. The patient identified herself as a JW and explicitly refused blood transfusion in writing. Subsequently, a repeat DPL was performed under sedation and analgesia, which was negative, and only a drain was placed. The patient remained clinically and laboratorily stable and was discharged uneventfully on postoperative day three.

In emergency surgical procedures involving JW patients, refusal of transfusion can lead to complications that impose not only clinical but also ethical and legal challenges on physicians [1,2]. In this case, the anesthesia and surgical teams considered alternative strategies such as erythropoietin, tranexamic acid, aprotinin, isovolemic hemodilution, and cell salvage [3,4].

According to the Turkish Ministry of Health Patient Rights Regulation, Article 21 mandates respect for patient preferences, whereas Article 24 allows intervention without consent in emergencies threatening life or vital organs [5]. The potential interpretational conflicts between these provisions may expose physicians to legal liability [6,7]. In such circumstances, thorough patient counseling, and documented informed consent are critical for clinicians.

Keywords: Jehovah's Witnesses, Refusal of blood transfusion,Medical ethics and patient rights

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4th International Congress of Medical and Health Sciences Studies

Metal Fume Fever: An Underrecognized Occupational Syndrome in Welding and Metalworking

Yusuf Samir HASANLI[1]

Abstract

Metal fume fever (MFF) is an acute syndrome that occurs following exposure to metal oxide fumes, often mimicking respiratory infections. Zinc oxide fumes are the most common cause, whereas copper, magnesium, tin, and cadmium are less frequently implicated.[1] Its pathogenesis involves activation of macrophages and epithelial cells, leading to increased interleukin-6 and -8 levels, cytokine activation, and systemic neutrophilia.[2] According to the U.S. Bureau of Labor Statistics, MFF is most frequently observed among welders, cutters, solderers, and smelting workers, with approximately 2,000 cases reported in 2020 among 420,000 workers in these occupations.[2] Epidemiological data in Türkiye are extremely limited. The syndrome typically presents with flu-like symptoms such as fever, chills, headache, myalgia, *metallic taste*, and abdominal discomfort. Symptoms usually appear 3-10 hours after exposure and resolve within a week. Re-exposure can trigger symptom recurrence, earning the nickname "*Monday morning fever*."[2] Laboratory tests are generally unnecessary for diagnosis, although leukocytosis and elevated acute-phase reactants may be observed, and chest radiographs are usually normal, with infiltrates or ARDS developing only rarely.[3] Differential diagnoses include cadmium pneumonitis, COVID-19, influenza, and other respiratory infections.[2] A thorough occupational history is essential for diagnosis, especially noting work as a welder in galvanizing operations, since overlooking this information can lead to missed diagnoses and continued exposure.[2] Management is mainly supportive, focusing on symptom relief with antipyretics and fluids, with most symptoms resolving within 12-48 hours.[2] Workplace evaluation by occupational health or industrial hygiene specialists is essential; workers should avoid inhaling fumes, maintain distance from smoke, and use appropriate personal protective equipment. Ventilation should be optimized, exhaust systems installed, safety training provided, and N95 respirators worn, as elastomeric half-mask, full-face, and powered air-purifying respirators may not offer equivalent protection. NIOSH recommends exposure limits of 5 mg/m³ for a 10-hour shift and 10 mg/m³ for short-term exposures.[2] Clinicians, particularly in emergency settings, must inquire about occupational exposure to prevent misdiagnosis. Given the self-limiting nature of MFF and potential leukocytosis or elevated acute-phase reactants, unnecessary antibiotics or antivirals should be avoided. The occurrence of MFF reflects insufficient workplace hygiene and safety measures and highlights the importance of comprehensive occupational risk assessment.

Keywords: Metal fume fever, Occupational exposure, Zinc oxide, Flu-like symptoms

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Evaluation of Systemic Inflammation Indices in Subclinical Hypothyroidism

Muhammet ATEŞ[1]

Abstract

Subclinical hypothyroidism (SCH) is a common endocrine disorder characterized by elevated serum thyroid-stimulating hormone (TSH) levels with normal free thyroxine (fT4) concentrations. Growing evidence suggests that even mild alterations in thyroid function may contribute to chronic low-grade inflammation and increased cardiometabolic risk. Hematological inflammatory indices derived from complete blood count parameters—such as the neutrophil-to-lymphocyte ratio (NLR), platelet-to-lymphocyte ratio (PLR), and the systemic immune-inflammation index (SII)—have emerged as practical, cost-effective markers for assessing systemic inflammatory status. However, data regarding these indices in patients with SCH remain limited.

This retrospective case–control study aimed to evaluate systemic inflammation indices in patients with SCH and compare them with euthyroid individuals. Medical records of 100 adults (50 SCH, 50 euthyroid controls) who presented to the Internal Medicine Outpatient Clinic of Adana City Training and Research Hospital between January 2023 and December 2024 were analyzed. Demographic variables, thyroid function tests, and complete blood count parameters were recorded. NLR, PLR, and SII values were calculated using established formulas. Group comparisons were performed using appropriate statistical tests, and correlations between TSH levels and inflammatory indices were assessed with Spearman's correlation analysis.

The SCH group showed significantly higher NLR, PLR, and SII values compared with the euthyroid control group ($p < 0.001$ for all). Furthermore, serum TSH levels exhibited strong positive correlations with NLR ($r = 0.9996$), PLR ($r = 0.5673$), and SII ($r = 0.7829$). These findings demonstrate that SCH is associated with elevated systemic inflammatory activity, even in the absence of overt hypothyroidism.

In conclusion, simple hematological inflammation indices may serve as useful markers for detecting early inflammatory changes in patients with SCH. Their strong association with TSH highlights the potential role of thyroid function in modulating systemic inflammation and may support their use in clinical monitoring and risk stratification.

Keywords: Subclinical hypothyroidism, systemic inflammation, neutrophil-to-lymphocyte ratio, platelet-to-lymphocyte ratio, systemic immune-inflammation index, thyroid function, inflammatory biomarkers

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4th International Congress of Medical and Health Sciences Studies

Lactobacillus Reuteri DSM 17648 Kaynaklı Postbiyotik İlavesinin Helicobacter *Pylori* Eradikasyon Tedavisine Katkısı: Retrospektif Bir Değerlendirme

Nagihan AKKAŞ[1]

Abstract

Helicobacter pylori (H. pylori), peptik ülserler, kronik gastrit ve mide kanseri ile ilişkili, dünya çapında yaygın görülen kronik bir enfeksiyondur. Antibiyotik direncinin artması ve tedaviye bağlı yan etkiler, eradikasyon başarısını artırmak için tamamlayıcı yaklaşımları gerekli kılmaktadır. Biyoaktif özelliklere sahip inaktive bakteri bileşenlerini içeren postbiyotikler, probiyotiklere alternatif olarak öne çıkmakta; eradikasyon oranlarını artırma ve gastrointestinal yan etkileri azaltma potansiyeli taşımaktadır. Bu çalışmanın amacı, H. pylori eradikasyonunda standart antibiyotik tedavisine postbiyotik eklenmesinin etkinlik, yan etki profili ve laboratuvar parametreleri üzerindeki etkilerini değerlendirmektir.

Bu retrospektif çalışmaya, sadece antibiyotik tedavisi alan (n=125) veya antibiyotik ile birlikte günde bir kez postbiyotik (Lactobacillus reuteri DSM 17648 10 x 109 KOB) desteği verilen (n=197) toplam 322 hasta (%57,5 kadın, %42,5 erkek, ortalama yaş 40,2 ± 10,4 yıl) dâhil edildi. Demografik verileri kaydedilen hastaların tedavi öncesi ve tedavi sonrası klinik, laboratuvar, dışkıda H. pylori antijeni, endoskopik ve histolojik verileri değerlendirildi.

Antibiyotik (n=125) ve antibiyotik + postbiyotik (n=197) grupları arasında yaş, cinsiyet ve ek hastalık dağılımı benzerdi (tüm p > 0,05). Tüm hastalarda yan etki skorları düşük düzeydeydi (medyan 0,0), ancak %23,6'sı tedaviyi yarıda bıraktı. Tedavi sonrasında dışkıda *Helicobacter pylori* pozitifliği, antibiyotik tedavisi alan grupta %4,0 (n=5) oranında saptanırken, antibiyotik + postbiyotik kombinasyonu alan grupta hiç görülmedi; bu fark istatistiksel olarak anlamlı bulundu (p=0.002). Tedavi sonrası endoskopi pozitifliği ise erkeklerde daha yüksek bulundu (%9,5 vs. %4,9; p = 0,039). Tedavi sonrası endoskopi pozitifliği antibiyotik grubunda anlamlı derecede daha yüksekti (%10,4 vs. %4,6; p = 0,016). Tedaviyi bırakma oranı antibiyotik grubunda %27,2 iken kombine grupta %21,3 olup istatistiksel olarak farklı değildi (p = 0,282). Tedavi öncesi dışkıda Helicobacter pozitifliği antibiyotik grubunda biraz daha yüksekti (%83,2 vs. %77,2) ancak fark anlamlı değildi (p = 0,243). Patoloji sonuçları her iki grupta benzerdi (p = 0,586). Laboratuvar değerleri incelendiğinde, tedavi öncesi ferritin düzeyleri antibiyotik + postbiyotik grubunda daha yüksek bulundu (80 vs. 56 ng/mL; p = 0,048).

H. pylori eradikasyonu için standart antibiyotik tedavisine postbiyotik eklenmesi, tedavi etkinliğini anlamlı şekilde artırmış, kalıcı endoskopik bulguları azaltmış ve ek yan etkiye yol açmamıştır. Ayrıca, mikro besin düzeylerindeki artış, postbiyotik desteğinin genel hasta sonuçlarını iyileştirmedeki potansiyel rolünü desteklemektedir. Bu bulgular, postbiyotiklerin güncel tedavi protokollerine güvenli ve etkili bir destekleyici ajan olarak entegre edilmesinin değerini ortaya koymaktadır.

Keywords: Antibiyotik tedavisi, Eradikasyon, *Helicobacter pylori*, *Lactobacillus reuteri*, Postbiyotikler

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4th International Congress of Medical and Health Sciences Studies

Impact of Structured Cardiac Rehabilitation on Cardiometabolic Risk and Body Composition: Assessment by Bioelectrical Impedance Analysis

Mucahit YETİM [1]

Abstract

Cardiac rehabilitation (CR) is an evidence-based secondary-prevention strategy known to improve functional capacity and modify cardiovascular risk. However, its effects on detailed body composition parameters remain insufficiently characterized. This retrospective study evaluated the impact of a 12-week structured CR program on cardiometabolic biomarkers and comprehensive body composition indices using bioelectrical impedance analysis (BIA) in a real-world cohort of patients with cardiovascular disease.

A total of 452 patients (mean age 56.6 ± 9.4 years; 54.2% male) who completed the full CR program were included. Baseline comorbidities were frequent, including hypertension (63.7%), dyslipidemia (58.8%), diabetes mellitus (35.2%), and smoking (49.1%). The CR intervention incorporated supervised aerobic and resistance exercise sessions three times per week, alongside nutritional counseling and risk-factor optimization. Laboratory parameters and BIA-derived measurements were obtained before and after the program.

CR produced consistent improvements in lipid metabolism: total cholesterol decreased from 182.8 ± 46.6 to 166.3 ± 52.8 mg/dL, triglycerides from 144 to 111 mg/dL, and LDL from 105.5 ± 38.6 to 92 ± 41.3 mg/dL (all $p < 0.001$). HDL increased modestly without reaching statistical significance. Glycemic control improved, with a reduction in HbA1c from 6.2 to 6.1% ($p < 0.001$), while fasting glucose remained unchanged. BNP levels declined significantly (62 to 56 pg/mL, $p < 0.001$), indicating reduced ventricular wall stress. CRP and renal function markers showed no meaningful change. Body composition demonstrated favorable shifts, particularly in adiposity-related variables. Weight (80.7 to 79.5 kg), BMI (30.0 to 29.6 kg/m²), body fat percentage (30.5% to 29.9%), fat mass (24.9 to 24.2 kg), and visceral fat index all decreased significantly (all $p < 0.001$). These changes suggest effective reduction of both global and central adiposity. Nonetheless, lean body mass and muscle mass exhibited small but statistically significant decreases, underscoring a limitation of CR programs that emphasize aerobic over resistance modalities. Hydration parameters improved, with total body water percentage increasing and extracellular-to-total water ratio decreasing, suggesting improved fluid distribution.

In conclusion, structured CR resulted in significant improvements in lipid profile, HbA1c, BNP, and multiple body composition indices, particularly fat mass and visceral adiposity. The parallel decrease in lean and muscle mass highlights the need to reinforce resistance-training and nutritional strategies within CR protocols to preserve skeletal muscle while achieving cardiometabolic benefits. These findings support the broad metabolic and physiological value of CR and underline the importance of detailed body-composition monitoring to guide individualized rehabilitation strategies.

Keywords: Cardiac rehabilitation; body composition; bioelectrical impedance analysis; fat mass; lean mass.

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Prevalence and Angiographic Characteristics of Coronary Artery Anomalies in a High-Volume Tertiary Center: A 12-Year Retrospective Analysis

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Abstract

Coronary artery anomalies constitute a heterogeneous group of congenital variations with potential clinical importance, ranging from benign incidental findings to lesions associated with myocardial ischemia, arrhythmia, or sudden cardiac death. Their reported prevalence varies widely across populations. Regional data from large angiographic cohorts remain limited. This study aimed to determine the frequency and distribution of coronary anomalies in a high-volume tertiary center over a 12-year period.

This single-center retrospective study reviewed all coronary angiograms performed between 2013 and 2025. A total of 51,000 consecutive procedures were screened. To avoid duplication, only one angiogram per patient was included when multiple studies existed. Coronary anomalies of interest were exit anomalies (origin anomalies), coronary fistulas, muscular bridges, and other structural variants. All verified anomalies were entered into a dedicated dataset, and frequency analyses were performed to determine overall and subtype-specific prevalence.

A total of 401 (0.79%) coronary anomalies were identified. Of these, 201 were classified as coronary origin anomalies, 151 as myocardial bridges, 29 as coronary fistulas, 18 as dual left anterior descending (LAD) artery variants, and 2 as dual circumflex artery. Coronary origin anomalies represented the largest subgroup. Within this category, LAD artery arising from the right coronary cusp was observed in five individuals. Circumflex artery arising from the right side was present in 53 cases, while an anomalous left main coronary artery originating from the right side was documented in 11 individuals. Separate ostial origin of the LAD and circumflex artery was identified in 89 cases. Additionally, 34 individuals demonstrated a right coronary artery originating from the left coronary cusp, and 9 cases exhibited a duplicated right coronary artery. Among the 29 coronary fistulas recorded, fistulous connections between the right coronary artery and the pulmonary artery accounted for 8 cases. A total of 17 individuals demonstrated a fistula between the LAD and the pulmonary artery. Four cases involved a fistulous connection between the circumflex artery and the pulmonary artery.

Coronary origin anomalies were the most common findings, followed by myocardial bridges. Coronary fistulas and dual LAD variants occurred less frequently. The relatively high number of separate LAD–circumflex ostia and right-sided circumflex origins is consistent with known patterns of benign congenital variants described in previous studies. These region-specific data contribute to the epidemiological understanding of coronary artery anomalies and may support future investigations focusing on their clinical implications, angiographic characteristics, and potential relevance in risk stratification.

Keywords: Coronary artery anomalies; Myocardial bridging; Coronary fistula; Anomalous coronary origin; Dual LAD

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4th International Congress of Medical and Health Sciences Studies

Age-Related Ldl Cholesterol Dynamıcs And Cumulatıve Atherogenıc Exposure: A Comprehensıve Evıdence Synthesıs

Ahmet YILMAZ[1]

Abstract

Low-density lipoprotein cholesterol (LDL-C) is a fundamental causal factor in atherosclerosis, yet accumulating evidence indicates that its cardiovascular impact varies across the lifespan. Recently, cumulative LDL exposure—particularly the "cholesterol-years" metric (age × LDL-C)—has emerged as a more physiologically meaningful indicator of lifetime atherogenic burden than single LDL-C measurements. Understanding how age modifies LDL-related cardiovascular risk is essential for optimizing preventive strategies.

This systematic review synthesizes contemporary evidence on the interaction between age, LDL-C, and cardiovascular outcomes, with emphasis on cumulative exposure metrics and age-specific risk patterns across diverse study designs.

A systematic search was conducted using Google Scholar, PubMed, Semantic Scholar, and OpenAlex databases. From 50 retrieved studies, 10 met predefined inclusion criteria. These included three prospective cohorts, three cross-sectional analyses, one case-control study, one registry-based analysis, one intravascular ultrasound (IVUS) study, and one pooled cohort analysis. Extracted variables included population characteristics, LDL-C measurement methods, cumulative exposure metrics, age-stratified effect sizes (HR, OR, RR), and cardiovascular endpoints such as myocardial infarction (MI), ASCVD events, coronary artery calcium (CAC), and plaque progression.

Two studies directly quantified cumulative LDL exposure. Dyrbuś et al., analyzing 35,747 first MI patients, showed that exceeding 6,000 cholesterol-years at age 40 markedly increased MI risk. Domanski et al., using CARDIA cohort data (n=4,958), demonstrated that cumulative LDL area-under-the-curve independently predicted cardiovascular events (HR 1.053 per 100 mg/dL × years) and that earlier-life accumulation conferred substantially greater risk. Several large cohorts demonstrated that although LDL-C remains a predictor of cardiovascular risk across all ages, its relative effect size diminishes with advancing age. Xiao et al. reported a decline in LDL-associated coronary risk from HR 1.35 in individuals <50 years to 1.08 in those ≥65 years. Paramsothy et al. found similar attenuation in CAC risk. Conversely, Jung et al. observed no significant age–LDL interaction (p=0.489), and Hartmann et al., using serial IVUS, demonstrated persistent LDL-related plaque progression across age tertiles. Additional findings included age-related increases in oxidized LDL, inflammatory markers, and reductions in LDL particle size.

Evidence consistently indicates that both the magnitude and duration of LDL exposure critically determine cardiovascular risk. Cumulative metrics such as cholesterol-years provide superior risk prediction compared with isolated LDL-C measurements. Importantly, LDL exposure accumulated earlier in life confers disproportionately higher long-term cardiovascular risk, underscoring the need for early and sustained LDL-lowering interventions. These findings support a shift toward assessing lifelong LDL burden in preventive cardiology.

Keywords: LDL cholesterol, age interaction, cholesterol-years, cumulative exposure, cardiovascular risk.

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4th International Congress of Medical and Health Sciences Studies

Melatonin Attenuates Vancomycin-Associated Cerebral Cortical Injury via Suppression of TLR4-Mediated Neuroinflammatory Pathways

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Betül YALÇIN[2]
Özlem ÖZ GERGİN[3]

Abstract

Vancomycin is a potent glycopeptide antibiotic widely used for the treatment of severe Gram-positive infections, and it has been reported to induce neurotoxic effects under certain conditions. Melatonin (MLT) is an endogenous hormone secreted by the pineal gland and has strong antioxidant and anti-inflammatory properties, suggesting a neuroprotective potential within the central nervous system. The present study aimed to determine vancomycin-induced histopathological damage and neuroinflammatory responses in the rat cerebral cortex and to evaluate the therapeutic effects of MLT initiated after vancomycin administration.

Adult Wistar albino rats were randomly assigned to four groups: Control, MLT, Vancomycin, and melatonin administered after vancomycin (Vancomycin+MLT). Vancomycin was administered intraperitoneally (i.p.) twice daily for seven days. After completion of vancomycin exposure, MLT treatment was started and continued i.p. once daily for seven days. At the end of the experiment, animals were sacrificed and brain tissues were harvested. Cortical histopathology was assessed using hematoxylin–eosin (H&E) staining, and cortical parenchymal vacuolization and neuronal degeneration were semi-quantitatively scored. Neuroinflammation was evaluated immunohistochemically by analyzing Toll-like receptor 4 (TLR4) immunoreactivity and ionized calcium-binding adaptor molecule 1 (IBA-1) immunoreactivity as a marker of microglial activation.

H&E-stained sections revealed a significant increase in cortical parenchymal vacuolization scores in the vancomycin group compared with the control and MLT groups, whereas post-vancomycin MLT treatment markedly and significantly reduced this elevation. Neuronal degeneration scores were also significantly higher in the vancomycin group than in the control and MLT groups, and MLT treatment significantly attenuated this increase. Immunohistochemical analysis demonstrated that TLR4 immunoreactivity was significantly elevated in the vancomycin group relative to the control and MLT groups; MLT treatment significantly decreased TLR4 levels consistent with histopathological findings. IBA-1 immunoreactivity increased significantly in the vancomycin group, and although MLT treatment lowered this increase, the reduction did not reach statistical significance.

Vancomycin administration induces prominent histopathological injury in the rat cerebral cortex and is associated with an enhanced TLR4-mediated neuroinflammatory response. MLT treatment initiated after vancomycin exposure exerts a therapeutic neuroprotective effect by significantly reducing cortical parenchymal vacuolization and neuronal degeneration and by suppressing TLR4 related inflammatory activation. These findings support melatonin as a potential therapeutic agent against vancomycin-associated central nervous system toxicity.

Keywords: Vancomycin, Melatonin, Neuroinflammation, Toll-like receptor 4, Microglia

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4th International Congress of Medical and Health Sciences Studies

Histopathological Evaluation of the in vivo Efficacy of Candidate Antioxidant Molecules in the Treatment of Experimental Autoimmune Prostatitis

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Yasin Ali ÇİMEN [2]
Şule ÇETİNEL [3]

Abstract

Experimental autoimmune prostatitis (EAP) is characterized by chronic inflammation, epithelial degeneration, stromal expansion, and progressive fibrosis in prostate tissue. This study aimed to evaluate the histopathological and immunohistochemical changes induced by EAP and to compare the therapeutic effects of curcumin, thymoquinone (TQ), vitamin E, and a combined treatment protocol (PK). Male rats (*n = 8 per group*) were assigned to control, EAP model, vehicle, TQ, curcumin, PK, and vitamin E groups. Prostate tissues were examined using hematoxylin–eosin (H&E) staining to assess inflammatory and structural alterations, Masson's trichrome staining to evaluate collagen deposition and fibrosis, and TGF-β immunohistochemistry to determine fibrogenic pathway activation. Histopathological and immunohistochemical findings were evaluated qualitatively. The EAP model and vehicle groups exhibited severe epithelial distortion, intense inflammatory infiltration, marked stromal expansion, and prominent collagen accumulation. TGF-β immunoreactivity was strongly elevated, corresponding to active fibrotic remodeling. In comparison, antioxidant treatments produced noticeable improvements with varying degrees of recovery. TQ treatment moderately reduced inflammation, fibrosis, and TGF-β expression. Curcumin demonstrated more pronounced restoration of glandular architecture and stromal organization, although TGF-β activity persisted at a moderate level. PK treatment showed substantial protective effects, characterized by improved epithelial integrity, reduced collagen deposition, and diminished TGF-β expression. Vitamin E yielded the most significant therapeutic benefit, with nearly normal histological appearance, minimal fibrosis, and markedly suppressed TGF-β immunoreactivity. Integrated histological and immunohistochemical assessment revealed that antioxidant-based therapies alleviate EAP-induced prostate damage by reducing inflammation, limiting fibrosis, and downregulating TGF-β–associated pathways. Among the investigated agents, vitamin E provided the strongest protective effect, followed by PK and curcumin, while TQ exerted moderate efficacy. These findings suggest that vitamin E, in particular, may represent a promising therapeutic approach for conditions involving autoimmune-driven prostatic inflammation and remodeling.

Keywords: Experimental Autoimmune Prostatitis, Prostate, İnflammation, Histopathology

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4th International Congress of Medical and Health Sciences Studies

Exosomes in Tissue Microarchitecture Remodeling: A Histopathology-Focused Synthesis Across Cartilage, Tendon, Bone, and Skin

Neziha Senem ARI[1]

Abstract

Exosomes are extracellular vesicles that function as potent biological regulators in the remodeling of tissue microarchitecture. This study provides a histopathology-focused comparative synthesis of exosome-mediated regenerative processes in cartilage, tendon, bone, and skin, highlighting both shared and tissue-specific mechanisms. Through their diverse cargo—including miRNAs, mRNAs, proteins, and lipids—exosomes influence key biological pathways such as cellular proliferation, differentiation, immune modulation, and extracellular matrix (ECM) turnover, ultimately contributing to measurable structural improvements at the microscopic level.

In cartilage, exosomes enhance proteoglycan content and type II collagen deposition, reduce surface fibrillation, and promote more organized chondrocyte alignment. Tendon tissues exhibit improved type I collagen fiber orientation, normalization of tenocyte morphology, and restoration of the MMP/TIMP balance. In bone, exosomes help re-establish osteoblast–osteoclast homeostasis, increase osteoid formation, and reinforce lamellar structural integrity. In skin, accelerated re-epithelialization, more mature granulation tissue, and better-organized collagen bundles underscore their regenerative potential.

A unifying mechanism across all tissues is the ability of exosomes to modulate macrophage polarization toward the reparative M2 phenotype, facilitating the resolution of inflammation and promoting the development of a pro-angiogenic microenvironment. These immunomodulatory and pro-regenerative effects collectively support tissue stability and structural recovery.

Overall, this synthesis demonstrates that exosomes act as versatile biological tools capable of restoring histological integrity, stabilizing tissue microarchitecture, and enhancing intrinsic repair processes. The findings underline the substantial translational promise of exosome-based therapeutic strategies in regenerative medicine.

Keywords: Exosomes; Histopathology; Tissue microarchitecture; Cartilage; Tendon; Bone; Skin

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Megaureter Wall Histopathology: Comparative Analysis of Distal Cajal Cell Reduction, Nerve Fibers, and Fibrosis

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Basak UCAN[2]
Irfan KARACA[3]

Abstract

The aim of this study was to better elucidate structural and functional alterations of the ureteral wall in children with megaureter by histopathologically and immunohistochemically comparing distal Cajal-like cell (CLC) density, nerve fiber distribution (S100), and the degree of fibrosis in primary obstructive megaureter (POM) and vesicoureteral reflux (VUR)-associated refluxing megaureter.

A total of 43 ureteral specimens obtained from 34 children (11 girls, 23 boys; mean age 6.1 years) who underwent surgery for POM or VUR were retrospectively analyzed. Tissue samples from the ureterovesical junction (UVJ) and distal narrowed segment were evaluated using hematoxylin–eosin and Gomori trichrome staining; S100 and c-Kit antibodies were used for immunohistochemical assessment. S100-positive nerve fibers and Cajal-like cells were quantified as the mean counts of three high-power fields, while fibrosis was semi-quantitatively scored between 0 and 3. Differences among the POM, VUR, and control groups were analyzed using nonparametric tests, and correlations between fibrosis and S100/CLC density were assessed with Spearman correlation.

At the UVJ, both S100-positive nerve fiber density (7.2 vs. 10.8; p=0.028) and CLC counts (4.52 vs. 5.82; p=0.005) were significantly decreased in the VUR group compared with controls, accompanied by markedly increased fibrosis (p<0.001). Similarly, in POM, S100 (5.42 vs. 10.8; p=0.001) and CLC density (4.73 vs. 5.82; p=0.019) were significantly reduced, and fibrosis was more frequent (p=0.046). When POM and VUR were compared, nerve fiber density showed a borderline but non-significant difference (p=0.065), whereas CLC counts were similar (p=0.89). In POM, nerve fiber density did not differ between the dilated and narrowed segments (p=0.553), whereas CLC density showed a significant proximal-to-distal decline (p=0.015). Tapering procedures had no significant effect on S100 or CLC counts (p>0.05). No correlation was detected between fibrosis scores and S100/CLC density.

The presence of marked Cajal cell reduction, nerve fiber loss, and fibrotic remodeling in both POM and VUR indicates a shared histopathological endpoint involving simultaneous disruption of the neuromuscular network and stromal architecture of the distal ureter. The pronounced distal Cajal cell depletion may contribute to segmental peristaltic dysfunction. These findings highlight the importance of ureteral wall histopathology in evaluating functional obstruction in children with megaureter and suggest that surgical strategies should consider not only anatomical narrowing but also the functional integrity of the ureteral wall.

Keywords: Primary obstructive megaureter; vesicoureteral reflux; Cajal cells; immunohistochemistry; ureteral motility; fibrosis.

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Association Between Functional Bladder Capacity and Enuresis Severity in Children With Primary Monosymptomatic Nocturnal Enuresis

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Basri ÇAKIROĞLU[2]

Abstract

This study aimed to investigate the relationship between functional bladder capacity (FBC) and enuresis severity, and to assess the impact of reduced FBC on treatment response in children diagnosed with primary monosymptomatic nocturnal enuresis (PMNE).

A total of 148 children (102 boys, 46 girls) diagnosed with PMNE between 2015 and 2024 were retrospectively analyzed. FBC was calculated from the maximum voided volume recorded in a 3-day bladder diary and compared with the expected bladder capacity (EBC). Enuresis severity was classified as mild (1–2 wet nights/week), moderate (3–5), or severe (≥6).

A significant negative correlation was found between FBC and the number of wet nights per week ($r = –0.62$, $p < 0.001$). Children with reduced FBC (<70% of EBC) had a significantly lower response rate to desmopressin treatment compared with those with normal FBC (48% vs. 78%, $p = 0.02$).

Reduced functional bladder capacity is closely associated with both enuresis severity and poor treatment response. Routine evaluation of FBC can aid in individualized management and optimization of therapy in children with PMNE.

Keywords: nocturnal enuresis, bladder capacity, desmopressin, pediatric urology, functional bladder

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4th International Congress of Medical and Health Sciences Studies

Survival in Cancer Patients in Intensive Care: The Effect of Anatomical Site, Clinical Status, and Admission Diagnosis

Pervin HANCI[1]
Faruk YILDIZ[2]

Abstract

This study aimed to investigate the relationship between the characteristics of cancer patients admitted to the intensive care unit (ICU) and their survival time, focusing on the anatomical location of the cancer, disease stage, and reasons for ICU admission.

The data of 315 cancer patients admitted to the internal medicine and respiratory intensive care units at Trakya University Faculty of Medicine between January 2024 and January 2025 were retrospectively examined. The patients' demographic characteristics, Charlson comorbidity indices, Acute Physiology and Chronic Health Evaluation II (APACHE-II) score, Sequential organ failure assessment (SOFA) score, the anatomical site of the cancer; their status (new diagnosis, remission, progression, recurrence, under active treatment), ICU admission diagnosis, length of stay in intensive care, and 90-day mortality were recorded.

The median age was 67 [61-75] years, and the mortality rate was 68.6%. When patients were grouped into survivors and non-survivors, the CCI ($p = 0.002$), APACHE-II ($p < 0.001$), and SOFA scores ($p = 0.001$) were lower in survivors than in non-survivors (Table 1). Groups differed in terms of cancer status ($p = 0.006$) and ICU admission diagnosis ($p < 0.001$). Cancer site affected survival (Log-Rank $\chi^2=4.186$, $p=0.041$) (Figure 1): the shortest mean survival was in gastrointestinal cancers (29.7 ± 3.93 months, 95% CI: 22.0–37.4), and the longest in head and neck cancers (50 ± 8.05 months, 95% CI: 34.2–65.8). Survival also varied significantly by cancer status (Log-Rank $\chi^2=17.486$, $p=0.002$) (Figure 2), with the remission group showing the longest mean survival (56.5± 4.7 days, 95% CI: 47.2–65.9) and the progression group the shortest (29.0± 3.6 days, 95% CI: 21.8–36.2). ICU admission diagnosis impacted 90-day survival too (Log-Rank $\chi^2=43.3$, $p<0.01$) (Figure 3); postoperative cases had the longest survival (75.7 days, 95% CI: 68.13 – 83.43), while cases with gastrointestinal emergencies (4, 95% CI: 1.23-6.77) and multiple organ failure had the shortest (1 day).

Cancer patients in ICU survive longer or shorter depending on disease status, location, and admission reason. Patients with progressing disease, gastrointestinal tumours, multiple organ failure, and emergencies have less survival time. These insights can guide prognosis and clinical decisions for oncology patients in ICU.

Keywords: Neoplasms; Survival Rate; Prognosis; Intensive Care Units

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4th International Congress of Medical and Health Sciences Studies

Impact of Hemoperfusion on Inflammatory Biomarkers in Septic Patients

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Yasemin ÇELİK[2]
Zafer ÇUKUROVA[3]

Abstract

Due to high mortality rates in sepsis and septic shock despite all treatments hemoperfusion proposed as alternative therapy in sepsis through decrease the level of circulating inflammatory mediators [1]. Evidence regarding hemoperfusion methods effect on biochemical factors remains limited.

After ethics committee approval this prospective study has done in Bakırköy Dr. Sadi Konuk Training and Research Hospital, Anesthesia and Reanimation ICU between October 2024 – August 2025. We included 18 patients with sepsis and septic shock diagnosis and treated with Jafron-HA330 hemoperfusion during their admission in ICU. Serum IL-6, TNF-α, IL-1β, C-reactive protein (CRP), and procalcitonin levels were measured before hemoperfusion, and at 12 and 24 hours afterward. The primary outcome of the study was reduction in IL-6, TNF-α and IL-1β levels, secondary outcome was decrease in CRP and procalcitonin levels after the therapy.

No statistically significant difference was found in IL-6, TNF-α, IL-1β and CRP levels between before starting to treatment, 12 and 24 hours after hemoperfusion (all $p > 0.05$). There was a statistically significant reduction in procalcitonin levels between before treatment and 24 hours after treatment ($p = 0.0093$).

In this small prospective cohort, HA-330 hemoperfusion did not lead to measurable short-term biochemical improvement in inflammatory cytokines or infection markers in patients with septic shock. Larger studies are needed to clarify the potential clinical impact of hemoperfusion therapies.

Keywords: Hemoperfusion, Sepsis, Septic Purification

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4th International Congress of Medical and Health Sciences Studies

What Lies Beneath the Stone? Metabolic Insights from Composition-Based Analysis of Kidney Stones

Basri Çakiroğlu
Ali Egemen Avcı

Abstract

Due to high mortality rates in sepsis and septic shock despite all treatments hemoperfusion proposed as alternative therapy in sepsis through decrease the level of circulating inflammatory mediators [1]. Evidence regarding hemoperfusion methods effect on biochemical factors remains limited.

After ethics committee approval this prospective study has done in Bakırköy Dr. Sadi Konuk Training and Research Hospital, Anesthesia and Reanimation ICU between October 2024 – August 2025. We included 18 patients with sepsis and septic shock diagnosis and treated with Jafron-HA330 hemoperfusion during their admission in ICU. Serum IL-6, TNF-α, IL-1β, C-reactive protein (CRP), and procalcitonin levels were measured before hemoperfusion, and at 12 and 24 hours afterward. The primary outcome of the study was reduction in IL-6, TNF-α and IL-1β levels, secondary outcome was decrease in CRP and procalcitonin levels after the therapy.

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Keywords: Hemoperfusion, Sepsis, Septic Purification

4th International Congress of Medical and Health Sciences Studies

Role of Artificial Intelligence in Male Infertility: A Contemporary Overview

Kadir BÖCÜ

Abstract

Artificial intelligence (AI) has rapidly become an essential component of modern reproductive medicine, offering transformative opportunities in the diagnosis and management of male infertility. Traditional diagnostic tools—such as semen analysis, hormonal evaluation, and targeted genetic tests—are often limited by subjectivity, inter-observer variability, and insufficient predictive power. Recent AI-driven technologies address these challenges by providing objective, reproducible, and high-accuracy assessments.

Machine learning (ML) and deep learning (DL) algorithms can analyze large datasets of sperm images, motility videos, hormonal profiles, and genetic markers to detect subtle abnormalities that clinicians may overlook. Convolutional neural networks (CNNs) now achieve accuracy rates exceeding 95% in assessing sperm morphology and motility, outperforming experienced embryologists. AI systems can also non-invasively predict sperm DNA fragmentation from images, eliminating the need for invasive biochemical assays.

In assisted reproductive technologies (ART), AI supports personalized decision-making by optimizing stimulation protocols, improving sperm and oocyte selection, predicting embryo viability using time-lapse imaging, and forecasting clinical pregnancy and live-birth outcomes. Such tools standardize laboratory workflows, minimize operator bias, and can enhance success rates across IVF and ICSI cycles.

Despite these promising advances, ethical considerations—including data privacy, algorithmic bias, transparency, and regulatory variability—remain key issues. Ensuring responsible and equitable integration of AI will be essential for its broader adoption in clinical andrology.

In summary, AI represents a powerful catalyst for precision, efficiency, and accessibility in male infertility care, positioning itself as a crucial component of next-generation reproductive medicine.

Keywords: Artificial intelligence, Male infertility, Semen analysis, Machine learning, Assisted reproduction techniques.

4th International Congress of Medical and Health Sciences Studies

Current Evidence-Based Approaches in the Diagnosis and Management of Lower Extremity Deep Vein Thrombosis

Emced khalil[1]

Abstract

Background: Lower extremity deep vein thrombosis (DVT) is a common form of venous thromboembolism associated with significant morbidity and mortality. Early diagnosis and treatment are essential to prevent pulmonary embolism and post-thrombotic syndrome. Objective: This study aims to summarize the epidemiology, risk factors, diagnostic approach, and current treatment strategies of lower extremity DVT. Methods: Current international guidelines were reviewed to outline diagnostic steps, imaging methods, and therapeutic options. Results: The most frequent risk factors include immobilization, surgery, malignancy, and hypercoagulability. Wells score, D-dimer testing, and Doppler ultrasonography remain primary diagnostic tools. Direct oral anticoagulants are the preferred treatment, while LMWH or interventional therapy is required in special cases. Conclusion: Lower extremity DVT is a manageable condition when diagnosed promptly, reducing the risk of serious complications with guideline-based therapy.

Keywords: Deep Vein Thrombosis; Lower Extremity; Venous Thromboembolism; Doppler Ultrasound; Anticoagulation

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4th International Congress of Medical and Health Sciences Studies

Injuries in Cycling: Epidemiology, Causes, Biomechanical Factors and The Role of Physiotherapists

Berkalp ÇELİK[1]
Burçin AKÇAY[2]
Ozan Bahadır TÜRKMEN[3]

Abstract

Cycling is an endurance-based sport widely practiced around the world at both amateur and professional levels. Athletes' exposure to prolonged repetitive pedaling movements, the need to perform at high speeds, and the importance of proper equipment–body alignment increases the risk of both traumatic and non-traumatic injuries (Guanziroli et al., 2020). These injuries often result from biomechanical imbalances, incorrect saddle height, improper pedal angle, postural abnormalities, and inappropriate training loads (Clarsen et al., 2010). Even a few millimeters of change in saddle height can increase patellofemoral joint pressure and lead to knee pain (Wanich et al., 2007). Additionally, an inappropriate handlebar–saddle distance creates excessive strain on the neck and lower back, increasing the frequency of non-traumatic injuries (Patterson et al., 2003). Cycling disciplines significantly influence injury patterns. While overuse injuries are more common in road cycling, high speeds and environmental conditions increase traumatic injuries in MTB, BMX, and track cycling (Decock et al., 2016; Barrios et al., 1997). Head injuries and clavicle fractures are notable examples of these traumatic conditions (Kennedy, 2008). Physiotherapists play an essential role in the evaluation and prevention of injuries in cycling. Bike-fit applications, pedal stroke analysis, muscle strength balance assessments and lumbopelvic stabilization constitute fundamental components of physiotherapy interventions. Therefore, physiotherapists make significant contributions to maintaining performance and reducing injury risk (Fallon et al., 2024). This study indicates that, based on the evidence obtained from the research, a significant proportion of injuries in cycling may be preventable through proper biomechanical adjustments and appropriate physiotherapy interventions.

Keywords: Physiotherapy, Rehabilitation, Cycling, Cycling Injuries, Bike Fit.

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4th International Congress of Medical and Health Sciences Studies

The Relationship between Muscle Strength and Dynamic Balance in Child Artistic Gymnasts: Preliminary Results

Gülenay YILDIRIM [1,2]
Yıldız ANALAY AKBABA [3]

Abstract

Balance plays a crucial role in both improving motor performance and preventing injuries in artistic gymnastics. This study aims to investigate the effects of hip and knee muscle strength on balance performance in children participating in artistic gymnastics.

Seventeen child artistic gymnasts (10 girls, 7 boys; mean age 9.82±1.07 years), who had been training regularly for 3.18±0.95 years, attending 3.06 ± 0.90 training sessions per week, with a daily training duration of approximately 2 hours, participated in this study. Hip flexor, extensor, abductor, and adductor; knee flexor and extensor strengths of both dominant and non-dominant lower limbs were measured using a hand-held dynamometer, and dynamic balance performance was assessed with the Y-Balance Test (YBT).

The results revealed significant positive correlations between hip and knee extensor and abductor muscle strength and YBT performance in both limbs. Dominant hip extensor strength was strongly correlated with dominant posteromedial ($r = 0.73$, $p = 0.001$) and nondominant posterolateral ($r = 0.72$, $p = 0.001$), posteromedial reach scores ($r = 0.76$, $p < 0.001$), as well as composite scores ($r = 0.73$, $p = 0.001$). Dominant hip abductor strength was strongly correlated with both dominant and nondominant posteromedial reach scores ($r = 0.71$, $p = 0.001$; $r = 0.76$, $p < 0.001$, respectively) and composite scores ($r = 0.71$, $p = 0.002$). Dominant knee extensor strength was also significantly correlated with dominant posteromedial reach score ($r = 0.70$, $p = 0.002$). In addition, nondominant hip extensor strength was strongly correlated with both dominant and nondominant posteromedial reach scores ($r=0.77$, $p<0.001$; $r=0.71$, $p=0.001$, respectively), composite scores ($r=0.76$, $p<0.001$; $r=0.74$, $p<0.001$, respectively), as well as the dominant posterolateral reach score ($r=0.70$, $p=0.002$).

The preliminary results of the study indicate that hip extensor, knee extensor, and hip abductor muscle strength are strongly related to balance performance in child artistic gymnasts. Strengthening the abductor and extensor muscles may lead to enhance performance, improve postural control, and reduce risk of injury in this population.

Keywords: Artistic Gymnasts, Child Athlete, Dynamic Balance, Muscle Strength, Y-Balance Test

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4th International Congress of Medical and Health Sciences Studies

Determınatıon Of The Relatıonshıp Between Il-8 (+781 C/T) Gene Varıatıon And Development Of Dıabetıc Retınopathy

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Nevra ALKANLI[2]
Nilgün TAN TABAKOĞLU[3]
Hande GÜÇLÜ[4]

Abstract

The aim of this study is to determine the relationship between IL-8 (+781 C/T) gene variation and the development of diabetic retinopathy. Our study included 90 patients diagnosed with diabetic retinopathy and 90 healthy controls. Those with blood clotting disorders and those diagnosed with any malignancy were excluded from the study. To determine the genotype distributions of IL-8 (+781 C/T) gene variation, restriction fragment length polymorphism (RFLP) method was applied after polymerase chain reaction (PCR). CC and TT homozygous genotypes of the IL-8 (+781 C/T) gene variation were significantly more common in the patient group diagnosed with diabetic retinopathy compared to the healthy control group, respectively (OR: 2.330, 95Cl%: 1.241-4.377, p=0.009; OR: 4.649, 95Cl%: 1.488-14.519, p=0.008). On the other hand, the CT heterozygous genotype of this gene variation was determined to be significantly higher in the healthy control group compared to the patient group (OR: 0.260, 95Cl%: 0.140-0.484, p<0.001). In addition, the CC homozygous genotype was found to be significantly higher in patients with diabetic retinopathy and unilateral macular edema compared to the TT homozygous genotype (OR: 3.214, 95Cl%: 1.072-9.635, p=0.037). CC and CT genotypes were identified to be significantly higher compared to TT genotype in diabetic retinopathy patients with diabetes mellitus, hypertension, coronary artery disease and family history of diabetes mellitus. In our study, the CC and TT homozygous genotypes of the IL-8 (+781 C/T) gene variation were determined as a genetic risk factor for the development of diabetic retinopathy in the Thrace population of Turkey, while the CT heterozygous genotype was determined as a protective factor against the development of diabetic retinopathy. CC and CT genotypes were identified as important genetic risk factors in patients diagnosed with diabetic retinopathy in terms of comorbidities such as diabetes mellitus, hypertension, coronary artery disease, and family history of diabetes. In addition, CC homozygous genotype was determined to be a genetic risk factor in patients with diabetic retinopathy and unilateral macular edema. It has been suggested that the genetic factors obtained in our study may be important genetic biomarkers for the early diagnosis, prognosis, progression and treatment of diabetic retinopathy.

Keywords: Diabetic retinopathy, IL-8, genetic variations, PCR-RFLP

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4th International Congress of Medical and Health Sciences Studies

Investigation Of The Relationship Between The Development Of Benign Prostatic Hyperplasia And The Mthfr A1298c Gene Variation Affecting Folate Metabolism

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Arzu AY [2]
Hakan AKDERE [3]
Gökhan ÇEVİK [4]
Süleyman Serdar ALKANLI [5]

Abstract

Benign prostatic hyperplasia (BPH) is defined as age-related enlargement of the prostate. BPH is defined as the process of increase in the number of androgen-dependent stromal and epithelial cells in the periurethral area of the prostate. Although BPH is a common disease, the etiology of this disease has not been fully explained. Because it is a progressive disease, it can result in more severe lower urinary tract symptoms and make life difficult for patients. As a multifactorial and complex disease, it is thought that factors such as aging, ethnicity, family history and genetics may be effective in the development of BPH. Additionally, metabolic changes, inflammation and various genetic variations also play a role in the development of BPH. It is thought that genetic variations identified in important genes of metabolic pathways associated with BPH may affect the phenotype and disease severity. Therefore, in our study, we aimed to investigate the relationship between the development of BPH and the MTHFR A1298C gene variation, which is effective in folate metabolism. Our study was conducted with 80 patients diagnosed with BPH and 80 healthy controls determined as a result of power analysis. CC, AC and AA genotype distributions for the MTHFR A1298C gene variation were determined using polymerase chain reaction (PCR) and restriction fragment length polymorphism (RFLP) methods. Additionally, prostate volume values along with clinical findings were obtained from Trakya University, Department of Urology. In this study, the CC homozygous genotype of the MTHFR A1298C gene variation was found to be significantly higher in the patient group diagnosed with BPH compared to healthy controls (OR: 3.028, 95Cl%: 1.187-7.723, p=0.020). Although the AC genotype of this gene variation was determined more in healthy controls than in the patient group, no statistically significant difference was found between the patient and control groups (OR: 0.636, 95Cl%: 0.341-1.187, p=0.155). In addition, prostate volume values were found to be significantly higher in patients carrying the CC genotype compared to patients carrying other genotypes ($p<0.001$). In this study conducted with the Thrace population, the CC genotype of the MTHFR A1298C gene variation was determined as a genetic risk factor for the development of BPH together with high prostate volume values. An important genetic biomarker was obtained in our study to investigate the molecular mechanism of BPH so that early diagnosis can be determined and its prognosis and progression can be better understood.

Keywords: Benign prostatic hyperplasia, MTHFR, genetic variations, PCR-RFLP

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4th International Congress of Medical and Health Sciences Studies

A Rare Pleural Tumor with Pulmonary Parenchymal Invasion: Malignant Solitary Fibrous Tumor

Mertay Boran[1]
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Abstract

Solitary fibrous tumors (SFTs) are rare mesenchymal neoplasms, typically originating from the visceral pleura. While most SFTs are benign, approximately 12% display malignant behavior. Intrapulmonary SFTs are extremely uncommon, accounting for only 3.5% of reported cases. We present a case of a malignant intrapulmonary SFT invading the pulmonary parenchyma, with long-term disease-free survival after surgical resection.

A 52-year-old female presented with mild left-sided thoracic pain and pruritus. Thoracic CT demonstrated a lobulated pleura-based mass measuring 10.8 × 5.2 cm in the superior segment of the left lower lobe, extending along the major fissure. During thoracotomy, a firm, heterogeneous, highly vascularized mass was identified. Although the tumor extended toward the fissure, no direct invasion was observed. The patient underwent left lower lobectomy with additional wedge resection of the anterobasal segment of the upper lobe.

Histopathological analysis revealed a hypercellular spindle-cell neoplasm with focal necrosis and abundant capillary vessels. Immunohistochemistry was positive for CD34, vimentin, and Bcl-2, with focal desmin expression, confirming the diagnosis of malignant solitary fibrous tumor of visceral pleural origin. The patient was discharged on postoperative day three. She has remained free of recurrence during seven years of follow-up.

Although most SFTs are benign, malignant variants exhibit a distinct propensity for infiltrating surrounding tissues. Tumors originating from the parietal pleura, fissures, or mediastinum, extending into the pulmonary parenchyma, are associated with higher malignant potential. Complete surgical resection remains the gold standard and provides the best chance for long-term survival. Due to their rarity and variable radiological appearance, intrapulmonary SFTs may be overlooked in preoperative evaluation, underscoring the importance of considering them in the differential diagnosis of pleura-based masses.

Malignant solitary fibrous tumors of the pleura with intrapulmonary extension are rare but clinically significant entities. Accurate diagnosis requires a combination of imaging, histopathology, and immunohistochemistry. Complete surgical excision offers favorable outcomes, as demonstrated in this case with seven-year recurrence-free survival. Preoperative consideration of intrapulmonary SFT is essential to ensure appropriate management and optimal prognosis.

Keywords: pleural tumor, Solitary Fibrous Tumor, malignant

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4th International Congress of Medical and Health Sciences Studies

Healthcare Workers' Metaphorical Perceptions Of The Concept Of Hospital

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MÜNİR ŞAHİN[3]

Abstract

The purpose of this study is to explore the metaphorical perceptions of hospital employees working in a public hospital regarding the concept of "hospital." Employees' perceptions of their institutions play a crucial role in the functioning of healthcare organizations, influencing motivation, commitment, and organizational culture. In this context, metaphors related to the concept of hospital provide profound insights into employees' emotional, cognitive, and professional relationships with their work environment. The study was conducted using a phenomenological design within the framework of qualitative research methods. Data were collected through semi-structured interviews. The sample of the study consisted of 40 healthcare employees from various professional backgrounds (physicians, nurses, technicians, administrative staff, cleaning personnel, etc.) and hospital units (internal medicine, surgery, intensive care, outpatient clinics, etc.). Participants were asked to complete the sentence: "A hospital is like … because …" Their responses were analyzed using content analysis techniques. The findings revealed that healthcare employees possess diverse metaphorical perceptions of the hospital, reflecting both positive and negative associations. Positive metaphors included concepts such as "family," "home," "place of healing," "school," and "lifeboat," symbolizing care, cooperation, and professional fulfillment. In contrast, negative metaphors such as "prison," "cemetery," "battlefield," "maze," and "factory" highlighted stress, exhaustion, and bureaucratic constraints experienced by the staff. The analysis also showed that metaphorical perceptions varied significantly across different departments and professional roles. Employees working in intensive care units and emergency services tended to produce more negative metaphors, while those in outpatient and administrative departments generated more positive ones. In conclusion, the study demonstrates that employees' metaphorical perceptions of the hospital are closely linked to their working conditions, workload, emotional experiences, and perceived organizational support. Understanding these metaphorical representations can help hospital administrators and policymakers develop more effective strategies for organizational improvement, employee well-being, and institutional belonging. By uncovering the symbolic and emotional dimensions of hospital life, this research provides a unique contribution to the fields of organizational psychology and healthcare management.

Keywords*:* Metaphor, hospital perception, healthcare employees, phenomenology, qualitative research, organizational culture.

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4th International Congress of Medical and Health Sciences Studies

Developmental Screening and Assessment in Autism Spectrum Disorder: The Role of Child Development Specialists

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Abstract

This study aims to highlight the importance of developmental screening and assessment in the early diagnosis and intervention processes of autism spectrum disorder (ASD) and to reveal the critical roles undertaken by child development specialists in these processes. Identifying developmental risks and providing appropriate referrals during early childhood are of great significance for supporting children's cognitive, social, and emotional development. The research was conducted through a comprehensive literature review and document analysis. National and international studies and current data related to early diagnosis, developmental screening, assessment, and the Child Special Needs Report (ÇÖZGER) process were examined. Furthermore, the job descriptions, areas of practice, and multidisciplinary roles of child development specialists were analyzed.

Findings indicate that early diagnosis of ASD significantly improves developmental outcomes in children. However, in Türkiye, autism-specific screenings (18–36 months) recommended under the Infant, Child, and Adolescent Follow-up Protocols in primary health care settings (Family Health Centers) are found to be insufficiently implemented, with developmental monitoring often limited to anthropometric measurements. As licensed health professionals who monitor, assess, and support the development of children aged 0–18 years, child development specialists play a central role in this process.

The literature emphasizes that the use of evidence-based developmental screening tools increases diagnostic accuracy and facilitates access to early intervention. With the enactment of the ÇÖZGER Regulation in Türkiye, the role of child development specialists in evaluation and consultation processes has been legally strengthened. Moreover, it has been observed that developmental screening practices in primary health care services need to be expanded, as current implementations remain limited. Effective execution of developmental screening and assessment processes in ASD is essential for supporting children's developmental potential and ensuring timely referral of families to early intervention programs. The active involvement of child development specialists in these processes reduces diagnostic delays and contributes to the advancement of holistic and functional approaches within health services. Therefore, the explicit recognition and institutional support of the child development discipline within national health policies are strongly recommended. Integrating child development specialists systematically into primary health care settings and incorporating developmental screening applications into Family Medicine performance evaluations would make screening practices more widespread nationwide, thereby improving access to early intervention services.

Keywords: child development, developmental screening, ASD

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4th International Congress of Medical and Health Sciences Studies

Results of Nonsurgical Root Canal Treatment in Teeth with Permanent Apical Periodontitis

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Abstract

Non-surgical root canal treatment in teeth diagnosed with persistent apical periodontitis aims to remove infected pulp tissue, shape and disinfect the root canal system, and obturate the canals three-dimensionally using biocompatible materials. The primary objective of this approach is to significantly reduce the microbial load inside the canal system and to promote the healing of inflamed periapical tissues. Clinical studies consistently demonstrate that, when performed with appropriate techniques and high-quality materials, non-surgical root canal treatment achieves high success rates in cases of persistent apical periodontitis. Modern irrigation solutions, along with ultrasonic or sonic activation systems, enhance the effectiveness of canal disinfection and contribute to more predictable and stable healing outcomes.

However, the success of the treatment is influenced by several factors, including the complexity of the root canal morphology, the size and chronicity of the periapical lesion, the diversity and resistance of the bacterial flora, the quality of the obturation, and the clinician's expertise. In certain situations—such as when persistent infection remains despite adequate treatment, anatomical limitations prevent complete instrumentation, or previous root canal therapy was insufficient—non-surgical treatment alone may not provide the desired results. In these cases, retreatment procedures or surgical endodontic interventions may need to be considered to achieve complete resolution of the pathology.

Overall, when proper treatment planning, effective disinfection protocols, and appropriate restorative procedures are implemented, non-surgical root canal treatment remains a reliable and successful method for ensuring the long-term retention of teeth affected by persistent apical periodontitis.

Keywords: apical periodontitis, ultrasonic irrigation, periapical healing

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4th International Congress of Medical and Health Sciences Studies

Effects of Nigella sativa and Thymoquinone on DNA Damage Repair Genes in the NRK52E Cell Line Given High Glucose

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Abstract

Diabetic nephropathy (DN) is a major complication affecting approximately one-third of individuals with diabetes and imposes a substantial socioeconomic burden. The metabolic effects of Nigella sativa (NS) and its active compound thymoquinone (TQ) have been demonstrated in several in vitro studies, particularly in relation to insulin activity. However, the precise mechanisms of these supplements in DNA repair processes remain unclear. This study aims to investigate the regulatory effects of NS and TQ on DNA damage repair genes in NRK-52E renal epithelial cells exposed to high glucose. These genes are associated with the repair of DNA double-strand breaks. NRK-52E cells were treated with high glucose (246 mM), TQ (10 µM), and NS extract (0.5 µg/mL). mRNA expression levels of the DNA damage markers Ku70 and Ku80 were analyzed using RT-qPCR. High-glucose exposure significantly reduced Ku70 and Ku80 expression, whereas treatment with TQ and NS reversed these alterations. Co-treatment with TQ or NS and high glucose markedly increased the expression levels of Ku70 and Ku80, which play key roles in DNA repair. TQ exhibited a more pronounced effect in upregulating Ku70 and Ku80 expression. By modulating the expression of DNA repair genes, TQ and NS exerted protective effects on renal cells. These findings support the potential therapeutic reliability of TQ and NS in mitigating diabetic nephropathy. The DNA-PK complex, which includes Ku70/Ku80, may represent an innovative therapeutic target in DN. Considering its role in DNA damage and DN pathogenesis, DNA-PK inhibitors emerge as one of the promising strategies.

Keywords: diabetic nephropathy, DNA repair genes, Nigella sativa, NRK-52E, thymoquinone

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4th International Congress of Medical and Health Sciences Studies

A Rare Case of Collagenous Fibroma in the Lower Lip

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Abstract

Collagenous fibroma (desmoplastic fibroblastoma) is a rare benign tumor of soft tissue, most commonly encountered in the extremities or trunk. Its occurrence in the oral cavity is extremely uncommon, with involvement of the lower lip reported in only a limited number of cases in the literature. This case report aims to highlight the clinical, surgical, and histopathological features of a collagenous fibroma developing in the lower lip.

A 43-year-old female patient presented with a painless, slowly enlarging lesion on the left lateral lower lip, present for one year. The patient had no history of trauma, surgery, or previous oral lesions. Clinical examination revealed a well-circumscribed, submucosal, firm nodule. The patient underwent total excision, and histopathological evaluation of the excised tissue confirmed the diagnosis of collagenous fibroma.

Postoperatively, the patient was followed regularly. During a six-month follow-up period, no recurrence, residual lesion-n, or complications were observed. These findings indicate the benign nature of collagenous fibroma and demonstrate that surgical excision can achieve long-term successful outcomes. Additionally, the patient's quality of life was preserved, with both functional and aesthetic results achieved successfully.

Due to the rarity of collagenous fibromas in the lower lip, clinical awareness is crucial. Misdiagnosis may lead to unnecessary aggressive interventions or extensive resections. Histopathological examination is critical for confirming the diagnosis and guiding surgical strategy. This case emphasizes that total excision is both a safe and effective method, and that early diagnosis minimizes the risk of long-term recurrence. Furthermore, reporting rare lesions in the oral cavity contributes to the literature and underscores the importance of a multidisciplinary approach.

Keywords: Collagenous fibroma, lower lip, oral cavity, benign soft tissue tumor

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4th International Congress of Medical and Health Sciences Studies

Comparison of Clinical and Behavioral Characteristics in Children With Autism Spectrum Disorder According to the Presence of Sleep Problems

Caglar Charles Daniel JAICKS[1]

ABSTRACT

Sleep problems are among the most frequently reported difficulties in children with autism spectrum disorder (ASD) and are known to exacerbate both core ASD symptoms and associated behavioral disturbances. The aim of this study was to compare clinical characteristics, psychiatric comorbidities, and behavioral symptoms in ASD children with and without sleep problems. This retrospective study examined the initial assessment records of medication-naïve ASD patients aged 6–12 years who presented for the first time to the author's private Child and Adolescent Psychiatry Clinic. Sleep problems were defined as the presence of at least one of the following symptoms documented in the initial clinical interview: difficulty initiating sleep, frequent night awakenings, early morning awakening, markedly reduced sleep duration, nightmares or night terrors, nocturnal agitation, or parental report of "disrupted sleep." A total of 58 children were included, of whom 28 (48.3%) had sleep problems. No significant differences were observed in age or sex distribution between the groups. Children with sleep problems exhibited significantly higher rates of severe ASD, anxiety symptoms, irritability, self-injury, and increased stereotypy. These findings suggest that sleep disturbances may serve as a clinical marker of greater symptom severity and behavioral dysregulation in ASD. Systematic assessment of sleep during clinical evaluation may contribute to early identification of comorbid symptoms and to the development of more comprehensive treatment plans.

Keywords: Autism spectrum disorder, sleep problems, behavioral symptoms, anxiety, child and adolescent psychiatry

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4th International Congress of Medical and Health Sciences Studies

Indirect Effects of Executive Functions, Empathy, and Cognitive Emotion Regulation on Internalizing Symptoms

Onat YETİM[1]

Abstract

Childhood and adolescence are critical periods marked by rapid cognitive and emotional development, deepening social relationships, and the shaping of self-regulatory capacities. Higher-order mechanisms such as executive functions, empathy, and emotion regulation are key determinants of psychological adjustment (Zelazo & Carlson, 2020). Executive functions—including attentional control, cognitive flexibility, and working memory—enable goal-directed behavior and are related not only to academic outcomes but also to socio-emotional competence (Diamond, 2013; Best & Miller, 2010). Empathy—the capacity to understand and share others' emotions—is a major factor in the quality of social relationships (Decety & Jackson, 2004) and, during adolescence, shows positive links with prosocial behavior and complex associations with internalizing symptoms (Gaspar & Esteves, 2022). Cognitive emotion regulation, a metacognitive process shaping responses to stress and adversity, enhances resilience when adaptive strategies are used, whereas maladaptive strategies may intensify internalizing problems (Garnefski & Kraaij, 2007; Compas et al., 2017). This study investigates the effect of executive functions on internalizing symptoms in children and adolescents and tests the mediating roles of empathy and cognitive emotion regulation, in line with prior evidence linking executive functions to empathy and to emotional processes via indirect pathways.

A total of 907 adolescents participated (537 girls, 370 boys). Measures included the Childhood Executive Functioning Inventory (CHEXI; Thorell & Nyberg, 2008) for executive functions, the Toronto Empathy Questionnaire (TEQ; Spreng et al., 2009) for empathy, the Cognitive Emotion Regulation Questionnaire (CERQ; Garnefski & Kraaij, 2007) for cognitive emotion regulation, and the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) for internalizing symptoms. In a structural equation model, executive functions were specified as the independent variable, empathy and cognitive emotion regulation as mediators, and internalizing as the dependent variable. Executive functions exerted a significant positive direct effect on internalizing ($\beta = .0579$, $p < .001$). Empathy strongly predicted internalizing ($\beta = .2563$, $p < .001$), whereas cognitive emotion regulation showed a negative association ($\beta = -.0276$, $p = .038$). Indirect effects via empathy ($\beta = .0315$, $p < .001$) and via cognitive emotion regulation ($\beta = -.127$, $p = 1.76\times10^{-11}$) were both significant.

Executive functions influence internalizing symptoms both directly and indirectly through empathy and cognitive emotion regulation. Empathy emerged as a particularly strong mediator carrying the effect of executive functions to internalizing symptoms. These findings suggest that executive functions support not only cognitive competencies but also socio-emotional adjustment in children and adolescents; integrating executive-function training with empathy-building and adaptive emotion-regulation strategies may reduce internalizing risk and enhance socio-emotional adaptation.

Keywords: Adolescence, Executive functions, Empathy, Internalizing symptoms

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4th International Congress of Medical and Health Sciences Studies

Pulsatility Index or Resistive Index of the Middle Cerebral Artery in Cardiac Surgery: Correlation with Electroencephalography and Postoperative Neurological Outcomes

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Abstract

The development of hypoxic or ischemic cerebral injury during extracorporeal circulation in cardiac surgery involves multiple pathophysiological pathways, including disturbances in cerebrovascular perfusion and inadequate oxygen delivery to neural tissue. The assessment of age-independent Doppler-derived ratios such as the pulsatility inex (PI) and resistive index(RI)—indices obtained via transcranial Doppler (TCD) that quantify relative changes in systolic and diastolic flow velocities—may provide more accurate information about cerebrovascular resistance and, consequently, true alterations in cerebral blood flow. Continuous neuromonitoring during cardiac surgery plays a critical role in the prevention of neurological complications. In this study, we evaluated the relationship between different neuromonitoring techniques (NMT) and compared their respective values at defined stages of coronary artery bypass grafting (CABG) performed with cardiopulmonary bypass (CPB).

Following approval from the institutional ethics committee, this prospective study included 22 patients aged 30–65 years, classified as ASA I–II, scheduled for elective CABG under CPB. In addition to standard cardiac monitoring, two-channel electroencephalography (EEG) was used to assess cortical synaptic activity, while depth of anesthesia was monitored using the Bispectral Index (BIS). Cerebral blood flow velocitie were measured using TCD evaluation of the middle cerebral artery. EEG, BIS, and TCD parameters were recorded at five predefined surgical time points: before induction of anesthesia (I); before surgical incision (II); after sternotomy during left internal mammary artery dissection (III); during CPB at 32°C (IV); and at the end of surgery (V). Measurements obtained at these five stages were analyzed using repeated-measures ANOVA with post hoc testing.

EEG and BIS values remained similar across all stages of the procedure. Parallel changes were observed among EEG, BIS, and TCD measurements at several surgical phases. PI and RI values remained stable throughout surgery, and both indices demonstrated correlation with EEG findings at multiple time points. PI and RI data appeared to reflect cerebral flow dynamics during cardiac surgery without showing any pathological deviations. Additionally, these results were consistent with deficit-free postoperative neurological outcomes.

Keywords: Cardiac Surgery, PI, RI, Neuromonitoring, Electroencephalography

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