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Ali Bilgili
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Abstracts

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Sialolith : Case Report

Gamze Nur BAYRAMOĞLU1
Kübra TÖRENEK AĞIRMAN 2

Abstract

Introduction:
Sialoliths (salivary gland stones) are hard masses that have become calcified as a result of mineral accumulation in the salivary gland or duct. Sialoliths are one of the most common pathologies among salivary gland diseases and are mostly observed in the submandibular glands. In this case report, we aimed to present a patient with sialolith in the Wharton duct with a 6-month follow-up.

Case Report:
A 21-year-old male patient applied to our clinic with a complaint of swelling in the floor of the mouth after eating for a long time, especially after sour foods. He stated that the swelling went down after meals and that he was mobile when in contact with his tongue. In the intraoral examination of the patient, who did not have any systemic disease in his anamnesis, a hard, mobile structure was detected at the floor of the mouth. In the occlusal radiograph taken, a radiopaque calcific structure was observed at the floor of the mouth. A preliminary diagnosis of sialolith was made based on anamnesis and radiographic examination. A 7.7 mm sized calcific structure with hyperechoic posterior acoustic shadowing was observed in the intraoral and extraoral ultrasonography (USG) images. This calcific structure was seen to be within the Wharton Canal and at the level of the sublingual gland on extraoral USG. Anechoic areas showing posterior acoustic enhancement due to saliva pooling were observed immediately distal to the calcific structure and at the duct exit of the submandibular gland.

Conculusion:
Sialoliths should be evaluated together with the patient's anamnesis, detailed clinical examination and advanced imaging methods. Differential diagnosis should be made with calcifications such as soft tissue calcifications, vascular calcifications and calcified lymph nodes. At this point, USG provides great convenience in diagnosis in clinical use, and its lack of radiation is an advantage for short-term follow-ups.

Keywords: Sialolith, Submandibular Gland, Floor of Mouth, Ultrasonography, Wharton Duct

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Sialadenitis Development Due to Sialolithiasis: Clinical Presentations and Treatment Methods

Peruze ÇELENK 1
Yonca KANAT 2
Metehan KESKİN 3
Kübra ÇAM 4

Abstract

Calcified formations that occur in the salivary gland or its ducts are referred to as sialoliths. Saliva contains substances such as water, electrolytes, urea, ammonium, glucose, fats, and proteins. The secretion of the parotid gland has a more serous composition. The calcium concentration in the saliva secreted by the parotid gland is half that of the calcium concentration in the saliva secreted by the submandibular gland. For this reason, sialoliths originating from the parotid gland are rarely encountered. Patients typically present to the doctor with recurrent pain and swelling during or after eating. In some cases, pain may also radiate to the ear and neck regions. In diagnosing sialolithiasis, a patient history is taken, followed by examination through inspection and palpation, and assessment of salivary flow. In addition to clinical evaluations for diagnosis, imaging methods such as radiography, sialography, ultrasonography, and scintigraphy are also employed. Sialoliths formed in the parotid gland can lead to the development of sialadenitis. In cases of acute sialadenitis caused by a sialolith, the standard treatment typically includes antibiotics, analgesics, and antipyretics. Surgical intervention may sometimes be required for drainage purposes, although in most cases, the duct itself provides the best drainage route. Surgical treatment can be performed after the acute phase has passed.

This presentation will provide a review of sialoliths and treatment methods, along with a case report of a patient who developed sialadenitis due to a 5 mm sialolith located at the opening of the Stensen's duct, which was treated with a minimally invasive approach.

Keywords: Sialolith, Sialadenitis, Ultrasonography

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Osteomyelitis Caused by Dental Implants: A Case Report and a Brief Review

Yonca KANAT [1]
Mehmet Cihan BEREKET [2]

Abstract

Osteomyelitis is a rare but severe complication associated with dental implants, which typically arises from infections extending into the surrounding bone. Although dental implant procedures are generally safe, complications like osteomyelitis can occur, particularly in susceptible individuals. This case report presents a 62-year-old male patient with no history of systemic diseases, smoking, or alcohol use, who developed osteomyelitis in one of the implants following full-mouth implant surgery. The patient initially presented with pain, swelling, and signs of infection at the implant site, leading to the diagnosis of osteomyelitis. The clinical management included a combination of early antibiotic therapy and surgical revision to address the infection. The case highlights the importance of early detection and intervention in preventing further complications. A brief review of the literature on osteomyelitis caused by dental implants is provided, exploring the risk factors, clinical presentations, and management strategies. Common risk factors include poor oral hygiene, compromised immune status, and contamination during surgery. Timely treatment is critical to preventing bone loss and implant failure. This report emphasizes the need for proper preoperative evaluation, surgical technique, and postoperative monitoring to reduce the risk of osteomyelitis and other complications. By highlighting this rare complication, we aim to improve awareness and management strategies for similar cases in the future.

Keywords: Complications Management, Dental Implants, Osteomyelitis

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Giant Cell Reparative Granuloma: Case Presentation

Emin BALTAŞ[1]
Kübra TÖRENEK AĞIRMAN[2]

Abstract

Introduction

Objective: Giant cell reparative granuloma, or giant cell granuloma, is a reactive lesion that occurs in the gingiva and alveolar bone due to irritant factors such as poorly performed dental restorations, traumatic tooth extractions, incompatible prosthetic dental treatments, and dental calculus. The term "giant cell" refers to the presence of numerous osteoclastic giant cells observed in the microscopic examination of the lesion. The objective of this case report is to present a patient diagnosed with giant cell reparative granuloma.

Case Report: A 34-year-old female patient presented to our clinic with complaints of painful swelling in the right maxillary premolar-molar region and halitosis. Clinical and radiological examinations revealed a radiolucent area in the right maxillary premolar-molar region, associated with resorption of the alveolar bone and perforation of the inferior wall of the right maxillary sinus. The patient underwent cone beam computed tomography (CBCT) for further evaluation. The CBCT images demonstrated a poorly defined, hypodense lytic lesion extending from the mesial aspect of tooth 18 to the distal aspect of tooth 15, reaching the superior portion of the right maxillary sinus, and continuing medially into the nasal septum, involving the lower concha. The lesion caused perforation in the buccal and palatal bone as well as the floor of the right maxillary sinus. The lesion appeared isodense with soft tissue and had irregular borders. Histopathological examination of the lesion confirmed the diagnosis of reparative giant cell granuloma.

Conclusion: Reparative giant cell granuloma is a rare, benign tumor that, despite its non-malignant nature, exhibits locally aggressive behavior affecting both bone and soft tissues. Recurrence can occur even after complete excision of the lesion. Consequently, continuous monitoring through (CBCT) and regular clinical follow-up are of utmost importance, particularly in cases involving bone tissue. CBCT allows for a detailed, three-dimensional evaluation of the bone damage, significantly aiding in the diagnostic process and providing valuable preoperative information regarding the lesion's boundaries.

Keywords: Giant Cell Reparative Granuloma, Cone Beam Computed Tomography, Giant Cell Granuloma

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Malignant Epithelial Tumors of The Jaws: A Case Report

Elif AKSU CANKAN [1]
Kübra TÖRENEK AĞIRMAN [2]
Fatma ÇAĞLAYAN [3]

Abstract

Introduction

Objective: Giant cell reparative granuloma, or giant cell granuloma, is a reactive lesion that occurs in the gingiva and alveolar bone due to irritant factors such as poorly performed dental restorations, traumatic tooth extractions, incompatible prosthetic dental treatments, and dental calculus. The term "giant cell" refers to the presence of numerous osteoclastic giant cells observed in the microscopic examination of the lesion. The objective of this case report is to present a patient diagnosed with giant cell reparative granuloma.

Case Report: A 34-year-old female patient presented to our clinic with complaints of painful swelling in the right maxillary premolar-molar region and halitosis. Clinical and radiological examinations revealed a radiolucent area in the right maxillary premolar-molar region, associated with resorption of the alveolar bone and perforation of the inferior wall of the right maxillary sinus. The patient underwent cone beam computed tomography (CBCT) for further evaluation. The CBCT images demonstrated a poorly defined, hypodense lytic lesion extending from the mesial aspect of tooth 18 to the distal aspect of tooth 15, reaching the superior portion of the right maxillary sinus, and continuing medially into the nasal septum, involving the lower concha. The lesion caused perforation in the buccal and palatal bone as well as the floor of the right maxillary sinus. The lesion appeared isodense with soft tissue and had irregular borders. Histopathological examination of the lesion confirmed the diagnosis of reparative giant cell granuloma.

Conclusion: Reparative giant cell granuloma is a rare, benign tumor that, despite its non-malignant nature, exhibits locally aggressive behavior affecting both bone and soft tissues. Recurrence can occur even after complete excision of the lesion. Consequently, continuous monitoring through (CBCT) and regular clinical follow-up are of utmost importance, particularly in cases involving bone tissue. CBCT allows for a detailed, three-dimensional evaluation of the bone damage, significantly aiding in the diagnostic process and providing valuable preoperative information regarding the lesion's boundaries.

Keywords: Giant Cell Reparative Granuloma, Cone Beam Computed Tomography, Giant Cell Granuloma

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Discrepancy Between Radiological and Histopathological Findings: A Case Study.

Hatice GÜLLER [1]
Kübra TÖRENEK AĞIRMAN [2]
Fatma ÇAĞLAYAN[3]

Abstract

Introduction and purpose: Central giant cell granuloma (CGCG) is a rare, osteolytic lesion that predominantly affects the jawbones and has the potential for locally aggressive behavior. It most frequently occurs in younger individuals, with the highest incidence observed between the ages of 10 and 30 years. Although the exact pathogenesis remains unclear, CGCG is thought to be either a reactive or neoplastic process. In contrast, the radicular cyst is the most commonly encountered odontogenic cyst within the jawbones, typically resulting from chronic periapical inflammatory processes. While radicular cysts tend to grow slowly, if left untreated, they can lead to significant destruction of surrounding tissues. The purpose of this case report is to raise awareness among clinicians that panoramic radiographs and cone-beam computed tomography (CBCT) images may present more malignant characteristics compared to the histopathological findings.

Case presentation: A 16-year-old male patient presented to our clinic for a routine examination. Upon evaluation of the panoramic radiograph, a relatively well-defined radiolucent area was observed in the mandibular anterior region. Based on the initial diagnosis of central giant cell granuloma (CGCG), a cone-beam computed tomography (CBCT) scan was performed. The images revealed an expansile, lytic lesion with a radiolucent appearance, extending from the premolar region on the right side to the first molar region on the left side, with exact dimensions unable to be determined. Upon further analysis of the excisional biopsy results, the findings were deemed consistent with a radicular cyst. Consequently, the patient was referred to the relevant department for surgical treatment under the diagnosis of a radicular cyst.

Conclusion: When central giant cell granuloma (CGCG) manifests in the jawbones, its differential diagnosis can be challenging due to the potential overlap with other lesions. Therefore, a thorough medical history, comprehensive clinical evaluation, and both conventional and advanced radiological investigations are crucial for establishing an accurate diagnosis. However, it is essential to remember that although cone-beam computed tomography (CBCT) images may suggest CGCG or even malignancy, histopathological examination remains the gold standard for diagnosis. Additionally, it should be noted that the radicular cyst, the most commonly encountered odontogenic cyst in the jawbones, can present radiological features similar to those of lesions that cause significant destruction in the jaw.

Keywords: Atypical Lesion, Cone-Beam Computed Tomography, Histopathological Examination, Central Giant Cell Granuloma, Radicular Cyst

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A Case of Ameloblastoma: A 6-Year Case Progression

Hande BARIN[1]
Fatma ÇAĞLAYAN[2]

Abstract

Ameloblastoma is a slow-growing, sometimes aggressive benign tumor originating from odontogenic epithelial tissue. It tends to cause local invasion, expansion, and destruction in the bone, with a high recurrence rate. The tumor is generally detected through bone expansion or during routine radiological examinations and often localizes in the mandibular angle and ramus regions. In the case we examined, ameloblastoma was identified in a 24-year-old male patient during a routine radiological examination in 2021. A review of panoramic radiographs from previous years revealed the onset of a lesion near the root of tooth 36 in the mandible in 2015. Panoramic radiographs from 2016 and 2018 showed that the lesion expanded within the bone in both anterior and posterior directions and caused pathological resorption in the roots of teeth 36 and 37. A dental CT scan was performed for further investigation.Dental CT revealed a lytic lesion measuring 28.0 × 19.1 × 47.6 mm with relatively well-defined hypodense borders. The lesion extended from tooth 35 to tooth 38 in the left mandibular premolar-molar-retromolar region, was intramedullary, and caused thinning in the buccal cortical bone and expansion and perforation in the lingual bone. The lesion also caused resorption in the roots of teeth 35, 36, and 37 and was observed in relation to the left mandibular canal.Histopathological examinations confirmed the diagnosis of ameloblastoma. In 2021, teeth 35, 36, 37, and the impacted tooth 38 were extracted, and local resection surgery was performed. The treatment was completed with a reconstruction plate, and the patient entered the follow-up process. In this case report, our aim is to present the onset of an ameloblastoma lesion and its development over a six-year period.

Keywords:Ameloblastoma, Panoramic Radiograph, Dental Tomography, Odontogenic Tumor, Benign

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Treatment of Gingival Recession Associated with Crossbite: A Case Report

Özlem Beren SATILMIŞ[1]
Murtaza YELBAY[2]

Abstract

Localized gingival recession occurs in approximately 10-15% of children and adolescents. In young children, gingival recession is most commonly seen on the labial surfaces of the mandibular incisors, whereas in adolescents, the buccal surfaces of the upper molars and premolars are the most commonly affected areas. The cause of gingival recession in this age group is associated with a labial and irregular position of the teeth, toothbrush trauma, history of orthodontic treatment, poor oral hygiene or high frenulum attachment. The first step in the treatment of localized gingival recession is to determine the etiology. In cases of labial, crowded mandibular incisors or gingival recession due to crossbite, the occlusion should be corrected by eliminating the trauma on the tooth. In more severe cases, periodontal surgical techniques such as stalked grafts, free gingival grafts, gingival unit graft, connective tissue grafts, epithelial connective tissue grafts and guided tissue regeneration may be required to treat gingival recession. Among these techniques, connective tissue grafting is considered the gold standard. However, the need for a second surgical field can be considered as a disadvantage of the connective tissue graft technique, especially in pediatric and adolescent patients.

In this case report, it is shown that gingival recession due to crossbite of the lower incisor was treated with a gingival unit graft after correction of the position of the tooth with a removable and Z spring appliance.

Keywords: crossbite, removable appliance, gingival recession, gingival unit graft

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Vital Tooth Bleaching: Three Case Reports

Baturalp ARSLAN[1]
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Abstract

A white smile has been a symbol of beauty and health for centuries. Especially nowadays, when aesthetic expectations have become much more important, the demand for bleaching treatment has increased. Tooth discoloration caused by external and internal causes is a common aesthetic problem. By applying a strong oxidizing agent such as hydrogen peroxide to the teeth, the color of the teeth or stains can be lightened and the natural color can be restored. A thirty-year-old female patient with frequent tea consumption (Case 1), a twenty-five-year-old female patient with frequent coffee consumption and lack of oral hygiene (Case 2), and a twenty-nine-year-old male patient with smoking and frequent tea consumption (Case 3) presented to our clinic. Anamnesis of the patients was taken. Clinical and radiologic evaluations were performed. It was decided to perform office type vital bleaching treatment. After the patients were informed about the treatment and informed consent was obtained, their pre-treatment images were photographed and recorded. In all cases, a retractor was applied to remove the cheek and lip tissues of the patients and to provide a good view and the existing color tone was determined Isolation was provided with cotton pellet and gingival barrier was applied (Light Curing Gingival Barrier, Top Dam). In Case 1 and Case 2, 35% hydrogen peroxide (FGM Whiteness HP, Sao Paolo, Brazil) was applied for 20 minutes according to the instructions. In Case 3, 35% hydrogen peroxide (Whiteness HP Blue, FGM, Brazil) was applied for 40 minutes. After the session, the retractor was removed, residual solutions and gingival barrier were removed and photographs were taken from the patients after the procedure. Patients were informed after treatment and control sessions were planned. Vital bleaching is an effective and fast method when performed under appropriate conditions and a natural and aesthetic appearance can be obtained. As in every treatment, the patient's cooperation is also important.

Keywords: Vital Bleaching, Hydrogen Peroxide, Aesthetics

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Minimally Invasive Treatment of Peg-Lateral Tooth Shape Anomaly: A Case Report

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Baturalp ARSLAN[2]

Abstract

The aesthetic appearance of teeth is an important part of facial aesthetics. Today, aesthetic dentistry, which directly affects the facial expression and physical attractiveness of individuals, has gained great importance. Peg-laterals are teeth that may be associated with dental anomalies, often found in maxillary teeth and may have smaller, cylindrical, pointed shapes than normal. Porcelain or composite lamina veneer restorations can be applied in the treatment. Composite treatments are preferred because they adopt a minimally invasive approach and provide economical and fast results. A 26-year-old female patient who applied to our clinic had peg-lateral tooth anamolysis in tooth #22 as a result of a detailed clinical examination. The patient was informed about the treatment options and it was decided to restore it with direct composite resin. Informed consent form was obtained and pre-procedure photographs were taken. Before further water loss and discoloration of the teeth, color selection was made using the button technique. Then the teeth were isolated under rubber dam. Polishing was applied to obtain a clean surface on the teeth. Beveling was performed on the teeth with a yellow belt flame-tipped diamond bur to increase retention. Roughening was then performed with 37% orthophosphoric acid. The tooth surfaces were restored in a single session using an adhesive system (Tokuyama Bond Force II™, Tokyo, Japan) and composite resin (Estelite Sigma Quick, Tokyo, Japan). After restoration, finishing and polishing procedures were performed to remove surface irregularities. Finishing photographs were taken and the patient was called for a follow-up session. The patient was satisfied with the appearance. This fast, conservative and low-cost treatment can be preferred as the first choice for the restoration of peg-lateral teeth.

Keywords: Peg-Lateral, Dental Anomaly, Composite Dental Resin

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Bioactive Materials Used in Vital Pulp Treatments

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Abstract

Untreated caries lesions continue to be one of the main etiological factors of pulpal injuries that require endodontic treatment. Among 293 diseases in the world, untreated dental caries have been shown to be the most common health problem affecting 2.4 billion people. In addition, the Ministry of Health reported that an average of 3.4 million endodontic procedures are performed annually in Turkey. The use of bioactive materials for regeneration, repair, and reconstruction in conservative dentistry, endodontics, and pediatric dentistry is rapidly increasing. A bioactive material is defined as a substance that produces an effect or induces a response in living tissues, organisms or cells. Bioactive substances that directly affect vital tissues, stimulate tissue healing, and maintain pulp vitality must be bacteriostatic, bactericidal, and sterile. For this purpose, agents frequently used in vital pulp treatments are calcium hydroxide, mineral trioxide aggregate (MTA), calcium-enriched mixture, Biodentine, glass ionomer cement, enamel matrix derivatives, and bioceramics. With nanotechnology and the resulting nanostructures, the properties of materials, such as antimicrobial activity, mechanical strength, drug release, and pharmacokinetics have significantly improved. In addition to new-generation materials such as Bioaggregate and Biodentine, materials such as calcium hydroxide and MTA are still used effectively and successfully in vital pulp treatments owing to their bioactive potential. These materials are expected to exhibit adequate clinical performance in vital pulp treatments with various modifications. The purpose of this review is to evaluate the different types of bioactive materials used in vital pulp treatments and their usage in these treatments in a broad sense.

Keywords: Vital Pulp Treatments, Bioactive Materials, Biodentine, Mineral Trioxide Aggregate, Pediatric Dentistry

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Nanotechnological Agents and Bioactive Materials Used for Remineralization in Pediatric Dentistry

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Abstract

Tooth decay is a multifactorial chronic disease that results from enamel demineralization. It has been reported that 60%–90% of school-age children are affected by tooth decay. The enamel is the most calcified and hardest tissue in the human body. The inorganic content of enamel is composed of hydroxyapatite crystals. It is known that hydroxyapatite crystals dissolve at a pH below 5.0-5.5 and Ca^{+2}, PO_4^{-3}, and OH^- ions are released. The demineralization process begins with the dissolution of hydroxyapatite crystals as a result of the loss of phosphate and calcium ions from the enamel surface. The acid-sensitive chemistry of the tooth enamel forms the basis of tooth decay. Initial caries lesions are the earliest stage of caries formation and can be diagnosed at an early stage and treated before cavitation occurs. These lesions, also called 'white spot lesions', are limited to enamel tissue. As it is possible to stop and treat the lesion at this stage, early diagnosis and treatment are of great importance in terms of preventive dentistry. These dynamics, which are called demineralization-remineralization and express the mineral balance in hard tissue, can be disrupted by many factors affecting oral tissues. With the determination of the pathological process of dental caries and the factors affecting the demineralization–remineralization dynamics in current studies, preventive applications have gained importance. The aim of caries prevention applications is to prevent demineralization before it occurs or to restore hard tissues to their former health by ensuring the remineralisation of demineralized areas before cavitation occurs. It has been experimentally and clinically proven that as a result of the remineralization of white spot lesions by the penetration of Ca^{+2} and PO_4^{-3} ions in saliva and plaque fluid, the porosity of the lesion decreases, its hardness increases, and its opaque white appearance improves. To shift the demineralization process to remineralization, many different agents, such as calcium sodium phosphosilicate, nanohydroxyapatite, tricalcium silicate, tricalcium phosphate, casein phosphopeptide amorphous calcium phosphate (CPP-ACP), casein phosphopeptide amorphous calcium fluoride phosphate (CPP-ACPF), and self-assembling peptides (anionic peptides) can be used. The aim of the current preventive approach and protective/preventive strategies in the treatment of dental caries is to inhibit demineralization before irreversible destruction of teeth occurs, and to treat initial lesions without the need for invasive interventions. This review presents a comprehensive evaluation of bioactive and nanotechnological products used in the treatment of initial caries lesions.

Keywords: White Spot Lesions, Remineralization, Nanotechnological Agents, Bioactive Materials, Pediatric Dentistry

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Treatment of a Patient with Skeletal and Dental Class III Malocclusion with Face Mask and Lower Molar Distalization: Case Report

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Abstract

Objective: The aim of this case report is to present the skeletal and dental treatment of a patient with skeletal and dental Class III malocclusion.

Case: An intraoral examination was performed on an 11 years and 6 months old male patient who presented to our clinic with the complaint of anterior jaw and unerupted teeth. The examination revealed a Class III canine and molar relationship. Space constriction in the lower jaw and excess space in the upper jaw were detected. It was also seen that teeth 34 and 35 could not erupt and remained impacted. Overjet was measured as -3 mm and overbite as 3.5 mm. The upper midline was compatible with the facial midline and the lower midline was 1 mm to the left. Radiographic examination of the wrist film revealed that the patient was in the prepubertal period. As a result of cephalometric examination, SNA 77° SNB 84° ANB -6° U1SN 111° IMPA 83° was measured and it was determined that the patient had skeletal Class III closure due to upper jaw retardation. In the treatment of the patient, a face mask appliance was used to treat the maxillary retardation. After one year of treatment, fixed treatment was started. In the treatment, lower molar distalization was planned and buccal shelf screw was used for this purpose. The impacted teeth numbered 34-35 were maintained by making room for the impacted teeth. At the end of the treatment, Class I canine and molar relationship was obtained and overjet 2 mm and overbite 2 mm were measured. When the cephalometric film taken at the end of the treatment was analyzed, it was determined that SNA 84° SNB 86° ANB -2° U1SN 113° IMPA 84°.

Conclusion: Identification of patients with skeletal and dental Class III malocclusion during the appropriate growth period increases the success of facemask treatment. When distalization is needed in the fixed treatment phase, buccal shelf screws can be used successfully for this purpose.

Keywords: Face Mask, Buccal Shelf Screw, Class III

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Use of Botulinum Toxin in Minor Esthetic-facial Applications

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Abstract

The term "aesthetics" encompasses different meanings for everyone and is often used in conjunction with beauty. This concept, which entered the literature from Greek, has a significant place in facial aesthetics. Social, periodical, and cultural differences impact this concept. Although certain criteria and theories have been developed, the notions of beauty and aesthetics continue to evolve and change. Today, with the increase in aesthetic perception and expectations, the areas of application and techniques are also developing. People can prefer to make changes to their appearance, ranging from the simplest to the most complex procedures. The facial area is one of the first regions to draw attention, thus gaining great importance in aesthetic applications. Botox applications are among the most frequently performed minor aesthetic procedures on the facial region. Although Botox was initially used for therapeutic purposes, it can be said that aesthetic applications are now more common than therapeutic ones. Its ease of application, comfortable intraoperative and postoperative processes, quick results, and relatively long-lasting effects are reasons for its frequent preference. However, the fact that procedures will be performed on the facial area poses significant risks in terms of potential complications. A good understanding of the anatomy of the facial region makes it easier to predict the potential outcomes of the application. In aesthetic Botox applications for the facial area, it is crucial to consider the patient's expectations and the compatibility of these expectations with the solutions provided by Botox. Success in aesthetic applications for the facial region will be ensured through the correct technique, correct dosage, and correct indications in treatment.

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Lymphangiomas / Hemangiomas In The Submandibular Region: A Case Report

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Kübra TÖRENEK AĞIRMAN[2]
Fatma ÇAĞLAYAN[3]

Abstract

Introduction

Purpose:

Lymphangiomas are benign hamartomatous tumors of the lymphatic channels. They appear in three forms: capillary, cavernous and cystic lymphangioma (cystic hygroma). Deep-seated lymphangiomas appear as nodules, no surface changes are observed. Hemangiomas are benign neoplasms originating from blood vessels. They are one of the most common tumors of the first decade. Clinically, they are superficial, well-defined or diffuse, soft swellings on palpation, of various sizes, localized in the oral cavity mucosa and neck-face skin. Their color is red or bluish-red and usually whitens with pressure. In this case, we aimed to present a case of lymphangioma / hemangioma located in the submandibular region.

Case Report:

A 9-year-old male patient applied to our clinic with a complaint of swelling in the submandibular region that had not subsided for a long time. The patient, who had no systemic disease in his anamnesis, had a painless, mobile swelling in the submandibular region during his oral examination. In the patient's extraoral and intraoral USG examination, a mobile, approximately 21.1x10.2 mm sized lobular lesion was observed in the mouth floor and neck, adjacent to the sublingual gland, although its borders could not be measured exactly. The case was reported ultrasonographically as a dermoid cyst. MRI correlation was recommended. The lesion was removed by surgical excision. In the pathological examination, congested vascular structures, some of which were filled with blood, and dilated vascular structures in some areas were observed adjacent to the salivary gland structures, and the case was diagnosed as lymphangioma / hemangioma.

Conclusion:

Oral lymphangioma / hemangiomas are benign tumors whose differential diagnosis is mostly not made until postoperative histopathological examination, despite routine clinical and radiographic examinations before the operation. Various applications such as carbon dioxide laser application, radiation therapy, steroid administration, injection of sclerotic agents, cryotherapy, ligation of vessels, embolization and surgical excision have been suggested in the treatment protocol. The most appropriate treatment method is total surgical excision. Surgical excision is necessary to exclude malignancy. Although lymphangioma / hemangioma are benign tumors, wide excision should be performed because there is a possibility of recurrence.

Keywords: Lymphangioma, Hemangioma,Oral Benign Tumor

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Rehabilitation of Avulsion Cases Using Space Maintainers

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Abstract

For pediatric patients who have lost their permanent incisors due to avulsion, it is crucial to address their aesthetic, phonetic, psychological, and developmental needs with appropriate treatment options until they reach the age suitable for implant or fixed prosthetic treatment. The chosen treatment option should accommodate alveolar growth and consider the patient's age and developmental stage. This case series presents the planning of dental appliances designed to serve as space maintainers for lost teeth.

Case 1

A 15-year-old patient, reported the loss of an incisor due to previous trauma. The patient noted that a removable appliance had been used to address the deficiency but expressed difficulty in its use. Occlusal evaluation was performed, and appropriate bands were placed on teeth 16 and 26. Modified Nance appliance was fabricated and cemented.

Case 2

A 9-year-old patient, reported the loss of anterior teeth due to trauma. Considering the patient's ongoing dentoalveolar development, a removable space maintainer was planned. The fabricated space maintainer was delivered to the patient.

Detailed instructions regarding the use of the space maintainer and oral hygiene were provided, and the patients was scheduled for follow-up appointments to monitor progress.

Discussion

The most commonly preferred method for managing the loss of upper front teeth is the use of a removable space maintainer. However, removable appliances have certain disadvantages, including patient dependence, risk of breakage, and the possibility of loss. Furthermore, the use of fixed space maintainers is limited during periods of active growth and development. As a result, in certain cases, a removable treatment option may become necessary for children.

In the first case, the patient, who was older and preferred a fixed appliance, had teeth added to a Nance appliance, which is a type of fixed space maintainer. In the second case, the patient was in the mixed dentition period with active dentoalveolar development; therefore, teeth were added to ***a removable space maintainer.***

Conclusion

In these cases, the most appropriate treatment options for pediatric patients are presented. However, each treatment should be selected on a case-by-case basis, taking into account factors such as the patient's development, level of cooperation, and the importance of aesthetics and functionality. It is essential to ensure that no treatment performed on pediatric patients interferes with the physiological eruption process of the teeth or the natural growth and development of the jaws.

Keywords: Dental Trauma, Avulsion, Nance Appliance, Space Maintainers, Esthetic.

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Familial Type Oral Lichen Planus: Case Report

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Abstract

Introduction-Aim: Oral Lichen Planus (OLP) is a chronic inflammatory mucocutaneous disease affecting the mouth and skin mucosa, more common in middle-aged and elderly female patients. Familial type OLP is quite rare and is seen in at least two individuals in a family. In recent years, the immune fluorescence test technique has been used for OLP diagnosis. In this case, we aimed to present a case of oral lichen planus that occurred in a third individual in the same family.

Case Report: A 34-year-old female patient applied to our clinic with complaints of widespread lesions in the oral region that started in childhood and did not heal. Our patient, who had no systemic disease in her anamnesis, was found to have white, interconnected large lesion areas on the soft and hard palate, lip mucosa, bilateral buccal mucosa, lateral and dorsum of the tongue during intraoral examination. We learned that the patient's mother and sister, who we diagnosed with OLP as a preliminary diagnosis, also had existing lesions and that biopsies had been performed on these patients before. The patient was referred to the dermatology clinic for the necessary tests and definitive diagnosis.

Conclusion: OLP is a disease in which the immune fluorescence technique provides reliable results for diagnosis and differential diagnosis should be made well and carefully.

Although the familial type is quite rare, it has been reported that genetic transmission is possible. Routine follow-up of patients is important due to the emergence of a concomitant systemic disease in the familial type and the risk of malignant transformation.

Keywords: Oral Lichen Planus, Familial Type Oral Lichen Planus, Immune Fluorescence Test

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Retreatment For Treatment of A Permanent First Mandibular Molar Tooth Which Had Inadequate Root Canal Treatment And Apical Lesion: Two Case Reports

Muhammed AYHAN[1]

Abstract

Introduction: Improvement of failed root canal treatment is defined as retreatment, in endodontics. Repeated root canal treatment; It may be considered in teeth that cannot remain asymptomatic despite root canal treatment, in teeth where the root canal filling is not at acceptable standards, and in cases where periapical radiolucency does not improve or increases. This case reports aims to present that a mandibular first permanent molar tooth with inadequate root canal treatment and apical lesion can heal with endodontic treatment.

Case Report 1: A 20-year-old male patient was referred to the endodontics clinic for tooth number 46 following a general examination in the radiology clinic. The patient's anamnesis revealed that he did not have any systemic diseases. According to the patient, the lower left first molar teeth underwent root canal therapy about three years ago. An amalgam restoration was discovered in tooth number 46 during the clinical examination, and no cavities were discovered. Percussion and palpation did not cause any discomfort to the tooth. Insufficient prior root canal therapy and the existence of a periapical lesion in the affected tooth were found in the patient's periapical film. Rubber dam insulation was installed after the access cavity was opened. The previous root canal filling was removed. Double antibiotic paste (DAP) was administered intracanally following the completion of root canal preparation. Four weeks later, gutta-percha and AH Plus were used to fill the root canals. Following three months and three years of monitoring, it was found that the lesion had fully healed on radiography and that there were no clinical complaints.

Case Report 2: A 21-year-old male patient presented to our clinic with a complaint of pain, in his tooth number 36. The patient's anamnesis revealed that he did not have any systemic diseases. According to the patient, the lower left first molar teeth underwent root canal therapy about five years ago. During the clinical examination, tooth number 36 had a composite restoration, and no cavities were discovered. A minor sensitivity to percussion was discovered in the tooth. Insufficient prior root canal therapy and the existence of a periapical lesion in the affected tooth were found in the patient's periapical film. Rubber dam insulation was installed after the access cavity was opened. The previous root canal filling was removed. Double antibiotic paste (DAP) was administered intracanally following the completion of root canal preparation. Four weeks later, gutta-percha and AH Plus were used to fill the root canals. Following six and nine months of observation, radiographic evaluation revealed that the lesion was healing and that there were no clinical complaints.

Conclusions: Root canal retreatment procedures carried out with proper treatment planning can achieve healing in teeth with lesions and insufficient root canal therapy.

Keywords: Apical Lesion, Double Antibiotic Paste, Retreatment

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Ortopedic Stability (TMJ)

Hilal GÜNDOĞ[1]
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Abstract

Orthopedic stability is a crucial concept for a person's quality of life. Although it may appear to be related only to the temporomandibular joints and the masticatory system, it affects the entire body. The human body is an integrated whole, and a problem in one area can impact overall physiology. This presentation will explain orthopedic stability through the lens of the temporomandibular joint (TMJ). Problems in the temporomandibular joint often lead to orthopedic instability, which is a serious condition that disrupts a person's comfort and health. Orthopedic stability is particularly important for dentists. It is necessary to achieve all the goals required for proper treatment. These goals include periodontal health, rejuvenation, TMJ health, stable treatments, airway, aesthetics, vertical chewing patterns, and patient satisfaction. However, the effects of the temporomandibular joint are not limited to areas of interest only in dentistry. Patients with joint problems may experience headaches, neck pain, tinnitus, and even scoliosis. Therefore, this issue affects medical professionals in general. It is essential to focus on resolving the root cause of the problem rather than just suppressing symptoms. Due to the body's adaptive mechanisms, adapting to one problem can sometimes harm other areas. Issues in the temporomandibular joint can lead to chronic pain and thus psychological problems in patients. The underlying cause of joint problems must be accurately diagnosed, which often involves intraoral factors. At this point, patients should be referred to a dentist knowledgeable about TMJ issues for a detailed examination.

Treating these patients requires a multidisciplinary approach. Physiotherapists, dentists with various specializations, and, if necessary, psychologists and/or psychiatrists should collaborate.

Keywords: tmj, stabilty, ortopedic, centric relation, centric occlussion

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Gum Disease and Self-Extraction: A Case Presentation

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Merve ERKMEN ALMAZ[3]

Abstract

Children and adolescents can develop different periodontal diseases, but it is known that the prevalence of destructive periodontal diseases is lower compared to adults. Therefore, studies on periodontal problems undoubtedly mostly cover adults. Periodontal disease is defined as an inflammatory condition of the gingival tissues characterized by the loss of periodontal ligament and bone support of the tooth. This case presentation aims to present the treatment of edentulous spaces with denture appliances following self-extraction of teeth by a child with periodontal issues and the preservation and follow-up of edentulous spaces resulting from the absence of permanent germs with denture appliances.

Case: The patient was found to have no systemic illness. Clinical and radiographic examination revealed...gingival recessions were observed in the patient's teeth numbered 51 and 61. It was learned that the patient had self-extracted their teeth numbered 83-82-81-71-72-73 after observing mobility in these teeth. An impression was taken with alginate and a removable space maintainer was made to preserve the edentulous space between teeth 83 and 73. After the patient's permanent teeth erupted, another impression was taken with alginate and a removable space maintainer was made for the newly formed edentulous space.

During follow-up appointments, no pathology was observed in the soft tissue and it was noted that the appliance maintained the dimension of the edentulous space. Removable space maintainers are a good option for preserving edentulous spaces in pediatric patients; however, they are a source of concern from an aesthetic point of view. The clasps used to increase retention create aesthetic concerns in patients, and the mobility of the appliance requires patient compliance and regular use to achieve the treatment goal, but they can still be considered a good treatment option.

Keywords: Gum Disease,Mobility, Extraction, Removable Space Maintainers

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Complicated Crown Root Fracture Due to Trauma; 2 Case Reports

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Abstract

In cases of dental trauma, a wide range of hard tissue injuries can occur, from a small enamel fracture to advanced types where one or more large fractures occur in the crown or root. Among traumatic dental injuries, fractures involving enamel, dentin and cementum are called 'crown-root fractures'. It can be classified as "complicated" or "uncomplicated" depending on whether the trauma affects the pulp. The purpose of this case report is to present partial pulpotomy (Cvek amputation) of teeth with complicated crown-root fractures and their restoration with reattachment technique.

Case 1: A 10-year-old male patient was admitted to our clinic with the complaint of a broken tooth as a result of a fall. Complicated crown-root fracture was detected on clinical and radiographic examination. It was learned that the patient brought the broken tooth pieces and it was observed that the broken piece was compatible with the tooth.

Case 2: A 12-year-old male patient was admitted to our clinic with the complaint of a broken tooth as a result of a fall. Complicated crown-root fracture was detected on clinical and radiographic examination. It was observed that the broken piece was compatible with the tooth.

In both cases, it was decided to perform partial pulpotomy and then restore the teeth with the reattachment technique because the pulp of the traumatized teeth was vital. MTA was used as partial pulpotomy material in the cases. Although MTA has advantages such as biocompatibility, low microleakage, and creating a thicker dentin bridge with fewer defects, it was observed in Case-1 that it caused discoloration in the cervical region due to the use of MTA. Since the patient had no aesthetic complaints, it was decided to monitor the discoloration until sufficient dentin formation.

In the short-term follow-up of Case-1 and Case-2, which was 3 months, it was observed that the relevant teeth were clinically asymptomatic, no pathological changes were observed in the soft tissues, and there were no pathological findings in the radiographic examinations.Although MTA used in pulpal treatments has a high success rate, discoloration problems, especially in the anterior region, are still a source of aesthetic concern. In traumatic dental injuries, in cases where the broken tooth pieces are compatible with the remaining tooth tissue, restoring the tooth with its own pieces can be considered as a good treatment alternative with its advantages such as aesthetics.

Keywords: Dental Trauma, Complıcated Crown-Root Fracture, Mta, Partıal Pulpotomy, Reattachment

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The Relationship between Vitamin B Groups and Eating Disorder

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Özet

B grubu vitaminleri, insan sağlığı için hayati öneme sahip olup, enerji metabolizmasından DNA ve protein sentezine kadar birçok önemli işlevde rol oynayan mikro besinlerdir. Sağlıklı bir metabolizma ve hücrelerde verimli enerji üretimi için yeterli miktarda B vitamini gereklidir. Bu vitaminlerin diyetle yeterli miktarda alınması insan sağlığının korunması için kritik öneme sahiptir. Eksiklikleri ise enerji üretiminde aksamalara ve ciddi sağlık sorunlarına yol açabilir. Suda çözünen B grubu vitaminleri stres, açlık ve yetersiz beslenme durumlarında vücuttan atılmaya yatkındır. Aynı zamanda obezite görülen hastalarda B grubu vitamin değerleri normal aralıkta olmayabilir. Yetersiz beslenmeye ve obeziteye sebep olabilecek etkenlerden biri de yeme bozukluğudur. Yeme bozuklukları, önemli psikolojik ve fiziksel sorunlarla bağlantılı olan psikiyatrik rahatsızlıklardır. Bu bozukluklar, çeşitli sosyokültürel, genetik, psikolojik ve biyolojik faktörlerden kaynaklanabilir. Yeme bozukluğu yaşayan insanlarda vitamin ve mineral eksikliği yaşanabileceği bilinmektedir. Vitamin ve mineral eksikliği, yetersiz beslenme ve dengesiz diyetlerin bir sonucu olarak ortaya çıkabilir ve uzun vadede ciddi sağlık sorunlarına yol açabilir. Yeme bozukluklarının önlenmesi ve tedavisinde beslenme desteği, özellikle B grubu vitamin takviyelerinin rolü önemli olabilir. Bu nedenle, bu konunun daha iyi anlaşılabilmesi ve tedavi stratejilerinin geliştirilmesi için daha fazla araştırma yapılması gerekmektedir. Bu çalışmada B grubu vitaminleri ve yeme bozuklukları arasındaki ilişki tartışılacaktır. Bu bağlamda, yeme bozuklukları ve vitamin eksiklikleri üzerine gelecekte yapılacak çalışmaların, literatüre önemli katkılar sağlayacağı düşünülmektedir.

Anahtar Kelimeler: B Grubu Vitaminleri, Tiamin, Riboflavin, Niasin, Pantotenik Asit, Pridoksin, Biotin, Folat, Kobalamin, Yeme Bozukluğu, Anoreksiya Nervoza, Blunmia Nervoza, Tıkanırcasına Yeme

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A Comparative Assesment of Dietary Indicators: Diets Generated by Artificial Intelligence vs. Human Expertise

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Abstract

It is critical to assess the potential of artificial intelligence (AI) tools to reduce the workload of dietitians. Accordingly, the aim of this study was to perform a comparative analysis of AI-generated diets (ChatGPT and Gemini) with those prescribed by Dietitians. Each group was tasked with the design of 270 meals for the diets, resulting in a total of 810 meals. Statistical analyses were performed by one way ANOVA method using SPSS Statistics 24.0. Our findings revealed significant differences in the distribution of macronutrients between the diets prescribed by Dietitians and those generated by AI tools. The diets prescribed by Dietitians exhibited a more balanced distribution of carbohydrates, proteins, and fats, and were found to be more compatible with the recommended reference values. The levels of vitamin D, calcium, iron, iodine, and selenium in the diets generated by AI did not align with reference intake values. Although this situation was also present in the diets prescribed by Dietitians, the calcium and iron content in these diets met the reference intake values. Furthermore, the diets prescribed by Dietitians contained higher levels of vitamin A, vitamin D, riboflavin, folate, vitamin B12, iron, calcium, zinc, and potassium than both AI tools. Moreover, we conducted a comparative analysis of the nutritional and health-promoting indicators of the diets generated by ChatGPT, Gemini, and Dietitians. The diets generated by ChatGPT had the highest nutrient profiling (NRF15.3) score and lowest saturated to unsaturated fatty acids (SFA/USFA) ratio. Whereas, Gemini-generated diets exhibited a higher ratio of monounsaturated to polyunsaturated fatty acids (MUFA/PUFA) and higher protein quality scores (DIAAS). The diets prescribed by Dietitians had the highest antioxidant capacity (ORAC) scores. In conclusion, the integration of AI tools into dietetic practices may offer significant potential for reducing the workload and contributing to the development of personalized nutrition plans.

Keywords: AI-generated Diets, Dietitian Expertise, Nutrient Profiling Systems, NRF 15.3

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Development and Validation of an ADHD Model in Juvenile Rats Using High-Dose 6-OHDA

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Abstract

The primary aim of this study was to develop an alternative method to the standard 6-OHDA-induced ADHD model in 5-day-old rats, addressing the challenges of specialized equipment and technical expertise required for neonatal studies. This alternative approach utilizes juvenile (21-day-old) weanling rats, providing a more practical experimental design. In this study, juvenile rats were administered 35 µg 6-OHDA. Unlike the conventional protocol, a 3 µL solution containing 33-35 µg of 6-OHDA was delivered at a rate of 1.5 µL/min. Behavioral tests were conducted one week post-administration to evaluate the development of ADHD-like symptoms. Behavioral assessments revealed statistically significant differences between ADHD and control groups. In the elevated plus maze test, ADHD-induced rats exhibited higher locomotor speeds (mean 3.2 cm/s vs. 1.5 cm/s) and covered greater distances (mean 1100 cm vs. 500 cm) compared to controls. Similarly, in the open field test, ADHD groups spent more time in peripheral zones (7.7 minutes vs. 4.5 minutes) and less time in central zones, alongside demonstrating higher average speeds (6.3 cm/s vs. 3.5 cm/s). These behavioral findings confirm the successful establishment of an ADHD model. Subsequent immunohistochemical analyses of brain tissue demonstrated a dopamine depletion exceeding 60% in the ADHD groups, further validating the model. The study was conducted in two phases: an initial optimization phase to determine the effective dose of 6-OHDA, followed by the main study employing this dose to confirm the model's validity. The study's limitations include the lack of detailed molecular and genetic analyses, which could provide deeper insights into neurotransmitter mechanisms and long-term effects of the model. Validation of this method in different age groups or species is also essential to assess its generalizability. These findings indicate that ADHD modeling using 6-OHDA is feasible in juvenile rats and produces comparable results to the standard neonatal protocol. This approach offers a practical and effective alternative in situations where conventional methods are impractical, representing a significant contribution to the literature.

Keywords: Juvenile Rats, 6-OHDA, ADHD Model, Dopamine Depletion

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Nutrition and Sports Performance in Vegan and Vegetarian Athletes

Dilan ARDUÇI[1]

Abstract

Vegan and vegetarian diets attract great attention both in daily life and among athletes. The increase in vegan and vegetarian diets in our society has led to an increase in athletes day by day. The number of scientific studies conducted in this direction is also increasing due to this increase. In athletes, the balance between the intake and expenditure of the necessary energy is of great importance in terms of training and performance. The intake and supply of the necessary energy supports body functions and determines the intake capacities of the macro and micronutrients taken, and this is an important factor in the regulation of body composition. Individuals who feed on animal and plant-based foods are called omnivores. It has been observed that vegan and vegetarian individuals who feed on plant-based foods have much lower risk factors such as blood lipid values and fasting blood glucose values compared to omnivorous individuals. However, in addition to this, the removal of animal-based foods from the diet will also cause problems caused by inadequate intake of certain macronutrients; vitamin B12 and vitamin D, omega 3, calcium, zinc, and iron. For this reason, it is important to find alternative sources equivalent to the foods that vegan and vegetarian individuals eliminate from their diet and to create a balanced nutrition program. This review aims to review the current literature on the consumption of macro and micronutrients in vegan and vegetarian diets and also the performance of vegan and vegetarian athletes.

Keywords: Vegan, Vegetarian, Athlete, Nutrition, Sports Performance

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Micronutrient Deficiency in Autism Spectrum Disorder

Özlem ÇELİK[1]

Abstract

Otizm spektrum bozukluğu (OSB) erken çocukluk çağında ortaya çıkan, genellikle 18-24 aylık çocuklarda ve erkek çocuklarının kız çocuklarına kıyasla 4,2 kat gibi daha yüksek oranda tanı aldığı, şiddeti kişiye göre farklılık gösterebilen, sosyal iletişim ve etkileşimde gerilik, kısıtlı ve tekrarlayıcı davranış kalıplarının varlığıyla karakterize nörogelişimsel bir bozukluk olarak tanımlanmaktadır. Sıklığı gün geçtikçe artmakta olan OSB için kanıtlanmış net bir tedavi bulunmamakla beraber, tedavi yöntemleri genellikle OSB'nin sosyal, davranışsal ve iletişimsel semptomlarını iyileştirmeye yönelik davranış terapilerine dayanmaktadır. OSB'li bireyler; ciddi besin seçiciliği, besinlerin sindirim ve emilimindeki yetersizlik gibi gastrointestinal sistem problemleri nedeniyle önemli beslenme sorunları yaşamaktadırlar. Bu besin seçiciliği; OSB'li bireylerin birçoğunun posa, vitamin ve mineral gibi besin ögelerinden fakir beslenme rutinine yol açmaktadır. OSB'li bireylerde makro ve mikro besin ögeleri ile çeşitli diyet bileşenlerinin yetersiz alımı hem OSB'nin nedeni hem de sonucu olabilmektedir. Literatürde çeşitli vitamin ve mineral eksiklikleri ile takviyelerinin OSB üzerinde etkileri olduğuna dair çalışmalar giderek artmaktadır. Bu derlemenin amacı, OSB'li bireylerde görülen mikro besin ögesi eksiklikleri ve takviyelerinin olası rolünü incelemek olup, bu kapsamda çeşitli vitamin ve mineraller ele alınmıştır.

Anahtar Kelimeler: Otizm Spektrum Bozukluğu, Mikrobesin Yetersizliği, Vitamin, Mineral

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Dietary Components and Mediterranean Diet in Non-Alcoholic Fatty Liver Disease

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Abstract

The liver is an organ that is central to vital metabolic functions. Liver health often reflects the overall health of the individual. Liver tissue can be the target of different diseases, and these diseases can affect liver functions. Non-alcoholic fatty liver disease (NAFLD), one of the most common causes of chronic liver disorders today, is an important public health problem affecting many age groups. Non-alcoholic fatty liver disease is defined as lipid accumulation in hepatocytes without significant causes such as alcohol consumption, infection and drug use. In recent years, the incidence of components of metabolic syndrome such as abdominal obesity has been increasing due to dietary and lifestyle changes. This increase causes an increase in the incidence of non-alcoholic fatty liver disease along with chronic diseases. NAFLD is the fastest growing and most prevalent liver disease worldwide and contributes substantially to liver-related morbidity and mortality. NAFLD, the epidemic liver disease of the 21st century, affects more than 25% of the world's population. The main factor causing the development of NAFLD is nutrition. Because there is no approved drug treatment for nonalcoholic fatty liver disease, treatment for the disease is based on lifestyle changes that include diet, exercise, and weight loss. Various studies have observed that individuals with NAFLD have low compliance with the Mediterranean diet. At the same time, individuals with NAFLD perform minimal physical activity. In NAFLD, high adherence to the Mediterranean diet has been associated with lower liver damage and lower insulin resistance. The overall goal of nutritional therapy is to find the best dietary macronutrient, micronutrient, and dietary composition to prevent, reduce, or reverse hepatic steatosis and its progression to steatohepatitis.

Keywords: Non-alcoholic Fatty Liver Disease, Mediterranean Diet, Nutritional Status, Dietary Components.

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Evaluation of Malnutrition Status and Body Mass Index Of Elderly Based on Their Oral Health

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Kübra Gözde AYHAN[2]
Buse BARAZ[3]

Abstract

Healthy, adequate and balanced nutrition during childhood plays a vital role in ensuring children's physiological, psychological and sociological well-being. Nutrition also provides the necessary nutrients to support children's growth and development during this period when needs increase. Since this is a period when nutritional habits are acquired and behaviors are formed, it is important to provide appropriate nutritional education during this period. This study was planned to evaluate the effects of traditional face-to-face nutrition education provided to primary school children and technology-supported nutrition education provided to their parents on children's nutritional self-efficacy. 80 primary school students (8-11 years old) who had their parents' consent to participate in the study were provided with face-to-face active participation nutrition education in a classroom setting. Afterwards, technology-supported online nutrition education was provided to 40 parents on a voluntary basis for participation in parent education. The effect of this nutrition education on healthy nutrition self-efficacy was evaluated within the scope of pre- and post-tests. As a pre-test, general and sociodemographic information (age, number of children, education and employment status, economic status, health status, etc.) belonging to the child and parents were evaluated and anthropometric measurements such as body weight and height of the children were taken. As part of the pre-test, only the "Nutrition Behavior Questionnaire (NBQ)" was applied to children in the classroom environment, and the "Child Dietary Self-Efficacy Scale (CDSS)" and "Self-Efficacy for Healthy Eating", which assess nutritional self-efficacy, were administered online via Google Forms while the whole family was together, and in addition to the answers given by the child, the mother and father were also asked to answer the same questions. In addition, the "Child Nutrition Questionnaire" was applied to parents as a pre-test to evaluate the nutritional relationship between parents and children. NBQ scores increased significantly after the nutrition education compared to before. There was a statistical tendency for the father's and child's self-efficacy levels to increase after the education. There was a positive relationship between the children's NBQ score and the mother's CDSS score, but a negative relationship was found between the pressure to eat sub-factor score. Children's nutritional self-efficacy is related to the parent's sense of responsibility for their child's nutrition, perception of their own body weight, concern about the possibility of their child gaining excessive weight and monitoring of their child's consumption of sweet, fatty, and junk food. Nutrition education can help children develop healthy eating habits.

Keywords: Nutrition Education, Self-efficacy, Childhood, Eating Habits, Healthy Eating Behaviors

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The Effects of Sweeteners on Health in Adults and Diabetic Individuals

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Abstract

Sweeteners are widely used as sugar substitutes in diabetes and weight management. Due to their different chemical structures and metabolic effects, natural and artificial sweeteners have various health impacts. This review discusses the effects of sweeteners on glycemic control, insulin sensitivity, and gut microbiota in individuals with diabetes. Diabetes is a chronic health issue characterized by high blood glucose levels, resulting from the body's inability to regulate blood sugar effectively. This glucose metabolism disorder can lead to various complications and requires lifelong treatment. In blood sugar management for people with diabetes, glucose-lowering treatment methods are used, highlighting the importance of early intervention to reduce diabetes-related complications. Artificial sweeteners are known to potentially cause imbalances in the gut microbiota, which may increase glucose intolerance, although effects can vary between individuals. Additionally, the possible long-term negative health impacts of artificial sweeteners, including risks associated with cancer, cardiovascular diseases, and obesity, are thoroughly discussed. While natural sweeteners are generally regarded as safer, more scientific research is needed to fully understand their health effects. The study emphasizes the need for considering individual differences when evaluating the potential benefits and risks of sweetener use in diabetes management. Making informed choices about sweetener use and developing personalized nutrition plans may improve success in diabetes management. Ultimately, the necessity for more comprehensive studies to understand the health effects of sweeteners is highlighted.

Keywords: Artificial Sweeteners, Diabetes Mellitus, Gut Microbiota

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Evaluation of Sustainable Nutrition Knowledge Level and Adherence to the Mediterranean Diet in Adults

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Abstract

The concept of sustainability is defined as continuity and the ability to endure for the future. The concept of sustainable nutrition is described as "a dietary model that ensures food and nutrition security for both the present and future, contributes to health, and minimizes environmental impact."

Over the past 70 years, the global population has nearly doubled, and it is expected to exceed 8 billion by 2030. This rapid increase in population brings along environmental and nutrition-related challenges. Any food offered for human consumption that is unhealthy or not sustainable poses significant risks to both the environment and human health. Food production systems contribute to global issues such as climate change, loss of biodiversity, and greenhouse gas emissions (GHG). The FAO reports that current food systems are responsible for 33% of GHG emissions. Despite the development of new technologies aimed at reducing GHG emissions, significant reductions are expected to be achieved only through changes in individuals' dietary patterns and food choices. Food systems have the potential to improve human health and support environmental sustainability. Individual food choices significantly impact both human health and the environment. Plant-based food preferences are considered a vital part of a healthy diet. Diets that are predominantly plant-based are associated with lower disease risks. Furthermore, plant-based diets produce fewer GHG emissions compared to animal-based diets, suggesting that plant-based eating patterns have positive effects on both health and the environment. Globally, various action plans have been implemented to regulate food systems and improve individuals' diets and nutritional status. Research has shown that dietary patterns such as the Mediterranean diet, Nordic diet, vegetarian and vegan diets, and the Dietary Approaches to Stop Hypertension diet are beneficial for health and environmentally friendly. Since the early 1990s, with growing concerns about environmental sustainability, the plant-based Mediterranean diet has been investigated as a sustainable dietary model. As a result of studies, the Mediterranean diet has been defined as a sustainable dietary pattern and is recommended for health improvement, disease prevention, and overall well-being. Compared to other dietary models, the Mediterranean diet involves lower consumption of animal-based foods, which also leads to a lower environmental impact. The Mediterranean dietary pattern is considered sustainable due to its alignment with human nature and seasonality, as well as the reduced consumption of animal products, which minimizes environmental effects. This study was conducted to assess individuals' knowledge of sustainable nutrition and their adherence to the Mediterranean diet.

Keywords: Sustainability, Sustainable Nutrition, Mediterranean Diet, Environment, Healthy

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Determination of Nutrition Behaviours of Yoga Practitioners

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Abstract

Yoga, a physical and mental practice that has been practised for many years as part of a philosophy of life in India, is used in today's Western world to treat people with health problems, to contribute to the improvement of athletes' performance, to get away from the stress of modern life and to increase physical fitness. Recently, there has been a significant increase in the number of individuals practising yoga. It has been observed that the dietary habits of yoga practitioners may also change in this process. In this context, the study aimed to examine the nutritional behaviours of individuals who do and do not practice yoga. The research was conducted with people between the ages of 18-65 who volunteered to participate in the research, both practising and not practising yoga. A total of 180 individuals were included in the study. Orthorexia nervosa questionnaire and Sustainable Nutrition Behaviour Scale were used to determine the nutritional behaviours of the participants. 40% of the participants were non-yoga practitioners and 60% were yoga practitioners. Significant differences were found in the analysis performed for the comparison of behaviours towards sustainable nutrition and ORTO-15 scale according to the duration of yoga practice of the participants ($p<0.05$). Accordingly, the mean of the behaviour scale for sustainable nutrition of those who have been practising yoga for 2 years or more (62.55±10.34) is significantly higher than those who do not practice yoga (54.22±15.30) ($p<0.05$). In addition, orthorexia nervosa scores of yoga practitioners (36.70±3.80) were significantly lower than those who did not practice yoga (38.22±3.74) ($p<0.05$). The findings of the study revealed that yoga practitioners' attitudes towards sustainable nutrition behaviours were significantly more positive than non-yoga practitioners. In addition, yoga practitioners were found to have a higher tendency towards orthorexia nervosa than non-yoga practitioners. Yoga practice is not only a physical exercise, but also a process that affects individuals' lifestyle and eating habits. More comprehensive studies investigating these effects will contribute to the literature.

Keywords: Yoga, Nutrition, Orthorexia Nervosa, Sustainable Eating

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The Relationship Between Neck Circumference, Nutritional Status, and Eating Attitudes and Behaviors in Women with Insulin Resistance

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Abstract

Insulin is known as the most powerful anabolic hormone in the body, playing a crucial role in glycogen, lipid, and protein metabolism. Additionally, insulin resistance (IR), defined as the decreased biological response to insulin in target tissues despite its presence in circulation, leads to various negative effects. Insulin resistance is associated with several diseases, making it a significant focus of research. The pathogenesis of insulin resistance is complex and not fully understood, and it is still being investigated. Insulin resistance can increase the risk of developing metabolic syndrome and type 2 diabetes.

Women are more affected by insulin resistance due to hormonal fluctuations and metabolic factors. The aim of this study is to evaluate the relationships between neck circumference, nutritional status, eating attitudes, and behaviors in women diagnosed with insulin resistance.

Our study was conducted on 111 women aged 18-65 years who had been diagnosed with insulin resistance. Anthropometric measurements of the participants (such as neck circumference, body mass index, etc.), biochemical findings, and nutritional status were recorded in detail. In addition, the "Eating Attitudes and Behaviors Questionnaire" was used to assess their eating behaviors and attitudes. Data were analyzed using SPSS software, and statistical significance was accepted at $p<0.05$.

The results revealed that neck circumference had a stronger correlation with insulin resistance than traditional anthropometric measurements such as body mass index and waist circumference. Women with higher neck circumference values were found to have more irregular eating behaviors and dietary habits that could lead to energy imbalance. Additionally, these individuals were identified as having lower levels of physical activity and higher levels of stress.

This study suggests that simple and non-invasive measurements, such as neck circumference, may serve as a potential tool for early diagnosis and monitoring in individuals with insulin resistance. Furthermore, it emphasizes the importance of raising awareness about eating attitudes and behaviors and tailoring nutrition education programs specifically for these individuals. These findings are expected to provide guidance in promoting healthy eating behaviors and reducing complications related to insulin resistance.

Keywords: Insulinresistance, Obesity, Neckcircumference, Women, Eating Attitudes

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Relationship Between Irisin, Diabetes and Nutrition

Aybike Ceren KAYA[1]
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Abstract

Diabetes mellitus (DM) has become a common chronic disease in the 21st century due to increased life expectancy and the adoption of various unhealthy lifestyle patterns. Extensive research shows that exercise improves energy metabolism and alleviates various metabolic disorders, including DM, and may play an important role in regulating systemic metabolism. One hormone that has been studied for potential positive effects in diabetes is irisin. Exercise is reported to be the most important factor in regulating levels of the irisin. Irisin is a myokine that stimulates the 'browning' of white adipose tissue, leading to increased energy expenditure. Since its discovery in 2012, it has been the subject of much research due to its powerful physiological role. Irisin is a powerful messenger that sends signals to determine the function of specific cells such as skeletal muscle, liver, pancreas, heart, fat and brain. Numerous studies focus on the association of irisin with metabolic diseases, which is of great interest as a potential new discovery to combat type 2 diabetes mellitus and insulin resistance. Irisin has been found to ameliorate insulin resistance and type 2 diabetes by improving hepatic glucose and lipid metabolism, increasing the sensitivity of the insulin receptor in skeletal muscle and heart by supporting pancreatic β-cell functions and converting white adipose tissue to brown adipose tissue. Research has shown that various dietary patterns, certain nutraceuticals and macro-components, i.e. nutrition, can have an impact on irisin levels. The aim of this review is to examine the relationship between diabetes and irisin hormone and to examine the potential effects of nutrition on irisin hormone levels and, through this mediation, on diabetes.

Keywords: Irisin, Diabetes Mellitus, Nutrition, Insulin Resistance, Exercise Induced Myokine

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Nutritional Therapy in the Coexistence of Celiac Disease and Type 1 Diabetes

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Abstract

Type 1 diabetes is an endocrine disorder in which β cells in the pancreas undergo autoimmune destruction and stop producing insulin. Individuals with type 1 diabetes have a higher risk of other autoimmune diseases. One of these diseases is celiac disease. Screening for celiac disease is recommended after diagnosis of type 1 diabetes. Celiac screening should be considered if there is growth retardation and/or increased frequency of hypoglycemia. Nutritional therapy is of great importance for both Type 1 diabetes and celiac disease. Nutritional therapy in the association of Type 1 diabetes and celiac disease is a complex treatment. Nutritional therapy should be planned and followed by a dietitian. Individuals diagnosed with celiac disease should follow a gluten-free diet for life. Most gluten-free foods are poor in protein and fiber but rich in carbohydrates and fats with a high glycemic index. The most challenging aspect for people with type 1 diabetes and celiac disease is that most foods on a gluten-free diet have a high glycemic index and low glycemic index foods are recommended in the dietary management of type 1 diabetes. Dietary management is therefore more complex. Planning the diet of patients with type 1 diabetes as gluten-free imposes many restrictions on the diet. These restrictions reduce patient compliance with the diet. Increasing the variety of gluten-free foods helps to improve dietary compliance of patients with Type 1 diabetes and celiac disease. Adding gluten-free and high-fiber carbohydrate sources to the diet, including protein sources in meals, and small changes in the order in which foods are eaten make it easier to maintain glycemic control. Nutritional therapy in the association of type 1 diabetes and celiac disease should be carefully planned by addressing all aspects of the diet.

Keywords: Type 1 Diabetes, Celiac, Autoimmune Disease, Gluten-free Diet, Nutrition Therapy

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The Current Nutritional Approaches In Gestational Diabetes Management

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Bilge MERAL KOÇ[2]

Abstract

Gestational Diabetes Mellitus (GDM) is a condition characterized by impaired glucose tolerance that is first diagnosed during pregnancy. GDM is associated with a range of both short-term and long-term maternal and fetal complications, including preeclampsia, cesarean delivery, macrosomia, and an increased risk of developing type 2 diabetes in both the mother and the infant. The management of GDM, primarily defined by hyperglycemia, necessitates a comprehensive and multidisciplinary approach. Nutritional therapy is considered the first-line treatment strategy, with the primary focus on controlling blood glucose levels. Given that many pharmacological agents cross the placenta, there is limited research regarding their safety and efficacy during pregnancy. As a result, lifestyle modifications, particularly dietary interventions, play a central role in the management of GDM. Research on nutritional approaches has extensively examined factors such as total energy intake, sources of carbohydrates, proteins, and fatty acids, as well as their recommended daily intake. While energy restriction is generally not advised during pregnancy, it is widely recommended that women enter pregnancy at an optimal weight and maintain a weight gain trajectory that supports both maternal and fetal physiological needs. The type, glycemic index, and quantity of carbohydrates in the diet have differential effects on blood glucose levels. It is recommended that carbohydrates consumed in the diet be primarily complex, low glycemic index, and high in fiber. Protein intake is another key element in the dietary management of GDM, as it is essential for fetal development and maternal health. Increasing protein intake at the expense of carbohydrates is thought to contribute positively to glucose homeostasis. Additionally, it has been suggested that dietary fatty acids, particularly those rich in n-3 polyunsaturated fatty acids, may influence GDM risk and management. Certain micronutrient supplements, including vitamins, minerals, probiotics, inositol, butyrate, and specific fatty acids, as well as various dietary patterns, have also been implicated in the risk and management of GDM. This review aims to summarize the current nutritional strategies and recommendations in the management of Gestational Diabetes Mellitus.

Keywords: Gestational Diabetes Mellitus (GDM), Medical Nutrition Therapy, GDM Risk Factors, GDM Complications, GDM Nutrition Therapy

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Alternative Approaches in the Management of Type 1 Diabetes

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Abstract

Type 1 diabetes mellitus (T1DM) is an autoimmune disease characterised by the destruction of pancreatic beta cells, often beginning early in life. While the traditional approach to its treatment includes insulin injections, diet planning and glycaemic control, interest in alternative and complementary approaches has increased in recent years. These approaches offer potential strategies to alleviate the symptoms of T1DM, prevent complications and improve the quality of life of patients by targeting some mechanisms in the pathogenesis of the disease. In this context, vitamin D, magnesium, omega-3 fatty acids, polyphenols, microbiota balance and probiotics have been examined among alternative treatment approaches. Studies show that these components can produce effective results in the modulation of autoimmune processes, increasing insulin sensitivity and protecting pancreatic beta cells. According to the results of the studies; vitamin D and magnesium deficiency increases the risk of autoimmune disease, while adequate intake of these micronutrients supports glucose and insulin homeostasis. Polyphenols, especially resveratrol and curcumin, offer significant potential in the management of T1DM with their antioxidant and anti-inflammatory properties. Omega 3 fatty acids increase insulin sensitivity by balancing the immune system, while probiotic and prebiotic supplements are effective in improving glycaemic control and preventing complications by balancing the gut microbiota.

The literature shows that alternative approaches show promise as complementary or supportive therapy in the management of T1DM. However, due to the inadequacy of human studies on the integration of these approaches into clinical practice and the contradictory nature of some findings, more and comprehensive studies are needed for effective and safe implementation.

Keywords: Vitamin D, Magnesium, Microbiota, Polyphenols, Type 1 Diabetes(T1DM)

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Effects of Intermittent Fasting on Insulin Resistance and Insulin Sensitivity

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Abstract

Intermittent fasting is an approach to nutrition that has become popular in recent years for weight management and improving metabolic health. It is based on eating at specific time intervals and avoiding calorie intake for the rest of the time. It can be implemented through different protocols such as time-restricted eating (TRE), alternate day fasting (ADF), 5:2 diets, religious fasts, etc. Intermittent fasting is particularly noted for its positive effects on insulin resistance and insulin sensitivity. Research shows that intermittent fasting can improve insulin sensitivity, thus reducing the risk of type 2 diabetes. It can also contribute to weight management and improved metabolic health as a result of reduced insulin resistance. Supporting cellular repair processes, this dietary model regulates insulin metabolism by reducing inflammation. The reduction of insulin levels during fasting periods allows cells to become more sensitive to insulin. This improves blood glucose regulation and allows glucose to be utilized more efficiently by cells. However, different effects can be seen depending on the type and duration of intermittent fasting. Not all protocols have the same positive effects. Although intermittent fasting stands out as an important method in the management of insulin resistance, it may not be a suitable approach for everyone. It has been observed that it may cause hypoglycemia in type 2 diabetes patients using insulin. In addition, negative consequences such as deficiencies in the intake of certain nutrients and decreased muscle mass should not be ignored. Extensive future research is needed to better understand the long-term effects. With a comprehensive evaluation, this dietary model may offer an effective support in the fight against insulin resistance in the future.

Keywords: Intermittent Fasting, Insulin Resistance, Insulin Sensitivity, Time Restricted Diet, Alternate Day Fasting

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Delirium and Nursing Care After Postoperative Brain Surgery

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Abstract

Postoperative delirium is a frequent complication in neurosurgical patients, characterized by acute and fluctuating disturbances in attention, consciousness, and cognitive functions. It significantly impacts patient outcomes, prolongs hospital stays, and increases healthcare costs. Early recognition and effective management of delirium are critical to improving recovery and preventing long-term complications. Nurses play a pivotal role in the prevention, assessment, and management of postoperative delirium. This requires a comprehensive understanding of risk factors such as advanced age, preexisting cognitive impairment, and the complexity of surgical procedures. Nursing interventions include both pharmacological and non-pharmacological strategies. Non-pharmacological approaches emphasize optimizing the patient's environment, maintaining a structured sleep-wake cycle, ensuring adequate hydration and nutrition, and providing effective communication to orient the patient. Pharmacological interventions are considered in cases where symptoms pose significant risks to the patient or others. Education and collaboration with the patient's family are also essential to creating a supportive care environment. This report highlights the clinical features of postoperative delirium, risk assessment strategies, and evidence-based nursing interventions. It underscores the importance of interdisciplinary collaboration in delivering holistic care to neurosurgical patients, ultimately enhancing patient safety and recovery.

Keywords: Delirium, Brain Surgery, Postoperative, Nursing, Nurse Care

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Evaluation of Canine and Feline Mammary Tumor Cases Being Incompatible with Luminal Classification

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Abstract

The objective of this study was to elucidate the biological behaviour of canine and feline mammary tumours that do not align with the luminal classification. Among 10 suspected mammary tumor cases presented to Kırıkkale University Veterinary Faculty (2020–2024), seven were diagnosed as tumors, while two were inflammatory lesions, and one was a cystic structure. Biopsy samples underwent histopathological evaluation, determining malignant-benign differentiation, followed by staging based on the Pena, Misdrop, and Nottingham systems. Immunohistochemical evaluation of cancerous tissues was performed using ER, PR, HER2, and Ki67 markers in line with Luminal classification.

The findings revealed that four tumors were classified as Stage I according to the Pena, Misdrop, and Nottingham classifications, while one canine tumor was classified as Stage II under the Nottingham. Diagnoses for canine tumors included solid adenocarcinoma (n=2), malignant myoepithelioma (n=1), pericanalicular fibroadenoma (n=1), and complex carcinoma (n=1), none of which conformed to Luminal classification. In cats, a ductal papillary adenocarcinoma (n=1) and a benign fibroadenoma (n=1) were identified, with the adenocarcinoma also classified as Stage I. Similarly, the ductal papillary adenocarcinoma in cats was not compatible with the Luminal classification, paralleling findings in dogs.

The results indicate that malignant mammary tumors in dogs and cats with diverse histological patterns may not align with Luminal classification across different stages, contrary to current literature. Further studies with larger sample sizes are necessary to explore Luminal panel responses in triple-negative breast cancers (TNBC) and their implications for animal mammary tumors, offering insights into human and animal non-Luminal cancers.

Keywords: Biological Behaviour, Cancer Staging, Canine and Feline Mammary Tumours, Luminal Classification

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Clinical Training Reimagined: Navigating Post-pandemic Challenges with Blended Methods

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Ayşe ARICIOĞLU SÜLÜN[3]
Maksude YILDIRIM[4]

Abstract

Objective: Nursing education plays a critical role in preparing students for the complexities of clinical practice. This study was conducted to investigate the effect of the enhanced educational programme on the specific processes of nursing students.

Methods: The study has a pre-test/post-test design and consists of focus groups. The study was conducted in a nursing faculty in Turkey. Pre-interview, technical laboratory practice (physical examination, interventional procedures), simulation and clinical practice were each conducted with students who participated in the study. The 'Student Satisfaction and Self-Confidence in Learning Scale', 'Nursing Anxiety and Self-Confidence in Clinical Decision Making Scale', 'Simulation Based Learning' and 'Practice Skills Evaluation Form' prepared by the researchers were used in data collection. Results: It was found that 55.9% of the students in our study were female and the mean age of the students was 22.05±1.67. The difference between the mean scores of self-confidence and anxiety and the mean scores of practice skills of the students before and after the test was found to be statistically significant ($p<0.05$). In addition, a positive correlation was found between student satisfaction and self-confidence in learning scale and total mean scores of simulation-based learning.

Conclusion: In this study, which utilized simulation, laboratory, and clinical practice, it was found that student satisfaction increased while their anxiety decreased. It is suggested that rather than emphasizing the superiority of one method over another, allowing students to establish dominance over the clinic/case may be important. This approach not only enhances students' confidence but also helps bridge the gap between theoretical knowledge and practical application.

Keywords: Nurse, Simulation, Clinical Practice, Satisfaction, Anxiety

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Nursing Approach to a Patient Undergoing Bariatric Surgery Based on Watson's Theory of Human Caring: A Case Report

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Abstract

The systematic presentation of nursing care, which is an interpersonal process, based on a specific model makes it easier to identify problems encountered in practice and produce solutions to these problems, allowing the nurse to focus more on the care process. The purpose of this case report is to address the nursing care of a patient who underwent sleeve gastrectomy surgery due to morbid obesity within the framework of Watson's Human Caring Model. The study aimed to provide a positive care experience for the patient by providing nursing care based on empathy, compassion and individual sensitivity, and to reveal the importance of Watson's caring behaviors in practice. In his model, Watson defined the caring behaviors of the nurse as; establishing eye contact, active listening, exhibiting a patient-centered approach, showing sensitivity to cultural differences, addressing the patient by name, ensuring the comfort of the patient, approaching with love and kindness, providing education, acting compassionately, protecting the patient's dignity, being reliable, touching, consistency, being open and accessible, appreciating, showing respect, and being physically and mentally ready. According to this model, nursing interventions focus not only on physical recovery but also on addressing emotional and spiritual needs.

The case involved a 20-year-old male patient, 182 cm tall and weighing 130 kg, who had obesity problems since childhood. Due to unsuccessful attempts to lose weight with diet programs and existing health problems, such as fatty liver disease and insulin resistance, surgery was scheduled and performed on September 23, 2024. During the surgery, the stomach was mobilized and reduced along the greater curvature, bleeding was controlled, and a drain was placed. In the pre- and post-operative period, nursing care was applied to the patient in line with the three basic components of Watson's Human Caring Model (interpersonal caring relationship, caring situation, and healing factors). In order to protect the patient's privacy, only the initials (K.O) were used and the confidentiality principle was carefully followed. Informed consent was obtained and the patient's autonomy, confidentiality and fairness rights were respected.

In conclusion, it was seen that the nursing approach planned within the framework of the Watson Human Care Model contributed to the patient's emotional and spiritual well-being as well as physical health. This case once again demonstrates that nursing care should be a humane, compassionate and sensitive process to the holistic needs of the individual.

Keywords: Watson Human Care Model, Morbid obesity, Nursing care

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Nursing Care Based on Evidence in the Light of Neurovascular Surgery: Subarachnoid Hemorrhage Patients

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Abstract

Subarachnoid hemorrhage (SAH) is defined as the passage of blood from the cerebral circulation into the subarachnoid space surrounding the brain. Early diagnosis and prompt treatment of SAH are critically important. It is estimated that there are approximately 500,000 cases of SAH worldwide annually. The 30-day mortality rate ranges between 40% and 50%. The most significant complication within the first 24 hours of SAH is rebleeding, which is a major cause of morbidity and mortality. Preventing rebleeding is achieved through prompt treatment of the patient. Advancements in radiology and technology have also played a key role in the effective treatment of SAH. With the support of rapidly evolving neurovascular surgical techniques, better outcomes are now achieved, increasing patient survival rates and quality of life.

Endovascular treatment methods allow access to the aneurysm through a small incision, typically made in the groin, without the need for craniotomy. This significantly reduces the risks associated with open surgery, such as complications, infection rates, and bleeding. Minimally invasive techniques cause minimal trauma to the body, leading to less pain for patients and a more comfortable recovery process. Large-scale studies, such as the International Subarachnoid Aneurysm Trial (ISAT) conducted in 2002, have demonstrated that endovascular treatments decrease the likelihood of rebleeding and provide an effective therapeutic option.

Neurovascular surgery plays a crucial role in the treatment of patients with subarachnoid hemorrhage, and advancements in technology have contributed to improving success rates. However, if effective nursing care is not provided during the post-surgical period, the benefits of these advanced treatment methods may be limited. Evidence-based studies support the effectiveness of nursing care in the neurovascular surgical process, highlighting its indispensability in patients' recovery.

For evidence-based practices to be more widely integrated into nursing, it is essential that evidence-based application processes be incorporated into both nursing education and clinical practice, as well as academic research. This study explores protocols and evidence-based approaches in nursing care following SAH, aiming to guide nurses in providing evidence-based care that ensures patient safety and accelerates the recovery process.

Keywords: Subarachnoid Hemorrhage, Neuroendovascular Surgery, Evidence-based Nursing Care

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Determining the Individual Innovativeness Levels and Lifelong Learning Tendencies of Nursing Students and Examining the Relationship Between Them

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Emine EKİCİ[5]

Abstract

Aim: This descriptive and correlational research aims to determine the individual innovativeness levels and lifelong learning tendencies of student nurses and examine the relationship between them.

Materials and Methods: The universe of the research consists of 513 students studying in the Nursing Department of a foundation university in Istanbul in the 2023-2024 academic year. Data was collected from 412 students without selecting a sample, and 80% of the universe was reached. After obtaining the permission of the ethics committee and institution, the data were collected between November and December 2023 using the "Introductory Information Form", "Individual Innovation Scale" and "Lifelong Learning Tendencies Scale" via Google Form. In accordance with non-parametric methods, the "Mann-Whitney U" test (Z-table value) was used to compare the measurement values of two independent groups, and the "Kruskal-Wallis H" test (χ2-table value) was used to compare the measurement values of three or more independent groups. Bonferroni correction was applied for pairwise comparisons of variables with significant differences for three or more groups. The "Spearman" correlation coefficient was used to examine the relationships between two quantitative variables that did not have a normal distribution.

Findings: The average age of the students was 21.61±2.01 years. It was determined that the general average of the individual innovativeness scale was 43.43±8.09; the general average of the lifelong learning tendency scale was 68.46±22.87. A positive, moderate and statistically significant relationship was found between the individual innovativeness score average and the lifelong learning tendency score average ($r=0.563$; $p<0.001$). A significant difference was found between the individual innovation score averages of the students according to their gender, the high school they graduated from, and their status of following innovation in the health field. It was observed that there was a difference between the lifelong learning tendency score averages of the students according to their gender, the high school they graduated from, having a personal computer, and seeing nursing as suitable for themselves.

Conclusion: The individual innovation levels of female students were lower than male students, vocational high school graduates were lower than other high schools, and those who needed to follow innovation in the health field. The lifelong learning tendency of male students, third-year students, students who graduated from private high schools, and students who did not have a personal computer were higher. As the lifelong learning tendency of the students increased, their innovation levels also increased.

Keywords: Student, Nursing, Lifelong Learning, Individual Innovativeness

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Therapeutic Communication Skills of Nursing Students' Patient Safety Effect on Provision Competence

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Abstract

Many factors play a role in patient safety, which is one of the most important issues in health services. At this point, communication draws attention. Basically, communication is defined as a form of interaction that allows two people to understand each other, to express themselves to the other person, and to enable common behaviour. Therapeutic communication occurs when nurses use verbal and non-verbal communication techniques to connect with patients and meet their health care needs with a patient-centred and holistic approach. Therapeutic communication is based on trust, empathy and respect. Nurses use therapeutic communication skills to encourage patients to express their health care needs and feelings while maintaining professional boundaries. Looking at the data, it is estimated that 10-25% of patients worldwide are adversely affected each year due to reasons related to patient safety. Looking at the literature, it is seen that the therapeutic communication skills of nurses are generally not at the desired level. With this research, it is aimed both to contribute to the field of nursing by eliminating the deficiency in the literature and to improve the quality of health care by increasing the awareness of the effect of therapeutic communication on patient safety in nursing students, who are the health professionals of the future. This study examined the effect of nursing students' therapeutic communication skills on patient safety competence, knowledge, skills and attitude. It shows that as the level of knowledge increases, therapeutic communication skills also increase. When the effect of therapeutic communication skills on patient safety competence is examined, it is seen that these skills increase students' patient safety competence. Accordingly, it was found that nursing students' therapeutic communication skills and patient safety perceptions have a multidimensional structure.

Keywords: Nursing, Student, Therapeutic Communication, Patient Safety, Communication

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The Effect of Colorectal Surgery Readiness on Surgical Anxiety

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Abstract

Colorectal cancer is the third most common cancer worldwide and the second most common cause of cancer-related deaths. According to data published as a result of studies, more than 1.9 million new cases and 900 thousand deaths are reflected in statistics. According to ACS (American Cancer Society) data, more than half of colorectal cancer cases are caused by modifiable risk factors such as smoking, unhealthy diet, high alcohol consumption, physical inactivity and excess body weight. The diagnosis and treatment process negatively affects the psychological health of the patient and increases the anxiety of the patient. Studies have shown that the incidence of anxiety in the preoperative period varies between 60% and 92%. It is seen that high levels of anxiety in the preoperative period negatively affect the intraoperative and postoperative care of patients. At the same time, high anxiety reduces patient compliance with treatment in the postoperative period and prolongs the healing process. Healthcare professionals should have the skills to understand and manage patients' emotions. Patients' readiness for surgery is thought to be related to their anxiety levels. Studies have shown that surgical readiness reduces the complication rate and hospitalization time in the postoperative period and increases the satisfaction rate of patient care. Colorectal surgery patients should be prepared for pain, nutrition, mobilization, stoma care, surgical process in the preoperative period and patients should be given written and oral education on these issues. Preparation of patients for surgery should be provided with multidisciplinary cooperation. Nurses in this team assume a key role in a wide time period at the point of the first encounter with the patient in the preoperative period and continuing care after discharge. In this study, it was aimed to examine the effects of patients' written and verbal information about the surgical process and their readiness for the surgical process on their surgical anxiety.

Keywords: Surgery, Colorectal Cancer, Anxiety, Surgery Readiness, Surgical Nursing

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Alternative Therapies in Wound Care

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Abstract

A wound is tissue damage resulting from a disruption of the integrity of the skin or mucous membranes of the body, usually caused by external influences. This damage can occur for a variety of reasons, such as cuts, abrasions, bruises, burns or surgical interventions. A wound is a reaction in the body's tissues and organs that initiates the healing process and usually heals through the body's natural repair mechanisms. However, some wounds, especially those that have become infected or chronic, can be difficult to heal. Alternative treatments for wounds include a variety of methods used to speed up the healing process and reduce complications. Methods such as negative pressure wound therapy, hyperbaric oxygen therapy, wound dressings, honey, stem cells, larval therapy, ozone therapy, human amniotic membrane, exome therapy, prp therapy, laser, electrical stimulation, graft, dried tangerine peel, tilapia fish skin, calendula officinalis are among the alternatives that can be effective in wound healing. These methods provide benefits such as cleaning tissues, controlling infections and accelerating wound healing. However, each treatment method comes with its own advantages and limitations and often requires further research and clinical experience. Before using alternative treatments, their suitability for each patient should be carefully evaluated.

Keywords: Wound; Wound Care; Alternative Therapies; Nursing; Nursing Care.

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Determining the Knowledge Level of Nurses Working in a Children's Hospital Regarding Patient Safety

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Abstract

To ensure patient safety in pediatric patients, Nurses working with pediatric patients must have sufficient knowledge of patient safety and fully implement patient safety procedures. This research was conducted to determine the knowledge levels of pediatric nurses regarding patient safety. This descriptive study was conducted between 01.08.2022 and 01.08.2023 in the clinics/polyclinics of Ankara Bilkent City Hospital MH4 Children's Hospital. The study was completed with 265 nurses working in this hospital and who agreed to participate in the research. Data was collected online using the "Introductory Information Form" and "Patient Safety Data Collection Form". IBM SPSS V23 program was used to evaluate the data. Ethics committee approval and other necessary permissions were obtained for the study. Pediatric nurses' practices regarding patient safety; It has been determined that the level of knowledge is sufficient for verifying patient identity information, preventing errors during patient handovers, preventing falls, preventing medication errors, preventing healthcare-related infections, preventing errors in patient transfer, and preventing errors caused by the use of medical devices. The rate of nurses receiving training on patient safety, participating in patient safety activities, knowing automatic drug delivery systems and reporting errors made regarding patient safety are not at the desired level. In order to reduce or eliminate errors regarding patient safety in pediatric patients, it is important to provide regular training to nurses regarding patient safety, to update information in line with developing technology, to support them to participate in events such as courses, congresses and symposiums, and to create error reporting systems.

Keywords: Patient Safety, Pediatric Nursing, Children

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Baby Led Weaning Model

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Abstract

Baby Led Weaning (BLW) was developed by Gill Rapley in 2001-2002 as an alternative to the traditional complementary feeding model for normally developing infants. BLW is an approach that focuses on parents'development of their babies' natural eating skills during the transition to supplementary foods. This method encourages the baby to finger feed and feed on its own. Baby-led feeding allows the baby to be directly introduced to finger foods as an alternative to the traditional puree feeding method.

In the BLW approach, the baby is given the opportunity to choose, pick up and eat the food. This method is guided based on the baby's hunger and satiety signals, so that the baby is free to control its own appetite. The transition to solid foods usually starts around the 6th month, but this is done taking into account the physical development of the baby during this period. When the baby gains motor skills, such as being able to hold his/her neck upright, sit up on his/her own and bring his/her hands to his/her mouth, it is an appropriate time to start supplementary foods. In this process, babies are introduced to small, finger-sized cut foods and thus develop their chewing skills. They also develop oral motor skills and have the opportunity to participate in family meals. BLW introduces the baby to a variety of foods; foods such as vegetables, fruits, meats and whole grains are prepared in such a way that the baby can comfortably hold and chew them. By exploring different flavours and textures, the baby starts to develop a balanced diet.

Keywords: Baby Led Weaning, Children, Complementary Feeding

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Distress Scale in Parents of Children with Chronic Illness: A Validity and Reliability Study

Rahime ÇÖMLEKCİ ÖZCAN[1]
Semra KÖSE[2]

Abstract

Aim: This study was conducted to examine whether the Turkish version of the Distress in Parents of Children with Chronic Illness Scale developed by Lotte Haverman in 2013 is a valid and reliable measurement tool.
Method: The study was conducted with the parents of children with chronic diseases who were treated in pediatric wards and examined in outpatient clinics at a university hospital in Konya between June 2023 and June 2024. A total of 355 parents of children with chronic diseases who volunteered to participate in the study constituted the final sample. The data were collected using the Distress in Parents of Children with Chronic Diseases Scale and Information Form. The scale was administered to 30 parents at two-week intervals, and the test-retest method was employed to ascertain its temporal invariance. The research data were collected in person at the specified hospital, and all ethical principles were adhered to throughout the process. In the evaluation of the data, content validity (CVI) and construct validity (confirmatory factor analysis (CFA) and exploratory factor analysis (EFA) were employed to determine the validity of the findings, while internal consistency, test-retest reliability, KR-20, and item analysis were used to assess the reliability of the results.
Results: The findings of the study revealed that the total CQI of the scale was 0.972, the KMO value was 0.855, and the Barlett's test result was 638.570 ($p < 0.05$). It was determined that the total variance was 43.4%, with factor loadings of the items on the scale ranging from a minimum of 0.523 to a maximum of 0.792. The fit index values of the models of the scale were as follows: GFI 0.971, CFI 0.965, RMSEA 0.067. The KR-20 value of the scale ranged between 0.707 and 0.92, indicating a high level of internal reliability. The total item correlation of the scale was determined to be 0.863.
Conclusion: As a result of the study, it was determined that the Turkish version of the Distress in Parents of Children with Chronic Illness Scale is a valid and reliable instrument.
Practice implications: This scale may be a useful tool for health professionals in identifying distress in parents of children with chronic diseases.
Keywords: Child, Chronic Disease, Nurse, Parent, Stress, Validity and reliability.

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Investigation of the Relationship Between Night Pain, Balance, and Lower Extremity Performance in Patients with Lower Extremity Injuries

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Kalıçhan BAYAR[2]

Abstract

Night pain in patients with lower extremity injuries may occur due to factors like swelling, muscle spasms, and changes in blood flow. Recovery depends on the type of injury, tissue healing process, and overall health of the individual. This study aimed to investigate the effect of night pain on balance and lower extremity performance in patients with lower extremity injuries.

A total of 46 volunteers (27 females, 19 males) referred to physical therapy and rehabilitation units for lower extremity injuries participated in the study. Participants were divided into two groups: those with night pain (n=30) and those without night pain (n=16). The ages of participants ranged from 18 to 65 years, with a mean age of 49.5 ± 12.5 years in the night pain group and 38.5 ± 18.3 years in the no night pain group. There were no differences between the groups in terms of age, height, and body weight, but there was a difference in gender distribution.

Night pain was assessed using the Visual Analog Scale (VAS). Balance was measured using the single-leg stance test (eyes open and closed) on both the right and left legs. Performance was evaluated with the 30-second sit-to-stand test. Data analysis was performed using the Jamovi software (version 2.3), and differences between groups were analyzed using the Mann-Whitney U test.

The results showed significant differences in balance (right leg, eyes open: $p = 0.022$; left leg, eyes open: $p = 0.048$; left leg, eyes closed: $p = 0.045$) and lower extremity performance ($p = 0.049$) between the groups, except for the right leg balance test with eyes closed ($p = 0.645$). The no night pain group demonstrated better balance and performance.

These findings suggest that night pain negatively affects balance and lower extremity performance in patients with lower extremity injuries.

Keywords: Lower Extremity Injury, Balance, Performance, Night Pain

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The Role of Mirror Neurons in Mirror Therapy

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Abstract

Mirror therapy is a treatment method that creates visual illusion through mirror neurons and is used in the rehabilitation of individuals. This method can be used in combination with classical rehabilitation programmes in cases such as motor problems, sensory anomalies, visual spatial neglect, post-stroke pain and phantom pain. The basis of mirror therapy is increased self-awareness and spatial attention through the activation of mirror neurons. Mirror therapy enables the recovery of lost motor skills or functions by utilising the neuroplasticity of the brain. By allowing the patient to see the movements of the healthy limb through a mirror, it helps to reactivate the affected area of the brain and improve muscle activity or reduce pain through motor learning. Mirror therapy is a low-cost and easily accessible treatment method that can be easily learnt by individuals. Although the number of studies on the importance of mirror neurons in mirror therapy has increased in recent years, the evidence obtained is not sufficient. This method, which is a simple and easily accessible method and provides noninvasive stimulation of the brain, should be applied by field workers together with classical treatment methods and this method should be taught to family members and should be included more in home-based exercise programmes. In addition, it is important to increase research on the effectiveness of mirror therapy and mirror neurons in the treatment of diseases, frequency and duration of application. From this point of view, our study aims to investigate the role of mirror neurons in mirror therapy, which has been frequently used in rehabilitation programmes in recent years.

Keywords: Mirror Therapy, Mirror Neurons, Neuroplasticity, Rehabilitation, Motor Learning

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Comparison of the Effects of Floss Band and Dynamic Stretching Exercises on Shoulder Range of Motion, Flexibility, Proprioception, and Upper Extremity Performance in Adolescent Volleyball Players

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Zeynep HAZAR[2]

Abstract

The aim of this study was to investigate the effects of floss band on shoulder range of motion, flexibility, proprioception and upper extremity function in asymptomatic adolescent volleyball players in comparison with dynamic stretching, which is commonly used to prevent pre-exercise injuries.

The study included 21 female volleyball players aged between 10 and 18 years, with a mean age of 13.57±2.07 years. The study was designed as a crossover trial, comprising three different groups: the Floss Band application group, the Dynamic Stretching application group, and the Control group, in which only active upper extremity exercises were performed. Each volleyball player participated in all three application groups. Demographic data of the participants were collected using an evaluation form. Before and after the interventions, shoulder range of motion was measured using a goniometer; flexibility was assessed with the Shoulder Flexibility Test and the Posterior Shoulder Tension Test; shoulder proprioception was evaluated using an inclinometer; and upper extremity performance was assessed using the Medicine Ball Throw Test and the Y Balance Test.

It was determined that there was a statistically significant increase in the results of shoulder range of motion, Shoulder Flexibility Test, Posterior Shoulder Tension Test, shoulder proprioception, Health Ball Throwing Test, and Y Balance Test after the intervention compared to before the intervention in the Floss Band and Dynamic Stretching groups (p<0.001). In the between groups comparisons, the increases observed in all parameters were found to be higher and statistically significant in Floss Band application compared to Dynamic Stretching and Control applications (p<0.001).

According to the results of the study, the application of Floss Band was found to be more effective than Dynamic Stretching and Control groups in improving shoulder range of motion, flexibility, proprioception, and upper extremity performance in asymptomatic adolescent volleyball players. It is anticipated that the use of floss band prior to competition may positively impact sports performance in adolescent volleyball players.

Keywords: Adolescent, Dynamic Stretching, Floss Band, Shoulder, Volleyball

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Investigation of Health Status in Mothers of Children with Cerebral Palsy and Autism: A Comparison on Cognitive Functions, Pain, Physical Activity and Hopelessness

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Ayşe ABİT KOCAMAN

Abstract

Children with special needs are individuals who experience significant difficulties in motor, cognitive, emotional and social areas and struggle with different developmental problems. The care of these children significantly affects not only their lives but also the lives of their families. Mothers, in particular, are more physically, emotionally and socially burdened as they assume primary responsibility for the care of their children. The aim of this study was to compare the cognitive status, hopelessness levels, physical activity levels and pain severity of mothers of children diagnosed with cerebral palsy (CP) and autism spectrum disorder (ASD). The study included 45 mothers of children with CP and 45 mothers of children with ASD. Participants' cognitive status was assessed using the Montreal Cognitive Assessment Scale, hopelessness levels were assessed using the Beck Hopelessness Scale, physical activity levels were assessed using the International Physical Activity Questionnaire, and pain intensity was assessed using the Visual Analog Scale. Our findings showed that there was no significant difference between mothers of children with CP and mothers of children with ASD in terms of cognitive status and pain severity ($p>0.05$). However, the hopelessness levels of mothers of children with ASD were found to be statistically significantly higher than those of mothers of children with CP ($p = 0.020$). In addition, physical activity levels of mothers of children with ASD were found to be higher than those of mothers with CP ($p = 0.041$). As a result of our study, it was found that mothers of children with ASD had high levels of hopelessness and mothers of children with CP had low levels of physical activity. These findings emphasize the importance of special interventions and programs to support the mentaland physical health of mothers.

Keywords: Pain, Cognition, Physical Activity, Hopelessness, Mothers

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Investigation of the Relationship Between Static Balance and Physical Performance in Individuals with Autism and Pes Planus

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Banu BAYAR[2]

Abstract

Studies show that the prevalence of pes planus (flat feet) in children with autism is significantly higher compared to typically developing children (Ozgen et al., 2011). This condition is often linked to reduced muscle tone (hypotonia) and differences in motor development commonly observed in individuals with autism. Pes planus can lead to excessive foot pronation and loss of functional stability, resulting in balance issues. It can also negatively affect foot biomechanics, impairing basic movement performance.

This study aimed to examine the relationship between static balance and physical performance in individuals with autism and pes planus. Ten individuals diagnosed with autism (3 females, 7 males) from a special education and rehabilitation center participated in the study. Participants were aged between 8 and 21 years, with a mean age of 12.6 ± 4.5 years.

Participants who volunteered for the study underwent foot evaluations first. Individuals with 2nd and 3rd degree pes planus were included in the static balance and physical performance tests. Static balance was assessed using the single-leg stance test (with eyes open and closed) and the tandem stance test. Physical performance was evaluated using the Broad Jump Test.

Data analysis was performed using the Jamovi software (version 2.3).The results showed no significant relationship between static balance and physical performance ($p > 0.05$). Future studies could benefit from assessing balance and physical performance using alternative tests and incorporating appropriate shoe modifications or insoles for pes planus.

Keywords: Pes Planus, Balance, Performance, Autism

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The Effects of LSVT-BIG Protocol on Balance, Gait, Fatigue and Quality of Life in Patients with Parkinson's Disease

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Fatih SÖKE[4]
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Abstract

Parkinson's disease is a neurodegenerative disease characterized by motor and non-motor symptoms that greatly impairs activities of daily living and quality of life. The LSVT-BIG protocol is a new rehabilitative approach including task-specific, repetitive, and high-intensity exercises that aim to restore normal movement amplitude by calibrating the patient's perception of movement execution. Protocol consists of four phases: maximal daily exercises, functional component exercises, hierarchy exercises, and "big" walking (walking with large amplitude arm swing and stride length). Our aim in this study was to investigate the effects of telerehabilitation-based LSVT-BIG protocol on balance, gait, fatigue and quality of life in Parkinson's disease. 40 patients diagnosed with Parkinson's disease were randomized into two groups: experimental and control groups. Telerehabilitation-based LSVT-BIG protocol was applied to the experimental group via video conferencing method, 4 sessions per week for 4 weeks, each session lasting 1 hour. Control group did not receive any physiotherapy rehabilitation approach. Both groups continued their routine medical treatment during study. Patients were evaluated when they first came to the clinic and at the end of 4 weeks. Disease severity and stage were assessed with the Unified Parkinson's Disease Rating Scale (UPDRS) and the Hoehn Yahr Scale. Balance was assessed with the Activity-Specific Balance Confidence Scale, Berg Balance Scale, One-Leg Standing Test, and Four-Step Square Test. Gait was assessed with the Dynamic Gait Index and Figure-of-Eight Walking Test. Fatigue was assessed with the Parkinson Fatigue Questionnaire and quality of life with the Parkinson Disease Questionnaire-8. After the treatment, only the experimental group showed significant improvement in all parts of UPDRS ($p<0,05$). After treatment, significant improvements were obtained in all balance, gait, fatigue and quality of life values except Four-Step Square Test in the experimental group ($p<0,05$). The difference between the groups in all values except the Four-Step Square Test and the Hoehn Yahr stage after treatment was significant in favor of the experimental group ($p<0,05$). Parkinson's patients need physiotherapy and rehabilitation practices in addition to their routine treatments. Telerehabilitation-based LSVT-BIG program implemented via video conferencing method is an effective physiotherapy and rehabilitation approach on balance, gait, fatigue and quality of life. Since the program is short-term and can be effectively integrated into telerehabilitation, it may be preferred in the clinical practice.

Keywords: Parkinson's Disease, LSVT-BIG, Telerehabilitation, Balance, Gait, Fatigue, Quality of Life

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Clinical Determinants of Upper Extremity Functional Exercise Capacity in Young Adults: Insights from the 6-Minute Pegboard and Ring Test

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Muserrefe Nur KELEŞ2

Abstract

This study aimed to investigate the clinical determinants of upper extremity functional exercise capacity in young adults, assessed using the 6-Minute Pegboard and Ring Test (6PBRT).

A cross-sectional study was conducted with 53 young adults (31 women, 22 men; mean age: 22.81 ± 3.78 years). Upper extremity functional exercise capacity was evaluated using the 6PBRT. Additional assessments included the Quick Disabilities of the Arm, Shoulder, and Hand scale for upper extremity function; a digital dynamometer for upper extremity and hand grip strength; a mouth pressure device for respiratory muscle strength; and an inspiratory muscle training device for respiratory muscle endurance. Core muscle endurance was evaluated using the trunk flexor test, trunk extensor (Sorensen) test, and bilateral side bridge tests, while deep core muscle activation was assessed using a pressure biofeedback unit. The Upper Quarter Y Balance Test was used to measure upper extremity balance, the SF-12 Short Form Health Survey for quality of life, and the International Physical Activity Questionnaire (Short Form) for physical activity level. Correlation and regression analyses were performed to identify significant predictors of 6PBRT performance.

The 6PBRT performance showed significant correlations with respiratory muscle strength, including maximal inspiratory pressure (MIP) ($r = 0.341$, $p = 0.013$) and maximal expiratory pressure (MEP) ($r = 0.417$, $p = 0.002$). Among core endurance measures, significant correlations were observed with the Sorensen test ($r = 0.319$, $p = 0.021$), right lateral bridge ($r = 0.345$, $p = 0.012$), and left lateral bridge ($r = 0.364$, $p = 0.008$). However, multiple regression analysis revealed that only maximal expiratory pressure (MEP) was an independent predictor of 6PBRT performance, accounting for 41.7% of the variance ($R^2 = 0.174$, $p = 0.002$).

The 6-Minute Pegboard and Ring Test is a reliable tool for assessing upper extremity functional exercise capacity in young adults. Maximal expiratory pressure (MEP) emerged as the most significant clinical determinant, emphasizing the critical role of respiratory muscle strength in functional upper extremity performance. These findings highlight the importance of incorporating respiratory muscle strength assessments and targeted interventions in clinical and rehabilitative practices to optimize upper extremity functionality.

Keywords: Upper Extremity, Functional Capacity, Young Adults, Respiratory Muscle Strength, Core Endurance

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Analysis of Scoliosis Incidence and Influencing Factors in Adolescents at Different Socioeconomic Levels Who Have Been Evaluated with Spinal Mouse Device

Ayşe LIVANELIOGLU[1]
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Abstract

Analysis of Scoliosis Incidence and Influencing Factors in Adolescents at Different Socioeconomic Levels Who Have Been Evaluated with Spinal Mouse Device, Hacettepe University Faculty of Physical Therapy and Rehabilitation, General Physiotherapy Program Master's Thesis, Ankara, 2024. Scoliosis is a spinal deformity characterized by the presence of lateral curvatures in the spine, affecting the spine in a three-dimensional manner. The origin of the word scoliosis comes from Greek. The diagnosis of scoliosis is made by specialist physicians when a coronal plane lateral curvature of 10° or more is found in images taken of the patient in a standing and relaxed posture during radiological imaging. In this study, it was aimed to investigate the incidence of scoliosis and the analysis of influencing factors by evaluating the spinal curvatures of children at different socioeconomic levels with the Spinal Mouse device. The study included 149 children aged between 10-14 years. The spinal curvatures of the children were evaluated with the Spinal Mouse. Additionally, the children's obesity angles, quality of life, self-esteem, and distribution of leisure activities were assessed. No significant differences were found between the ages, genders, socioeconomic levels, the condition of being medium/high according to the Rosenberg self-esteem scale, parental education levels, and income levels of children with and without suspected scoliosis ($p>0.05$). In children with suspected scoliosis, SRS-22 scores for Pain, Body Image, spinal functions, and mental health were found to be lower ($p<0.05$). It was determined that as the obesity values of children with suspected scoliosis increased, SRS-22 Body Image scores decreased ($p<0.05$). The effect of physical activity, gender, socioeconomic status, and self-esteem on thoracic curvature was not determined in children with suspected scoliosis ($p>0.05$). In children with suspected scoliosis, those who engage in physical activity have lower obesity values compared to those who do not ($p<0.05$). The number of children with scoliosis we encountered in our study is quite high, and we believe that the children's proximity to technology, genetic transmission, study durations, and the increase in poor posture habits contribute to this. We think that spinal problems detected at this early stage can be controlled with appropriate guidance, and that school screening programs should be implemented throughout Turkey for their detection.

Keywords: Adolescent Idiopathic Scoliosis, Spinal Mouse, Gibbosity, SRS-22, Physical Activity

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Stretching and Percussion Massage Therapy Applied to the Hamstring Muscle Instant Skin Temperature and Its Effect on Elasticity

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Abstract

Background

Our study was to compare the ımmediate effects of static stretching exercise and percussion massage applications of elasticity on the hamstring muscle and change in skin temperature.

Materials and Methods

The study included 14 healthy individuals between the ages of 20 and 30. The study was carried out from October to November 2024. In this randomized study, the participants were randomly divided into 2 groups: percussion massage therapy (n=7) and static stretching (n=7). Skin Temperature measurement and Sit-Reach test were used as evaluation parameters. Evaluations were performed before and after treatment.

Results

The difference between the "before" and "after" values of the 'Sit-Reach' Test in the Percussion Massage Treatment (p=0.001) group and the Static Stretching (p=0.023) group was statistically significant. It was observed that Percussion Massage (p=0.024) treatment provided a significant increase on dominant side hamstring skin temperature, while Static Stretching (p=0.370) treatment did not have this effect.

It was observed that both groups improved the results of the 'Sit-Reach' Test. The fact that there was no significant difference in the test results between the 2 groups reveals that the effects of both methods on these parameters are similar. Both methods have been found to be applicable in improving physical performance. However, it can be said that Percussion Massage treatment provides a more significant effect on increasing skin temperature.

Keywords: Percussion, Static Stretching, Flexibility, Skin Temperature, Vibration,

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The Relationship between Physical Activity Level and Healthy Lifestyle Profile Levels in Patients with Hypertension

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Hakan SÜYGÜN[3]

Abstract

In the treatment of hypertension, it is extremely important for individuals to adopt a healthy lifestyle and make changes in their lifestyle by choosing behaviors appropriate to their health status. Physical activity level is one of the key points in healthy lifestyle behaviors.The aim of the study is to examine the effect of physical activity levels on healthy lifestyle behaviors of hypertension patients.32 patients with hypertension who applied to the Cardiology Clinic of Karaman Training and Research Hospital were included in the study. Physical and demographic characteristics of the patients were recorded, and physical activity level was assessed by the International Physical Activity Questionnaire-7 (IPAQ-7) and healthy lifestyle profile level was assessed with the Healthy Lifestyle Behavior Scale (HLBS). T-test and Pearson correlation test were applied for analysis. The gender distribution of the patients was equal in terms of female and male ratios; females were 50.0% (n=16) and males were 50.0% (n=16). The mean age of the patients was determined as 48.190±6.140. A significant and strong positive correlation was found between IPAQ scores and HLBS total score. ($r=0.924$, $p<0.01$) Significant positive correlations were found between IPAQ and Health Responsibility, Physical Activity, Nutrition, Spiritual Development, Interpersonal Communication and Stress Management sub-dimensions. (respectively; $r=0.692$, $p<0.01$; $r=0.868$, $p<0.01$; $r=0.494$, $p<0.01$; $r=0.586$, $r=0.566$, $p<0.01$; $r=0.606$, $p<0.01$) These results emphasize the importance of increasing people's physical activity levels to support healthy lifestyle changes, which are an important element of treatment in patients with hypertension. Increasing physical activity in these patients will facilitate chronic disease management. Furthermore, incorporating regular exercise into daily routines can improve cardiovascular health, enhance quality of life, and reduce the risk of complications associated with hypertension. Providing physical activity counseling and raising awareness among patients about this topic are important in cardiac rehabilitation program.

Keywords: Hypertension, Physical Activity, Healthy Lifestyle Behaviors, Chronic Disease.

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Assessment of Balance and Posture in Individuals with Upper Extremity Injuries: A Pilot Study

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Banu BAYAR [2]

Abstract

Introduction - Purpose: Injuries to the upper limbs can prevent the muscles in this area from performing their normal function. Muscle weakness or pain causes other muscle groups in the body to work harder, and this can shift the person's center of gravity when walking or carrying loads, making it difficult to maintain balance and encouraging load transfer with poor posture. Correct posture is achieved when each part of the body is in balance with the others. When the body is considered as a kinetic chain, changes in the upper extremities and scapular region lead to misalignment and balance changes in the spine, which is the main component of posture. The aim of this study was to evaluate balance and posture in individuals with upper extremity injuries.
Materials and Methods: The study included 32 individuals aged 10-76 years with a history of upper extremity injury. Participants' balance was assessed separately for the right and left sides with eyes open and closed. Posture was assessed using the New York Posture Analysis Method (NYPAY). Spearman correlation analysis of the data was performed using SPSS statistical software (version 26.1).
Results: Fifteen (49.9%) of the participants were female and 17 (53.1%) were male with a mean age of 51.16 ± 17.71 years. The mean body mass index (BMI) was 26.67 ± 4.67 kg/m2. The mean posture score was 55.55 ± 6.63. The mean balance scores were 33.69 ± 40.81 with eyes open and 14.31 ± 15.15 with eyes closed for the right side and 24.63 ± 23.36 with eyes open and 11.88 ± 11.28 with eyes closed for the left side. A statistically significant relationship was found between posture and balance ($p < 0.05$).
Conclusion: As a result of our study, we believe that it is important to improve balance in order to improve posture in individuals with upper extremity injuries. These findings highlight the importance of including posture and balance parameters in assessment and rehabilitation programmes for individuals with upper extremity injuries.
Keywords: Upper extremity, Injury, Balance, Posture, Rehabilitation

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The Relationship Between Cognitive Factors, Pain and Awareness in Patients with Chronic Neck Pain: A Pilot Study

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Kılıçhan BAYAR[2]

Abstract

Introduction-Purpose: Proprioceptive sensation is a type of sensation that is perceived and transmitted to the central nervous system by mechanoreceptors located in joints, tendons, capsules, ligaments and muscles. This sensory information provides the basis for proprioceptive awareness by establishing a link between the somatic motor system and the central nervous system. The effective functioning of the proprioceptive sense is important in maintaining both motor control and postural stability. Therefore, body awareness can be directly affected by changes in the musculoskeletal system and associated structures. Neck pain can negatively affect an individual's body awareness, and cognitive processes related to pain may play an important role in the individual's condition. Current literature indicates that body awareness is an effective factor in the emotional, cognitive and physical processes of the individual and should be considered as a basic element of health. In this sense, many physiotherapists also target cognitive factors in their treatment approaches. Therefore, it is important to consider body awareness and cognitive factors in the treatment of neck pain. The aim of this study is to investigate the relationship between cognitive factors, pain and body awareness in people with chronic neck pain.
Materials and Methods: Twelve individuals aged 18-55 years with chronic neck pain for at least 3 months participated in this study. Participants' resting and active pain levels were assessed using the Numerical Rating Scale (NRS), neck awareness using the Fremantle Neck Awareness Questionnaire (FreNAQ), and cognitive status using the Montreal Cognitive Assessment Scale (MOCA). The data obtained were analyzed by Spearman correlation analysis using SPSS statistical software (version 26.1).
Results: Twelve of the participants (100%) were female and the mean age was 28.83±8.67 years. Participants' mean NRS scores were calculated as NRS-Ist 3.75 ± 2.13, NRS-Akt 6.33 ± 2.10, FreNAQ awareness scores 7.08 ± 6.34 and MOCA scores 21.66 ± 4.55. A statistically significant relationship was found between awareness and pain at rest and during activity ($p < 0.05$).
Conclusions: In our study, the decrease in pain scores of individuals with chronic neck pain may be important for increasing awareness. These findings emphasize the importance of including parameters related to neck perception in treatment programmes because of the relationship between pain and perception in people with chronic neck pain.
Keywords: Chronic, Neck Pain, Awareness, Cognitive

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The Effect of Structured Occupational Therapy Intervention on Functional Independence and Balance in a Case with Sotos Syndrome

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Nuray YILDIRIM[3]

Abstract

Introduction: This study aimed to examine the effect of a structured occupational therapy intervention on regulation, self-care, balance, functional independence, and gross and fine motor skill challenges in a 4.5-year-old male child with Sotos Syndrome.

Materials and Methods: Before and after the occupational therapy intervention, the Canadian Occupational Performance Measure (COPM) was used to assess activity performance and satisfaction. The Functional Independence Measure for Children (WeeFIM) was employed to evaluate functional independence levels in daily living activities, and the Pediatric Berg Balance Scale (PBBS) was used to assess balance in daily living activities. Additionally, the Zarit Burden Interview (ZBI) was administered twice to the child's parent, before and after the intervention, to evaluate the emotional and physical burden of caregiving.

Results: The COPM parameters of self-care, leisure, and productivity/play were utilized in the study. The average COPM score increased significantly from 4.6 to 7.2, indicating notable improvements in performance and satisfaction. The WeeFIM score increased from 77 before the intervention to 92 afterward. PBBS results showed that balance scores improved, rising from 41 pre-intervention to 50 post-intervention. The ZBI scores reported by the parent decreased from 57 before the intervention to 46 afterward.

Discussion: Occupational therapy interventions were shown to improve the individual's level of independence in daily living activities. No evidence of structured occupational therapy intervention studies related to this syndrome was found in the literature. This study not only contributes to the existing literature on Sotos Syndrome but is also expected to guide further research on the topic.

Keywords: Balance, Functional Independence, Motor Skills, Occupational Therapy, Sotos Syndrome

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The Effect of Different Propolis Species on Fermented Sausage Quality Properties*

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Abstract

Among fermented foods, fermented sausage is a favorite meat product that people consume in Turkey. In the production of fermented sausage, chemical additives are used. However, if these additives are unnatural, they can harm human health. For this reason, the need for natural additives is increasing as there is a growing demand for natural and healthy food consumption. Propolis additives can be used in various food products in the food industry. Propolis is obtained from natural honey bee hives and consists of bioactive compounds with antimicrobial and antioxidant properties. Therefore, propolis can be used as an additive instead of nitrites in meat products.

In the study of the investigation of the effect of different propolis species on fermented sausage quality properties, 10 different sausage doughs containing different types and proportions of propolis were produced. The fermentation process was then completed. During production and storage, physical, chemical, microbiological, textural, and sensory analyses were conducted on the sausages on the 7th, 12th, 30th, and 60th days. According to the analysis results, it was determined that propolis did not have a negative effect on the products.

In the aw, pH, acidity, color, TBARS, Enterobactericea count, yeast and mold, Staphylacoccus, Enterococcus, total mesophil bacteria, lactobacillus count, antioxidant, sensory and texture analysis of sausages which added propolis additive was determined that propolis did not have any adverse effects.

According to the sensory analysis results of the cooked sausages with three types of propolis additives at different rates, the most liked fermented sausages in terms of smell, taste, texture, and general appreciation scores were those with 0.5% (A1), 1% (A2), and 2% (A3) red propolis additive, 0.5% (B1) green propolis additive, and 2% (C3) brown propolis additive. As a result, it was determined that these propolis-added fermented sausages are suitable for use.

Keywords: Natural Additive, Fermented Sausage, Propolis, Health.

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The Power of Social Media on Health: An Examination of the Ozempic Trend on TikTok

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Abstract

Ozempic, the brand name of the drug semaglutide, is primarily prescribed for managing type 2 diabetes and reducing the risk of major cardiovascular disease. Although it has been available since 2012 and its main function is to regulate blood sugar levels, it has gained popularity for its off-label use in weight management. Increasing obesity rates and beauty and thinness trends, especially those imposed through social media, have directed many individuals towards rapid weight loss efforts. Recently, the increase in weight loss-related videos shared on TikTok is a reflection of this trend.

Ozempic videos on TikTok demonstrate the role of social media platforms in popularizing health-related content. Although Ozempic is a drug used to treat type 2 diabetes, it attracts attention on TikTok specifically due to its weight loss effects. Users share their experiences with the drug's appetite suppression and rapid weight loss effects, which has led to its perception as a "miracle weight loss drug." These contents create a popular trend focused on aesthetic concerns on the platform while offering limited information on side effects, overlooking that Ozempic is only approved for diabetes treatment. Various effects, such as changes in facial appearance due to rapid weight loss, often referred to as "Ozempic face," have become one of the main focuses of the videos. This trend has increased the drug's popularity, leading to shortages in certain regions and making access to the medication more difficult for diabetes patients. Therefore, these contents should be evaluated not only in terms of health risks but also in ethical and sociocultural aspects.

This cross-sectional study aims to define the content of videos shared under the hashtag #Ozempic on TikTok and to discuss the potential health risks of drug-related information shared on social media. The scope of the study includes all TikTok videos, with the sample consisting of the first 30 videos shared under the hashtag #Ozempic. Consequently, it is observed that TikTok's structure, which is focused on creativity and interaction, has shaped the presentation of these videos. The maximum 60-second duration of the videos ensures that messages are concise and clear. The integration of sound and music makes the videos more relevant and entertaining. Alongside all these positive aspects, the off-label use of the drug and its presence on social media have led to ethical and reliability discussions on various platforms.

Keywords: TikTok, #Ozempic, Weight Management, Social Media, Weight Loss

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Vulnerable Group in the Face of Cbrn Threats: Protecting and Educating Children

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Abstract

Chemical, Biological, Radiological, and Nuclear (CBRN) threats are among the most significant dangers faced by humanity in the modern world. Whether used intentionally or accidentally, the dissemination of these agents into the environment has serious adverse effects on all living beings. CBRN materials are commonly utilized in acts of terrorism, warfare, and efforts to achieve international dominance. These substances are frequently chosen due to their capacity to cause mass casualties and injuries, their ease of acquisition, and their storage convenience. Wars and terrorist incidents are defined as armed conflicts occurring between states, governments, societies, or groups, and it is anticipated that CBRN agents will be used more extensively as tools of war and terrorism in the future. These agents possess the potential to serve as powerful tools for achieving illicit social and political objectives, creating an atmosphere of fear, panic, anxiety, and chaos, pressuring or toppling governments, and instilling fear within societies. The use of CBRN agents in warfare and terrorism affects all age groups. However, children, who are vulnerable and disadvantaged, are more severely impacted compared to adults. The effects of CBRN agents on children are more prolonged, and due to their anatomical and physiological differences, their rates of injury and mortality increase. Therefore, understanding the detrimental impacts of CBRN threats on children and the methods for protecting them in the context of warfare and terrorism is of critical importance. This study aims to address the effects of CBRN threats on children's health and explore protective measures. Strategies and methods for protecting and educating children against CBRN threats are crucial for building a more resilient and informed society to face potential future disasters.

Keywords: CBRN Threats, Child Health, CBRN Protection Methods, Vulnerable Groups, Education

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Attitudes of University Students Towards Premarital Sexuality

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Abstract

Objective: Turkey aims to meet its energy needs with nuclear projects, starting the Akkuyu NPS (Nuclear Power Station) in Mersin's Gülnar district under a Russia agreement. This study aims to evaluate the emergency health services in Akkuyu during a potential emergency, considering the region's vulnerability to natural events such as earthquakes and tornadoes.

Method: This study reviewed the impact of nuclear plant-related earthquake and tornado risks on health services through keyword searches on Google Scholar and PubMed. EIA (Environmental Impact Assessment), NREP (National Radiation Emergency Plan), and PREP (Provincial Radiological Emergency Plan) reports were examined, but Akkuyu Nuclear Power Plant's EIA report was inaccessible.

Findings: Akkuyu NPS is critically located near active faults, including the Ecemiş Fault, Cyprus Arc, and the Dead Sea Fault Zone. Earthquakes caused by the Ecemiş Fault are typically between magnitudes 3 and 4, with rare occurrences over magnitude 5. The Dead Sea Fault Zone is capable of producing earthquakes with magnitudes of 7 or greater, particularly impacting Mersin's eastern regions. The Akkuyu NPS is located in the V seismic zone according to the earthquake region map. The plant is designed to withstand magnitudes of 8 to 9. The facility is resistant to hurricanes, floods, and collisions with 20-ton aircraft traveling at 200 m/s. Tornadoes are most frequent in the Mediterranean region of Europe. Mersin experienced significant tornado events in 2013 and 2016. Increased tornado frequency and intensity due to climate change may pose a risk to Akkuyu NPS. Tornadoes were not addressed in the Akkuyu Nuclear Power Plant's 2011 Environmental Impact Assessment. The most common weather-related disasters in Mersin include hailstorms, heavy winds, and floods caused by excessive rainfall. Severe storms can facilitate tornado formation. In a potential disaster scenario, the NREP would be activated. Emergency health services are overseen by the Ministry of Health under NREP. Preparedness for health services, emergency criteria, and local health infrastructure are outlined, but details are insufficient. NREP mentions establishing reference hospitals for individuals contaminated with radioactive substances, though specific hospitals have not been identified. According to the Mersin PREP, as of 2021, the province has 29 hospitals, 1,723 specialist doctors, 1,294 general practitioners, 4,490 nurses, 182 ambulances, and a bed capacity of 4,756.

Conclusion: Identifying a reference hospital for Akkuyu NPS in disaster scenarios is essential for nuclear and radiation emergency preparedness. This ensures the proper execution of strategies to train and enhance the response skills of both hospital and pre-hospital teams.Time

Keywords: Nuclear Power Plants, Earthquakes, Tornadoes, Emergency Health Services, Disasters

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The Effect of Screening Tests Performed During Pregnancy on the Anxiety Levels of Pregnant Women

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Abstract

Aim: This study was conducted to investigate the effects of screening tests performed during pregnancy on the anxiety levels of pregnant women.

Method: This descriptive study was conducted with 200 pregnant women who applied to the Obstetrics and Gynecology Clinic of Erzurum City Hospital. The universe of the study consisted of pregnant women who applied to the obstetrics and gynecology clinic of the relevant hospital, while the sample consisted of pregnant women who were 18 years of age and older, who were not diagnosed with high-risk pregnancy and whose gestational age was 28 weeks and above. Data were collected by the researchers using face-to-face interviews. The "Survey Form" and "State and Trait Anxiety Scale" were used as data collection tools. Data were analyzed using mean, percentage, standard deviation and multiple linear regression analysis.

Findings: The mean age of the pregnant women participating in the study was 28.89±6.27 and the mean gestational week was 34.37±2.65. 16% of the pregnant women had a university degree or higher. 43.5% are in their second pregnancy, while 45.5% have one child. 15% of pregnant women have a history of miscarriage, 3.5% have a history of having anomalous babies and stillbirths. Waiting for the results of screening tests worries 71% of pregnant women. 67.5% feel tense during the tests. The State and Trait Anxiety Scale "State Anxiety" sub-dimension mean score is 36.35±8.73 and the "Trait Anxiety" sub-dimension mean score is 40.56±8.49. According to the results of multiple linear regression analysis, the presence of a genetic disease in oneself and/or one's spouse, the presence of someone who supports her during the test, and seeing screening tests as a waste of time are significant and negative predictors of trait anxiety level (β= -0.19, $p<0.01$; β= -0.38, $p<0.001$; β= -0.14, $p<0.05$).

Conclusion: The state and trait anxiety levels of pregnant women are low. Employment status and spouse's employment status are significant and negative predictors of trait anxiety level. The presence of any problem as a result of the test and having bad thoughts during the test are significant and positive predictors of state anxiety level. In addition, the presence of a genetic disease in oneself and/or one's spouse, the presence of someone who supports her during the test, and seeing screening tests as a waste of time are significant and negative predictors of trait anxiety level.

Keywords: Midwife, Pregnant, Anxiety,Prenatal Screening Tests, Screening Tests.

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Mental Health and Coping Strategies During Covid-19 Pandemic

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Abstract

The ongoing pandemic of Covid-19 is a global challenge which resulted significant adversely affected the human beings lifestyle, economy and social integrity. There is rising concern about the mental health challenges of the general population, Covid-19-infected patients, close contacts, elderly, children and health professionals. Stressful life events, extended home confinement, brutal grief, intrafamilial violence, overuse of the Internet and social media are factors that could influence the mental health during this period. The Covid-19 pandemic could result in increased psychiatric disorders such as Post-Traumatic Stress, Depressive, and Anxiety Disorders, as well as grief-related symptoms. This scientific research focusses on various mental health challenges during the Covid-19 pandemic. The aim of this research is to review literature on psychiatric disorders related to the Covid-19 Pandemic and lockdown and to investigate the effects of the Covid-19 on perceived stress, and ways of coping with stress.
Keywords; Pandemic Mental Disorder, Post-traumatic Stress Disorder, Coping

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The Effect of Traumatic Brain Injury on Peripheral Tissues in the Acute and Chronic Phase in Mice Model

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Abstract

Aim: Traumatic brain injury (TBI) is caused by a blow or jolt to the head or by an object penetrating the skull and damaging the brain tissue, which can subsequently affect the entire body system. TBI is a significant health issue that affects people of all ages and socioeconomic groups and has a high mortality and morbidity rate. However, the molecular mechanisms that affect the vital functions and treatment process after TBI have yet to be fully understood. Alkaline Phosphatase (Alpl) and Fibroblast Growth Factor (bFGF) genes, expressed in tissues and organs that play a crucial role in regulating vital functions, may influence the clinical phenotypes developed after trauma. In this study, we aimed to investigate the expression levels of Alpl ve bFGF in the traumatic mice models.
Materials and Methods: The study was conducted at Erciyes University Genome and Stem Cell Research Center (GENKOK). A total of 30 animals were randomly divided into three groups, with equal numbers of males and females in each group. Mild TBI (mTBI) was induced in mice utilizing the Marmarau trauma model. After applying the mTBI model, Alpl and bFGF expression levels in the acute and chronic phases were determined via Real-Time PCR in liver, kidney, bone, and muscle tissues.
Results: Alpl and bFGF gene expressions in the acute phase after TBI were increased significantly. In the kidney, while Alpl and bFGF expression levels increased in the acute phase in females, bFGF significantly decreased in males. bFGF expression levels significantly increased in males in the chronic phase in the muscle tissue. Our study showed significant differences between sexes in response to mTBI.
Conclusion: Our study investigated the role of Alpl and bFGF genes in peripheral tissues in acute and chronic phases after mTBI for the first time in the literature. The data obtained will guide understanding the secondary events and the consequences of the disease in mTBI and taking the necessary treatment and measures.
Keywords: ALP (Alkaline Phosphatase), bFGF (Fibroblast Growth Factor), TBI (Traumatic Brain Injury), Alpl gene

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TikTok and Body Positivity: The New Digital Stage of the Movement

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Abstract

In recent years, the body positivity movement, which has gained increasing prominence on social media platforms, has emerged as a powerful social movement supporting individuals in embracing their bodies as they are. The movement challenges traditional beauty standards by advocating that all body types are normal and valuable. This perspective offers an alternative viewpoint to the oppressive norms that have long idealized thinness as the pinnacle of beauty.

TikTok has become one of the focal points for discussions surrounding body image. The platform's ever-changing stream of content increases users' exposure to beauty norms, which can reinforce negative body image and have psychological impacts on individuals. However, research also suggests that body positivity content has the potential to boost self-confidence, particularly among young women, and to create positive effects.

This study aims to evaluate how closely body positivity content shared on TikTok aligns with the movement's core principles. The research is based on an analysis of the first 30 videos under the hashtags #bodypositivity, #bodypositivityvideos, and #bodypositivitytrends, searched on November 2, 2024. The videos were assessed through content analysis within the framework of fundamental concepts such as diversity, body acceptance, health awareness, community support, individual empowerment, and respect.

Findings reveal that the majority of TikTok's body positivity videos represent young, white women. While negative or objectifying content was rarely observed, no contradictory messages were found. This indicates that body positivity content on TikTok does not promote unrealistic beauty standards.

In conclusion, body positivity content on TikTok can be considered an effective tool for spreading the core values of the movement to a wide audience. These contents support body diversity, encourage individuals to embrace their bodies, and raise awareness about this issue in society. It is evident that TikTok has breathed new life into the body positivity movement and expanded the scope of these discussions.

Keywords: Body Positivity, Body Image, Social Media, TikTok

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Advancing Orthodontics Through Artificial Intelligence: Applications and Innovations

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Abstract

Artificial Intelligence (AI) refers to software and hardware systems capable of imitating human intelligence to perform specific tasks while learning from experiences. The development of AI-powered software typically involves two main algorithm types: classical machine learning and deep learning. In classical machine learning, the significant features of the input data are defined and taught to the AI by humans. Conversely, deep learning enables AI to analyze vast amounts of data to identify and learn key features independently (Choi et al., 2020). The increasing number of software applications developed using deep learning algorithms has contributed to achieving higher accuracy outcomes (Guetari et al., 2023).

Today, AI facilitates workflows across various fields, including finance, education, media, engineering, and healthcare. Similarly, its applications in orthodontics are becoming increasingly prominent. Several AI-based software tools in orthodontics leverage classical machine learning and deep learning techniques. For decades, cephalometric radiographs have been widely used as diagnostic tools, and numerous studies in the literature highlight the role of AI in identifying and analyzing anatomical landmarks on these radiographs (Mohammad-Rahimi et al., 2021). AI can also assess cervical vertebral maturation from cephalometric radiographs to analyze skeletal age (Makaremi et al., 2019).

Another critical orthodontic diagnostic tool involves diagnostic photographs and intraoral scanning data. Using AI, it is possible to detect crowding, malocclusion, jaw anomalies, and facial asymmetry from these datasets (Rousseau & Retrouvey, 2022; Ryu et al., 2022). Orthodontic treatment decisions rely on a comprehensive evaluation of information obtained from various diagnostic tools (Liu et al., 2021). AI can analyze these tools to determine whether extractions are necessary, evaluate the need for orthognathic surgery, and assist in treatment planning.

Furthermore, AI-powered software can perform tooth segmentation and generate 3D models of skeletal structures using CBCT data (Chen et al., 2024; Lee et al., 2022). The data obtained from these tools are employed in the fabrication of orthodontic appliances and planning orthognathic surgeries.

The rapid advancements in AI technologies offer significant benefits to clinicians by simplifying diagnostic processes and improving treatment planning. When used effectively, these tools can enhance orthodontic treatments' efficiency, precision, and personalization. As AI continues to evolve, it promises to deliver more effective and individualized treatment approaches within the field of orthodontics.

Keywords: Artificial Intelligence, Orthodontics, Machine Learning, Deep Learning, AI-Powered Diagnosis

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Production and Characterization of 3D Printed Methylcellulose-Gelatin Tiisue Scaffolds for Articular Cartilage Treatment

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Duygu EGE [2]

Abstract

Articular cartilage is a specialized connective tissue essential for joint function which is enabling smooth movement and load distribution with minimal friction. However, its avascular nature severely limits its regenerative capacity, often resulting in progressive degenerative diseases such as osteoarthritis. Current clinical therapies face challenges such as long recovery times, unpredictable outcomes and high cost. These challenges raise the need for novel treatment strategies. This study aims to produce Methylcellulose (MC) - Gelatin tissue scaffolds via 3D printing, then characterize them to see if they can be an alternative treatment for cartilage tissue defects.

The scaffolds were prepared with varying MC concentrations (10%, 12.5% and 15%) combined with 20% gelatin. Several characterization studies were conducted on the samples to assess the performance of the tissue scaffolds in mimicking native tissue. Initially, printing accuracy was calculated to be sure that the print quality of the scaffolds sustains a consistent standard. Fourier Transform Infrared (FTIR) spectroscopy revealed chemical interactions between MC and Gelatin. Contact Angle Measurements (CAM) shows that 15MC (57.80 ± 1.41) has a higher contact angle compared to 12.5MC (48.36 ± 0.66) and 10MC (41.40 ± 0.91). This indicates, as long as the MC concentration increases, the hydrophobicity of the scaffolds also increases. Mechanical tests demonstrated that 10% MC scaffolds had a compressive modulus of 1.609 kPa (± 0.264), which is at least 150 times lower than the compressive modulus of native cartilage (240–1000 kPa). Nevertheless, it is closer to native tissue compared to 12.5% MC (0.915 kPa ± 0.537) and 15% MC (0.748 kPa ± 0.150). Swelling and Degradation studies demonstrated that higher MC concentrations reduced water uptake and degradation rates, enhancing scaffold durability.

The results suggest that 10%MC scaffolds are the most promising candidates, offering a balance of mechanical strength, durability and surface properties. They may effectively replicate structural properties of articular cartilage, providing a cost-effective and scalable solution as a treatment strategy. In addition, 3D printing technology makes it possible to achieve more detailed architecture and reproducibility, despite the limitations of traditional fabrication methods.

This research provides information that may be valuable in the design and optimization of hydrogel scaffolds that are produced for tissue engineering. Future research will focus on cell studies to evaluate scaffold biocompatibility, then paving the way for in vivo studies.

Keywords: Articular Cartilage, Tissue Scaffolds, 3D Printing, Methycellulolse, Gelatin.

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Fetal Akinesia Deformation Sequence: Two Case Reports

Merve ÖZKAN[1]

Abstract

Objective: Fetal Akinesia Deformation Sequence (FADS) is a rare condition characterized by reduced or absent fetal movements and joint contractures, following an autosomal recessive inheritance pattern. This sequence may develop due to genetic mutations, neuromuscular disorders, or fetal environmental factors. In most cases, the condition has a fatal outcome. This study aims to share the diagnostic and management processes of two FADS cases.

Case Presentation: The first case is a 27-year-old primigravida referred to the perinatology department due to pes equinovarus deformity detected on detailed ultrasonography. The examination revealed flexion contractures at the hip joints, extension contractures at the knee joints, and pes equinovarus deformity of the feet, with no movement observed in the lower extremities. Flexion contractures were also noted in the upper extremity joints, and no movement was detected in the fetal upper extremities.

The second case is a 33-year-old woman in her second pregnancy. Similarly, she was referred to the perinatology department due to pes equinovarus deformity. Ultrasonography findings were similar to those of the first case.

Cordocentesis was recommended for both cases, and pregnancy termination was offered to both families. In the first case, the pregnancy was terminated after the patient consented to termination following cordocentesis. In the second case, despite identifying variants in genes associated with FADS in genetic testing, the patient declined termination, and the pregnancy is ongoing.

Results: In the first case, prenatal ultrasound findings were confirmed through post-termination fetal examination. The second case's pregnancy is ongoing. Joint contractures and generalized fetal akinesia have emerged as key features of FADS.

Discussion and Conclusion: Although FADS is a rare condition, accurate prenatal diagnosis and appropriate management require a multidisciplinary approach. Detailed ultrasonographic evaluation and genetic testing play a critical role in managing such cases. This presentation discusses the clinical features and management of FADS through two case reports.

Keywords: Fetal Akinesia Deformation Sequence, Pes Equinovarus Deformity, Fetal Ultrasound

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A Rare Neural Tube Defect: Prenatal Diagnosis and Management of Craniorachischisis

Ruken DAYANAN[1]

Abstract

Introduction

Craniorachischisis is a rare and severe congenital anomaly classified as a neural tube defect (NTD). This condition results from the incomplete closure of the neural tube during early embryonic development. Affecting the entire cranium and spinal column, this anomaly leads to significant deficiencies in the development of the brain, spinal cord, and vertebral bones. Often associated with other systemic anomalies, craniorachischisis requires multidisciplinary evaluation. This case report discusses a 19-year-old primigravida diagnosed with craniorachischisis in the first trimester, focusing on the diagnostic process, genetic counseling, and clinical management.

Case Report

A 19-year-old primigravida at 13 weeks of gestation presented to our clinic for routine antenatal evaluation. Her medical and obstetric history was unremarkable, with no chronic illnesses, surgical history, or allergies. The patient and her husband were first cousins, indicating consanguinity. The family history revealed intellectual disabilities, dysmorphic features, and recurrent pregnancy losses.

Detailed ultrasonographic evaluation revealed fetal neck hyperextension, a neural tube defect in the cervical region, and bilateral sac-like structures extending from the jugular region to the axillary area.

Due to the severity of the condition, the patient was referred for genetic counseling. The following tests were planned: chromosomal analysis, QF-PCR, and array CGH. Additionally, whole exome sequencing (WES) was recommended for a more comprehensive genetic evaluation. Following a multidisciplinary council review, the diagnosis of craniorachischisis was confirmed. Given the condition's incompatibility with life, pregnancy termination was recommended and subsequently accepted by the patient and her family.The patient was admitted for inpatient care, and the termination procedure was successfully performed.

Discussion

Craniorachischisis is one of the rarest and most severe forms of neural tube defects. It results from the failure of neural tube closure during embryonic development, leading to severe anatomical abnormalities incompatible with life. This case highlights the importance of early ultrasonographic evaluation and a multidisciplinary approach in diagnosing and managing such anomalies.

Conclusion

Craniorachischisis is a rare and severe congenital anomaly that underscores the importance of early prenatal diagnosis and timely intervention. This case demonstrates the role of advanced imaging techniques and genetic evaluations in detecting severe anomalies. Comprehensive counseling and a multidisciplinary approach are crucial in managing these cases and supporting families throughout the diagnostic and decision-making processes.

Keywords: Craniorachischisis, Neural Tube Defect, Genetic Counseling

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Trans Abdominal Approach To Repair of Large Isthmocele Defect Developing After Repeated Caesarean Sections

Mustafa ŞANLI[1]

Abstract

Isthmocele is a complication resulting from uterine scar defects after cesarean delivery and often leads to clinical problems such as abnormal uterine bleeding, pelvic pain and infertility. Today, as cesarean delivery rates increase, the prevalence of isthmocele has also increased. In our study, a 28-year-old female patient who had no known history of comorbidities and had four cesarean deliveries was examined. The patient's presenting complaints are abnormal vaginal bleeding, dysmenorrhea (painful menstruation) and severe pelvic pain. Surgery options and other treatment methods were presented to the patient in detail. With the patient's legal consent, the trans-abdominal method was preferred in the dorsolithotomy position under spinal anesthesia. The isthmocell line was repaired. This case is compatible with the findings in the literature in terms of clinical findings and diagnostic approaches of isthmocele developing after cesarean section and emphasizes the importance of ultrasonography and other imaging techniques in making the diagnosis. The necessary treatment and follow-up processes are shaped according to the patient's symptoms and the size of the lesion. Isthmocele has become a condition that requires more clinical awareness with the increase in cesarean section rates. Accurate diagnosis and individualized treatment approaches are important to both reduce symptoms and improve reproductive health in these patients.

Keywords: Isthmocele, Caesarean Scar Defect, Abnormal Uterine Bleeding, Pelvic Pain, Surgical Management

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Prenatal Diagnosis and Surgical Approach in Placenta Accreta Spectrum

Gülşan KARABAY[1]

Abstract

Introduction: Placenta accreta spectrum (PAS) is a severe obstetric complication characterized by abnormal invasion of placental trophoblastic tissue into the uterine wall. PAS includes three clinical forms: accreta, increta, and percreta, classified based on the depth of invasion. It is a leading cause of postpartum hemorrhage and emergency hysterectomies, contributing significantly to maternal mortality. The pathogenesis is not fully understood, but uterine scarring and defective decidualization are implicated. Risk factors include repeated cesarean sections, placenta previa, advanced maternal age, multiparity, and assisted reproductive technologies. The rising incidence of PAS parallels increasing cesarean deliveries globally, emphasizing its critical clinical relevance.

Case Presentation: A 40-year-old gravida 3, parity 1 patient at 26+6 weeks gestation, with a history of one cesarean section and dilation and curettage, presented with vaginal bleeding. Obstetric ultrasound revealed features consistent with PAS, including previa placenta, loss of hypoechoic zones, bridging vessels, and uterovesical hypervascularity. An emergency surgical intervention was performed due to PAS and placenta previa totalis. Intraoperative findings included dense neovascular adhesions between the uterus and bladder, necessitating a hysterectomy. Pathological examination confirmed placenta percreta. Significant blood transfusion was required due to intraoperative hemorrhage. The patient was followed up in the postoperative intensive care unit and was discharged on the 11th postoperative day. **Conclusion:** Early detection of PAS is vital for maternal and fetal health. Prenatal diagnosis via ultrasound enables better planning, including the preparation of a multidisciplinary surgical team, maternal and neonatal intensive care, and necessary equipment. This comprehensive approach significantly improves maternal and perinatal outcomes, reducing the severe complications associated with PAS.

Keywords: Hysterectomy, Placenta Accreta Spectrum, Prenatal Diagnosis

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A Study on the Antidiabetic Effects of Some Plants Grown in Turkey

Elif Ebru ALKAN [1]

Abstract

Diabetes has become a serious health issue worldwide, significantly reducing patients' quality of life and leading to microvascular and macrovascular complications, and in advanced stages, potentially causing death. The causes of diabetes are generally believed to include sedentary lifestyle, unhealthy diet, various viruses, genetic factors, and obesity. Additionally, various experimental studies have shown that the disease develops due to the infiltration of immune system cells such as CD4 and CD8 T cells, B lymphocytes, macrophages, and dendritic cells into the pancreas, resulting in islet cell damage. The rapid and alarming increase in diabetes cases and the inadequacy of current treatment methods have prompted scientists to seek new treatment approaches. The discovery of the potential of phytochemical components to serve as sources for new-generation drugs, conducting ethnopharmacological research on traditionally used plants, and evaluating these plants from a pharmacognostic perspective can guide the treatment of diseases like diabetes, which cause many complications. The literature contains various studies examining the effects of plant extracts on many diseases, including diabetes. In our country, studies on antidiabetic plants have been conducted for years. Additionally, Turkey is very rich in plant diversity, providing researchers with a wide range of study opportunities. This study reviews the literature on some plants with antidiabetic effects in Turkey and their usage methods.

Keywords: Antidiabetic, Plant Extract, Diabetes

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p53: A Key Player in Cancer Multidrug Resistance

Seda MESCİ[1]

Abstract

Cancer is a complex disease characterized by uncontrolled cell growth and the ability of these abnormal cells to invade other tissues. Multidrug resistance (MDR) is a phenomenon where cancer cells develop resistance to multiple drugs with different structures and mechanisms of action, leading to treatment failure. This resistance is often mediated by various mechanisms, including the overexpression of ATP-binding cassette (ABC) transporters such as P-glycoprotein, which actively pump out chemotherapeutic drugs from the cells, reducing their effectiveness. The relationship between the tumor suppressor gene p53 and MDR in cancer is significant, as p53 plays a crucial role in regulating cell cycle progression, DNA repair, and apoptosis. When p53 function is compromised, either through mutations or other mechanisms, it can contribute to the development of MDR in cancer cells by affecting cell survival pathways and drug response.

In this review, I aimed to define the molecular mechanisms by conducting a comprehensive study on the relationship between p53 and multidrug resistance (MDR) in human cancers.

In this study, a detailed literature review was conducted on the relationship between p53 and multidrug resistance (MDR)-related molecular mechanisms and cell death in cancer, and a broad perspective of these activities was presented.

The relationship between p53 and MDR in cancer is intricate, with p53 playing a critical role in regulating cellular responses to chemotherapy and influencing drug resistance mechanisms. Understanding the molecular pathways involved in MDR and developing targeted strategies to overcome drug resistance are essential for improving cancer treatment outcomes and patient survival.

Keywords: Cancer, Multidrug Resistance, MDR, p53, Cell Death

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Protective Effects of Plant Active Ingredients Against Oxidative Damage Caused by Some Drugs: A Review

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Sebile AZIRAK[2]
Deniz TAŞTEMİR KORKMAZ[3]

Abstract

Oxidative stress is a condition that occurs as a result of disruption of the balance between the production of reactive oxygen species (ROS) and antioxidant defence mechanisms. This process leads to cellular damage and plays an important role in many chronic diseases as well as drug-induced toxicity mechanisms. The use of some drugs may increase ROS production and cause lipid peroxidation, protein oxidation and DNA damage. This can lead to impaired cellular function and organ damage and increase the side effects of drugs. In recent years, the antioxidant properties of natural compounds of plant source have attracted great interest in the prevention and treatment of oxidative stress.

In this review, the protective effects of plant active substances such as flavonoids, phenolic compounds, alkaloids and terpenoids against oxidative damage by neutralising ROS, improving the expression levels of some genes and biochemical parameters, increasing the activity of endogenous antioxidant enzymes and decreasing the activity of oxidant enzymes are discussed. Studies in the literature show that plant active ingredients are effective in reducing oxidative damage caused by drugs such as chemotherapeutic, antibiotics, antipsychotics, and antiepileptics. It has been reported that plant active ingredients provide these effects by suppressing ROS production and preventing lipid peroxidation. It has also been shown that these compounds regulate oxidative stress-related processes such as inflammation, apoptosis and mitochondrial dysfunction. However, issues such as bioavailability, metabolism and safety of these natural compounds are still under investigation. The limited number of clinical studies causes the knowledge in this field to be limited to laboratory studies.

In conclusion, plant-based natural compounds show promise as a complementary approach to the prevention of drug-induced oxidative damage. However, increased clinical research in this area is necessary to fully understand the therapeutic potential of these compounds.

Keywords: Oxidative Stress, Plant Active Ingredients, Antioxidants, Drugs, Toxicity

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Restoration of Nickel-induced Damage to Rat Kidneys to Normal with Ursolic Acid Treatment

Gülşah YILDIZ DENİZ[1]

Abstract

Nickel (Ni) is in the earth's crust and can be found in environmental compartments such as water, soil, and air, as well as food. This study was conducted to evaluate the renal protective activity of ursolic acid against nickel-induced toxicity in rats. For this study, 24 male Sprague-Dawley rats were taken. The male Sprague-Dawley rats were randomly divided into control group, Nickel chloride ($NiCl_2$) group, ursolic acid (UA) group and $NiCl_2$ plus UA group. Male Sprague-Dawley rats were administered intraperitoneally with $NiCl_2$ at dose of 10 mg/kg. Rats received UA (50 mg/kg) alone, or in combination (10 mg/kg $NiCl_2$ +50 mg/kg UA). The kidneys were collected for biochemical and histopathological analyzes 24 hours after $NiCl_2$/UA treatment. Histopathological examination of kidney tissue showed normal kidney architecture with no tissue degeneration, inflammation, necrosis, and tubular dilation in all groups. Normal architecture was observed In the kidney tissues of the control and UA-only groups without tissue degeneration, inflammation, necrosis and tubular dilation as a result of histopathological examination. However, in the nickel-administered groups, tissue regeneration, inflammation and tubular dilation were observed. These pathological findings were reduced in the Nickel plus UA group compared to the Nickel-only group. Overall, UA can be used as a natural protective agent against $NiCl_2$ triggered kidney damage.

Keywords: Kidney Injury, $NiCl_2$, Ursolic Acid

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Expression of YTH N6-methyladenosine RNA binding protein F3 Gene, One of the RNA Methylation Genes, in Children and Adolescents with Specific Learning Disorder

Burcu BAYYURT[1]
Cansu MERCAN IŞIK[2]

Abstract

Specific learning disorder (SLD) is a neurodevelopmental disorder characterised by persistent and unexpected academic difficulties. To date, any molecular biomarker has been identified that can be used in diagnosis and treatment of SLD. N6-methyladenosine (m6A) is the most abundant modification in messenger RNAs (mRNAs). m6A can be recognized by m6A-binding proteins ("readers"), such as Yth domain family proteins (Ythdfs) including YTH N6-methyladenosine RNA binding protein F3 Gene (YTHDF3). m6A plays an essential function in various fundamental biological processes, including neurogenesis and neuronal development. Dysregulated m6A modification contributes to neurodevelopment disorders. YTHDF3 recognizes the m6A modification on transcripts inside cells and can also regulate the translation of mRNA. In this study, we investigated YTHDF3 gene expression level in children and adolescents with SLD. We compared this gene expression between children and adolescents with SLD and healthy controls using quantitative polymerase chain reaction (qPCR) method. We used blood samples of 13 SLD and 13 control group individuals. We found that YTHDF3 gene expression was statistic significantly up-regulated in SLD group compared to healthy controls (Fold change, FC: 28.43, P=0.03). We concluded that YTHDF3 may effect pathogenesis of the SLD. We thought that it is needed to be studied whether YTHDF3 may be potential molecular biomarker candidate in diagnosis and treatment of the SLD.

Keywords: YTH N6-methyladenosine RNA Binding Protein F3, Gene Expression, Specific Learning Disorder, Child, Adolescent

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Morphological Features of Neurons in Mouse Primary Sensory Neuron Culture

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Abstract

The nervous system is anatomically divided into the central nervous system and the peripheral nervous system. The central nervous system consists of the brain, spinal cord, and the neural components of the eye, while the peripheral nervous system includes peripheral ganglia, nerves, nerve endings connecting ganglia to the central nervous system, receptors, and the effector structures of the body. Neurons, or nerve cells, which are the functional units of the nervous system, are generally composed of three parts: the cell body, dendrites, and axon. A ganglion is a structure containing a cluster of neuronal cell bodies. The dorsal root ganglion contains the cell bodies of peripheral sensory fibers.

In this study, the morphological characteristics of neurons in a mouse primary sensory neuron culture were investigated 48 hours after seeding, along with the correlations between these characteristics. For this purpose, dorsal root ganglia from adult mice were dissociated to establish a primary sensory neuron culture. Images of these cells were obtained in vitro using a laser microdissection microscope (Zeiss Axiovert 200) and dedicated software (PALM Microbeam).

The results showed that neurons with smaller cell body areas had a higher number of axons ($r=-0.13$; $p<0.05$), thinner axons ($r=-0.15$; $p<0.05$), and fewer branches ($r=0.6$; $p<0.05$). In contrast, neurons with larger cell body areas exhibited fewer axons ($r=-0.13$; $p<0.05$), thicker axons ($r=0.15$; $p<0.05$), and more branches ($r=0.60$; $p<0.05$).

In conclusion, this study provided significant insights into the morphological characteristics of neurons and the relationships among these features

Keywords: Dorsal Root Ganglion, Primary Sensory Neuron Culture, Neuron Morphology, Morphological Correlation,

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Rare Complication After Laparoscopic Total Extra-peritoneal (tep) Hernia Repair: Pneumomediastinum

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Fahrettin ACAR[2]

Özet

Giriş: Ferzli [1992] ve McKernan [1993] tarafından laparoskopik total ekstraperitoneal (TEP) kasık fıtığı onarımının ilk tanımı yapıldığından beri, laparoskopik kasık fıtığı onarımları ve açık yaklaşımlara kıyasla sonuçları hakkında bol miktarda veri elde edilmiştir. Azalan yara komplikasyonları, daha hızlı iyileşme ve kronik ağrı insidansının azalması, daha fazla cerrahın bu teknikleri benimsemesini sağlayan avantajlardan bazılarıdır(1) . Pnömomediastinum resmi olarak ilk defa 1939 da Louis Hamman tarafından tanımlanmıştır. Olguların çoğu travmatik nedenlerle oluşmaktadır. Spontan pnömomediastinum nadir olmakla birlikte sıklıkla sağlıklı genç erkeklerde periferal pulmoner alveollerin rüptürü sonucunda görülür. Doğum eyleminin bir komplikasyonu olarak da ortaya çıkabilir. Diğer olabilecek nedenler ise, mekanik ventilasyon sırasındaki barotravma, hiperbarik tedavi, suya dalışın yükselme fazı astma veya yabancı cisim gibi obstruktif hava yolu hastalıklarıdır. Aynı zamanda diş çekimi, tonsillektomi, trakeostomi, baş ve boyun cerrahisi sonrası ve kraniofasial travma sonrası da pnömomediastinum bildirilmiştir. Karakteristik belirti ve bulgular, göğüs ağrısı, subkutanöz amfizem, kalp seslerinin derinden gelmesi, krepitan kalp sesi, pnömotoraks, mediastinal basınç artışına ait bulgular (dispne, siyanoz, dolgun venler ve dolaşım yetmezliği) ve mediastende havanın radyolojik kanıtıdır(2). TEP sıkça uygulanan bir ameliyat tekniği olmasına rağmen bu hastalarda pnömomediastinum nadir görülür.
Olgu: 45 yaşında erkek hasta kliniğimize her iki kasıkta olan şişlik nedeniyle başvurdu. Muayene sonrasında bilateral inguinal herni tanısı ile laparoskopik total ekstra-peritoneal herni onarımı için ameliyata hazırlandı. Ameliyatında uygun cerrahi prosedür uygulanırken herhangi bir komplikasyon yaşanmadı. Hastanın postoperatif erken dönemde sırta vuran şiddetli göğüs ağrısı ve nefes darlığı şikayeti oldu. Çekilen akciğer direkt grafisinde mediastende hava imajı izlendi. Alınan laboratuvar parametrelerinde d-dimer ve troponinde dahil olmak üzere patoloji görülmedi. Yapılan batın muayenesinde ve akciğer muayenesinde patolojik bir bulgu tespit edilmedi. Göğüs cerrahi önerisi ile özofagografi, boyun tomografi ve toraks tomografi çekildi. Yapılan radyolojik tetkiklerde mediastende hava dışında patolojiye rastlanmadı. Mevcut durum için herhangi bir cerrahi planlanmayıp semptomatik tedavisine devam edildi. Hasta göğüs cerrahi önerisi ile 10 gün profilaksi amacıyla antibiyoterapi aldı. Ameliyat sonrası 3. Günden itibaren şikayetlerinde belirgin azalma olduğu görüldü. Hasta 10. Günde şifa ile taburcu edildi. Taburculuk sonrası 1. Hafta kontrolünde herhangi bir şikayet belirtmedi tedbiren çekilen akciğer grafisinde mediastendeki havanın belirgin azaldığı görüldü.
Sonuç: İnguinal hernilerde yapılan cerrahi prosedürlerden birisi olan TEP oldukça sık yapılan bir cerrahi yöntemdir. TEP'in komplikasyonları arasında nadir görülen pnömomediastinum ameliyat sonrası gelişen nefes darlığı ve göğüs ağrısı şikayetlerinde akla gelmelidir.
Anahtar Kelimeler: Total Extra-Peritoneal (TEP) Herni Onarımı, Pnömomediastinum, İnguinal herni

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A Rare Case: Appendiceal Mucinous Neoplasia

Sinan ŞENER[1]

Abstract

Acute appendicitis patients constitute an important part of surgical practice. Although it is a common disease, it can sometimes appear as a neoplasm. Appendiceal mucinous neoplasms are one of the rare diagnoses encountered in histopathological evaluation. While it can progress as silent cases, patients may apply with complaints of right lower quadrant pain, acute appendicitis and mass-related complaints.

A 25-year-old male patient applied with complaints of abdominal pain and was diagnosed with acute appendicitis and possible abscess in the appendix localization as a result of physical examination, laboratory and imaging. The patient, who was evaluated laparoscopically, was isolated up to the root of the appendix due to the observation of mucinous components but no pathological diagnosis during the case. Then, it was resected with an endogia stapler and taken out with the help of an endobag and the case was concluded. The patient's pathology result was "low-grade appendiceal mucinous neoplasia" and was reported as "Neoplasia was observed in the entire appendectomy material and is well differentiated. There is mucin on the serosal surface and epithelial cells within the mucin. Neoplasia continues at the proximal surgical margin. Lymphovascular and perineural invasion was not observed." The decision for a second surgery was made for the patient and the case was referred to a higher center. The patient, who underwent open right hemicolectomy + ileotransversostomy + right peritonectomy surgeries at the higher center, is currently in good clinical condition and the pathology result is awaited.

Our case emphasizes the importance of a multidisciplinary approach by communicating when necessary and the strong clinical and radiology correlation. Appendiceal mucinous neoplasia is a condition that requires surgery, radiology, pathology and oncology togetherness, although it is very rare, and should not be overlooked because it can have an aggressive course.

Keywords: Appendix, Low Grade Mucinous Neoplasia, Appendiceal Neoplasia, Surgery, Stomachache

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Causes of Acute Appendicitis: A Comprehensive Review of Common and Rare Etiologies

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Özet

Giriş Akut apandisit, dünya genelinde en yaygın görülen cerrahi karın acillerinden biridir. Patofizyolojisi genellikle apendiks lümeninin tıkanmasına bağlıdır. Bununla birlikte, nadir durumlarda farklı ve beklenmedik etkenler de akut apandisite yol açabilmektedir. Bu çalışma, akut apandisitin yaygın ve nadir nedenlerine odaklanarak literatürdeki mevcut bilgileri güncel bir şekilde sunmayı amaçlamaktadır.

Bulgular

En sık görülen akut apandisit nedenleri arasında fekalit tıkanması ve lenfoid hiperplazi yer almaktadır. Bu durumlar, lümende basınç artışına ve lokal inflamasyona neden olarak klinik semptomların ortaya çıkmasına yol açar. Çocuklarda lenfoid hiperplazi yaygın bir nedenken, yetişkinlerde fekalit tıkanması daha sık gözlenir. Nadir durumlarda ise apandisit, parazitik enfestasyonlar (örneğin, Enterobius vermicularis, Ascaris lumbricoides), yabancı cisimler (yutulmuş iğne gibi) veya neoplastik lezyonlar (örneğin, apendiks nöroması veya metastatik tümörler) ile ilişkili olabilir. Parazitik nedenler genellikle gelişmekte olan ülkelerde daha yaygınken, gelişmiş ülkelerde nadir görülür.

Ek olarak, enfeksiyöz nedenler arasında Salmonella typhi veya Entamoeba histolytica gibi mikroorganizmaların neden olduğu vakalar da literatürde rapor edilmiştir. Çok daha nadir durumlarda, apendiks endometriozisi veya villöz adenom gibi patolojiler apandisite neden olabilir. Bu tür vakalar genellikle histopatolojik inceleme sonucunda teşhis edilir. Ayrıca, bazı vakalarda, apandisit diğer nadir inflamatuvar veya enfektif durumlarla ilişkilendirilmiştir (örneğin, Yersinia enfeksiyonu, granulomatöz apandisit).

Sonuç

Akut apandisit genellikle yaygın nedenlere dayanmakla birlikte, nadir görülen etkenler de klinik tabloda yer alabilir. Özellikle şüpheli veya atipik semptomlarla başvuran hastalarda, nadir nedenlerin değerlendirilmesi önemlidir. Bu tür durumların tanısında görüntüleme yöntemleri, cerrahi müdahale ve histopatolojik inceleme kritik rol oynamaktadır. Literatürde sunulan bu bilgiler, tanı ve yönetim süreçlerinin optimize edilmesine katkı sağlamaktadır.

Anahtar Kelimeler: Akut Appendisit, Yaygın Nedenler, Nadir Etiyolojiler, Parazitik Enfeksiyonlar

1

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Endoscopic Approach to Gastric Perforation

Emre ZENGİN[1]

Özet

Mide perforasyonu genel cerrahi pratiğinde dünya çapında yaygın görülen bir acil durumdur. Perforasyon, lokalize veya yaygın peritonit, sepsis ve mortalite riski yüksek akut abdominal bir durum olarak ortaya çıkar. Erken tanı esastır ancak klinik bulgular yaşlılarda veya bağışıklık sistemi baskılanmış kişilerde belirsizleşebilir ve böylece tanı gecikebilir. Görüntüleme, antibiyotik uygulaması da dahil olmak üzere erken resüsitasyon tedavide önemli bir role sahiptir. Uygun risk değerlendirmesi ve tedavi alternatiflerinin seçimi, morbidite ve mortalite riskini ele almak için önemli hale gelir. Tanı ve tedavideki gecikmeler, artmış mortalite ve morbidite ile sonuçlanabilir. Tanı da fizik muayene bulgularına dayanarak şüphelenilir ve radyografiler ile batında serbest havanın varlığı ile kesin tanıya gidilir. Peritonit bulguları ve perforasyonu destekleyen radyolojik bulguların birlikte olması cerrahi eksplorasyonu gerektirir. 29 yaşında erkek hasta hastanemize dış merkezden mide perforasyonu ön tanısı ile getirildi. Hastanın fizik muayenesinde yaygın peritonit hali ve radyolojik olarak üst kadranlarda daha fazla olmak üzere yaygın serbest havası olduğu görüldü. Hastanın anamnezi derinleştirildiğinde 6 ay önce, 3 ay önce ve 3 hafta önce mide perforasyonundan 3 kez dış merkezde ameliyat olduğu öğrenildi. Ulaşılabilen son ameliyat notunda perfore alanın tespit edilemediği öğrenildi. Hastanın orali kapatıldı ve nazogastrik sonda takıldı. Yatarak tedavisine başlandı hastanın tedaviye hızlı yanıtı ve daha önce geçirdiği 3 negatif laparotomi nedeniyle takibine karar verildi. Klinik iyileşmeden sonra endoskopi yapılmasına karar verildi. Endoskopide mide posteriorunda korpus ile fundus bileşkesine yakın bir bölgede milimetrik perforasyon alanı olduğu görüldü ve perforasyon alanı endoskopik klips ile tamamen kapatıldı. Endoskopi sonrası 8. Saate sıvı gıdalar ile orali açıldı. Hastanın şikayetlerinin tamamen gerilediği görülünce taburcu edilerek 10 gün sonra kontrole çağrıldı ve bu kontrolde hastanın çekilen direkt grafisinde batında serbest hava olmadığı görüldü. 2. ve 12. ayda endoskopi kontrolü yapıldığında da herhangi bir patolojik duruma rastlanmadı. 14. Ayda başka bir sebepten çekilen batın tomografisinde de herhangi bir patolojik duruma rastlanmadı. Mide perforasyonu sık karşılaşılan bir durum olmakla birlikte doğru tedavi yaklaşımını belirlemek oluşabilecek morbidite ve mortaliteyi azaltır. Mide perforasyonu olan hastalarda sıklıkla cerrahi eksplorasyon ihtiyaci olmaktadır fakat bizim olgumuzda yapılan endoskopik müdahale ile hastada tam yanıt alındığı görüldü.

Anahtar Kelimeler: Mide Perforasyonu, Negatif Laparotomi, Endoskopi

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Diverticulitis and its Management: Case Series

Sinan ŞENER[1]

Abstract

Diverticular disease is a common gastrointestinal disease, especially in Western countries. Age, NSAID use, aspirin, steroids, opioids, obesity and smoking, dietary habits and lifestyle affect the development of the disease. Its prevalence increases with age, with more than 50% of people over 60 years of age and more than 60% of people over 80 years of age having colonic diverticulum. Inflammation (diverticulitis) is the most common complication, occurring in up to 5% of cases, and can result in intestinal perforation, obstruction and/or bleeding.

Diagnosis is made by clinical, laboratory and imaging methods. Among imaging methods, computerized tomography (CT) plays an important role. Treatment of diverticulitis should be specific to the individual and should include lifestyle changes, antibiotic therapy and surgery. Treatment of uncomplicated acute diverticulitis is based on diet control, antibiotics and abdominal pain control. However, surgical treatment should be considered in acute diverticulitis accompanied by complications such as abscess or perforation. Cases are staged according to the Hinchey classification, treatment planning and follow-up are performed. In our presentation, the treatment and management of patients who apply to the emergency department with abdominal pain and are diagnosed with diverticulitis are discussed. Most cases of acute diverticulitis recover with medical treatment, but surgical treatment is considered if complications occur. Surgical treatment includes procedures such as abscess drainage, resection of the affected colon segment and creation of a stoma when necessary. It should not be forgotten that the applicability of treatment algorithms according to current approaches in our clinical practice and how important a life without colostomy is for the patient and how good it is as a result.

Keywords: Diverticulitis, Hinchey, Surgery

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A Rare Complication of Renal Cortical Cyst: Obstructive Jaundice

Emre ZENGİN[1]

Abstract

Simple renal cysts are benign masses that form in the kidneys due to unknown reasons, which may be either hereditary or acquired. These cysts are found in approximately 10% of the general population, and their prevalence increases with age. They are typically unilateral and asymptomatic, as they usually do not cause kidney dysfunction or other systemic disorders. If these cysts are larger than 5 cm, they may present with symptoms such as flank pain, hematuria, hypertension, or pelvic calyceal obstruction. These cysts are often incidentally discovered in older adults through ultrasound or CT scans.

When a simple cyst is symptomatic and intervention is indicated, treatment options include surgical approaches (open or laparoscopic) or, more commonly, minimally invasive percutaneous procedures. Percutaneous aspiration of cystic fluid, guided by ultrasound or CT, is a well-known treatment for symptomatic simple renal cysts and has been used since the 1970s.

A 89-year-old male patient presented to our hospital with complaints of epigastric pain radiating in a band-like fashion to the back, nausea, vomiting, chills, and fever, lasting for 2 days. The patient had no significant chronic medical history, and he did not use tobacco or alcohol. He was not on any regular medications or herbal teas. Laboratory results upon admission showed elevated cholestasis enzymes. Imaging revealed an 18 cm renal cortical cyst that was compressing the common bile duct. After aspiration of the cyst, the patient showed complete clinical and laboratory resolution.

Obstructive jaundice is a common condition in clinical practice; however, the case we present represents a rare occurrence. In our study, we aimed to highlight the importance of keeping this rare condition related to renal cortical cysts in mind and contributing to the clinical approach.

This study reports a complication of a Bosniak type 1 renal cortical cyst causing obstructive jaundice due to bile duct compression, a condition rarely described in the literature. As the occurrence of obstructive jaundice due to compression of the bile ducts by a renal cyst is extremely rare, it is challenging to determine the exact cause and create a treatment plan in these cases. Based on the clinical experience gained from this case, we suggest that in cases of obstructive jaundice caused by compression from a renal cortical cyst, percutaneous aspiration of the cyst may be tried as an intervention. If no clinical improvement is seen afterward, surgical options should be considered. In addition to the conventional causes of obstructive jaundice, renal cortical cysts should also be considered as a possible etiology in such cases.

Keywords: Obstructive Jaundice, Renal Cortical Cyst, Cyst Aspiration

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The Impact of Psychosocial Support on Recovery in Hospital and Home Care After Multitrauma in Geriatric Patients

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Sümeyra ÇOĞALCI[4]
Mertay BORAN[5]

Abstract

Introduction: Traumatic Chest Injury (TCI) is a common condition in patients presenting with multiple traumas. Blunt traumas can occur due to causes such as vehicular accidents, falls, assaults, sports injuries, crush injuries, and explosions. Thoracic vascular and neurological injuries are significant factors that can lead to early mortality in these patients. However, the majority of TCI patients can be effectively managed with simple treatment methods. In geriatric patients, polytrauma carries a high risk of morbidity and increased mortality. The concept of "neuroimmunomodulation" suggests that a person's emotional state can influence their immune system. Positive and motivating thoughts and behaviors have been found to have an antioxidant effect on the immune system.
Chronic psychological trauma is associated with conditions such as headaches, asthma, cardiovascular diseases, stroke, and diabetes. Negative life experiences have been shown to increase the risk of autoimmune diseases, lung diseases, and cancer. Psychological trauma has been found to weaken the immune system by disturbing a person's emotional state. Such trauma leaves the individual with feelings of fear and anxiety, resulting in a diminished ability to cope with stress. The severity of the trauma can lead to prolonged psychological effects.
Psychiatric disorders associated with psychological trauma include acute stress responses, depression, anxiety disorders, sleep disturbances, and eating disorders. The impact of trauma may persist, leading to various psychological and physical disorders.
Patient Information, Treatment Process: An 82-year-old male patient was involved in a severe traffic accident while attempting to escape family tensions. Following the accident, he was diagnosed with multiple fractures, a head injury, and blunt thoracic trauma and was treated in the intensive care unit (ICU) for 10 days. Psychiatric evaluation revealed symptoms of post-traumatic stress disorder (PTSD).
The effects of psychosocial support received in a peaceful hospital environment versus a tense home environment with familial discord were compared in relation to the patient's health.
During the 10-day inpatient follow-up, the patient received pain palliation, respiratory physiotherapy, mobilization, and support from compassionate healthcare providers. The patient's condition improved, and he was discharged from the hospital.
However, once at home, exposed to tense family dynamics, the patient began to neglect his medical treatment, discontinue respiratory physiotherapy, and refrain from mobilization. After ten days, he presented to the emergency department with severe respiratory failure. The patient was readmitted to the hospital with suspected pulmonary embolism and pneumonia due to atelectasis.

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He was treated medically for two days, during which his condition improved with the attention of healthcare providers. However, after a recurrence of familial tension in the hospital room, his condition deteriorated, leading to multiorgan failure and re-admission to the ICU. Despite all interventions, the patient passed away after ceasing spontaneous respiratory effort.

Conclusion: In the recovery process of geriatric polytrauma patients, appropriate pain management, respiratory physiotherapy, and a compassionate approach by healthcare providers play a crucial role in healing. However, the lack of family support and family-related tensions can lead to treatment failure and worsen geriatric PTSD.

Keywords: Traumatic Chest Injury, Polytrauma, Post-traumatic Stress Disorder

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Carcinoid Tumor: A Rare Primary Bone Localization? Bone Metastasis?

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Asuman Kilitçi[4]

Abstract

A carcinoid tumor is a rare type of neuroendocrine tumor that typically originates in the gastrointestinal tract (58-75%) or lungs (20-31%), although it can develop in various other sites in the body, such as the pancreas, liver, bile ducts, uterus, ovaries, and even the testicles. It is exceedingly rare for carcinoid tumors to originate in the bone, and there has been only one reported case of a carcinoid tumor located in the rib. Metastases are most commonly observed in the liver, lungs, lymph nodes and more rare in the bones. The coexistence of noncarcinoid malignancies with carcinoids is seen in 22.4%-44.5 of patients. Surgical resection remains the cornerstone of treatment for carcinoid tumors. We present a patient with atipic carsinoid tumor on the rib and schwannoma of the leg. This case highlights the importance of advanced imaging and biopsy planning.

Case Presentation:

A 65-year-old male patient with a history of type 2 diabetes, hypertension, and partial cholecystectomy performed one year prior, presented with a three-year history of left chest pain. A CT scan of the chest taken in 2021 revealed a lesion in the left 10th rib, which was interpreted as a pathological fracture. Over two years, the lesion grew significantly (52x20 mm), raising concerns about malignancy. Delays in diagnosis occurred due to imaging errors, leading to disease progression. A biopsy revealed an atypical carcinoid tumor with local invasion into bone and muscle tissue. Additionally, a second tumor was identified in the right leg and diagnosed as schwannoma by trucut biopsy. In January 2024, surgical resection of the 9th and 10th ribs was performed, followed by reconstruction with Prolene mesh. The pathology report confirmed the diagnosis of an atypical carcinoid tumor. Adjuvant chemotherapy and radiotherapy were administered, and nine months later, the patient was successfully treated for pulmonary thromboembolism (PTE).

Discussion:

Carcinoid tumors are often difficult to diagnose due to the gradual onset of symptoms. This rare case of a rib-originating carcinoid tumor demonstrates how diagnostic delays due to imaging errors can lead to disease progression. Multidisciplinary approaches involving imaging specialists, pathologists, and oncologists enable early detection and treatment.

Keywords: Atypical carcinoid tumor, chest wall resection, rib

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Giant Mass on the Chest Wall: Differentiation of Lipoma and Liposarcoma

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Kübra DÜVEN[3]
Mehmet GAMSIZKAN[4]

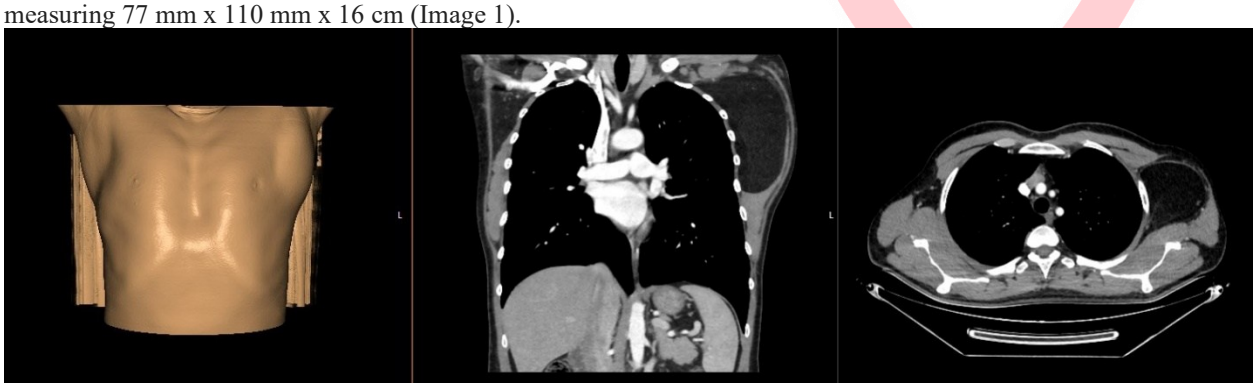
Abstract

Introduction

Primary chest wall tumors can arise from soft tissue, cartilage, or bone, making up 2% of all primary tumors and 5% of thoracic malignancies. The malignancy rate is approximately 60-70%. Liposarcoma is one of the most common malignant soft tissue tumors, while lipoma is a frequent benign tumor. Liposarcoma rarely occurs in the chest wall, typically in patients aged 40-70 years, presenting as a slow-growing, painless mass. Lipomas are common benign tumors, and those exceeding 10 cm are termed giant lipomas.

Case Presentation

A 44-year-old male presented with a rapidly growing mass under the left axilla, which had been present for about a year. On physical examination, a soft, fixed, rubbery mass measuring 11x7 cm was found in the left anterior axillary line. Ultrasonography showed a mass with echogenic adipose tissue in the left axillary region, measuring 5 cm (suspected lipoma). Contrast-enhanced chest CT revealed a giant mass extending inferiorly from the axilla, measuring 77 mm x 110 mm x 16 cm (Image 1).



Biopsy suggested adipose neoplasia (suspected lipoma), but since the biopsy did not fully represent the lesion, malignancy remained a concern. Excision was planned for definitive diagnosis and treatment. The mass was completely excised with no signs of invasion into surrounding tissues or muscle. Pathology confirmed the diagnosis of lipoma. (Image 2,3)

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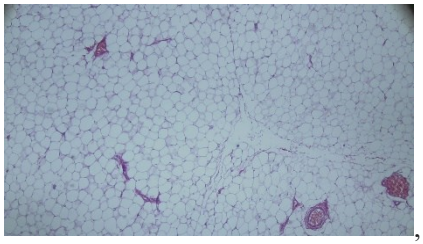
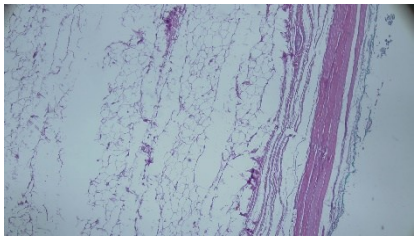

The patient had no postoperative complications, the hemovac drain was removed on day 3, and he was discharged on day 5 without issues. On the 10th-day follow-up, there was no fluid accumulation, and arm movement was unrestricted (Image 2).

Discussion

Lipomas are benign mesenchymal tumors resulting from the proliferation of adipose tissue. Their etiology includes obesity, radiation, corticosteroid use, genetic factors, and trauma. Lipomas are typically well-circumscribed, encapsulated, and grow slowly without symptoms. Most cases are under 5 cm, and only 1% exceed 10 cm, being classified as giant lipomas. Rapidly growing or heterogeneous lipomas can resemble liposarcoma. Thus, biopsy is essential in cases where malignancy is suspected. In this case, the rapid growth raised concerns for liposarcoma, but after biopsy and excision, the definitive diagnosis was lipoma.

Conclusion

Large, rapidly growing chest wall masses should be assessed for malignancy. A combination of clinical, radiological, and pathological findings is necessary for differentiating between lipoma and liposarcoma.

Keywords: Chest Wall, Giant Mass, Lipoma

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Surgery for Mediastinal Masses

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Abstract

The mediastinum is the thoracic space located between two pleural cavities. Many tumors occur in the mediastinum. Benign lesions are usually asymptomatic and detected during routine examinations. In malignant lesions, cough, dysphagia, dyspnea, and superior vena cava obstruction may be observed as a result of compression and obstruction. The most common in adults are neurogenic tumors, thymic tumors, lymphoma, and germ cell tumors. Early diagnosis and definitive treatment should be performed because mediastinal masses can compress surrounding tissues and show malignant degeneration over time.
Our study aimed to describe the characteristics of masses located in the mediastinum.
This study was produced from a medical specialization thesis titled "Mediastinal Kitleler ve Kistler". In our study, 366 patients who were followed up for a thesis study at Ankara University, Faculty of Medicine, Department of Thoracic Surgery between 1994-2006 were retrospectively examined. 336 patients diagnosed with a mediastinal mass were included in the study. Age, gender, localization of the lesion, surgical intervention and histopathological diagnosis features were evaluated. The mean age of the patients was 43.79±7.23 (2-79), 166 were male, 170 were female. 239 masses were detected in the anterior mediastinum, 64 in the visceral mediastinum and 33 in the posterior mediastinum. We found that thymic lesions were most frequently located in the anterior mediastinum, benign lymph node diseases in the visceral mediastinum and neurogenic tumors in the posterior mediastinum. 146 of the patients were diagnosed with a biopsy of the mass and referred to medical treatment. In five patients, resection could not be performed due to invasion of surrounding tissues by the mass during exploration. All other patients underwent resection. These were: Extended thymectomy 25, maximal thymectomy 37, thymectomy and partial pericardial resection 3, thymectomy and lung wedge resection 2, subtotal thyroidectomy 12, total thyroidectomy 6, mass excision 100. Histopathological diagnoses: Thymic mass 117, lymphoma 75, benign lymph node diseases 52, intrathoracic thyroid 46, neurogenic tumor 33, mesenchymal tumor 11, germ cell tumor 1 and parathyroid 1.
Preliminary diagnosis can be made according to the localization of mediastinal masses. However, although rare, they can be detected in different compartments due to atypical localization or invasion. In the treatment of mediastinal masses, the localization and pathological diagnosis of the lesion are decisive. Except for limited cases, surgery has an important place in the diagnosis and treatment of mediastinal masses.
Keywords: Surgery, Mass of the Mediastinum, Thymic Lesion.

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Factors Affecting Perioperative Complications in Esophageal Cancer

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Abstract

Introduction: Despite significant advances in surgical techniques, postoperative intensive care management, and preoperative risk assessment, morbidity rates following esophageal cancer resections remain high. This study aimed to identify the preoperative, intraoperative, and postoperative factors influencing perioperative technical complications in esophageal cancer.

Materials and Methods: A total of 115 patients who underwent esophagectomy by the same surgeon at the Department of Thoracic Surgery of our Faculty of Medicine, diagnosed with esophageal cancer, were retrospectively evaluated for the thesis study. The effects of several preoperative, intraoperative, postoperative, and tumor-related factors on the development of perioperative technical complications were evaluated using univariate and multivariate analyses.

Results: The study included 115 patients (mean age 59.3 ± 11.6 years). The rates of technical complications (TC) and overall complications (OC) were 24.3% and 54.3%, respectively. In univariate analyses, TC was associated with smoking status, FEV1%, surgical technique, tumor grade, OC, and the number of OCs. Multivariate analyses showed that smoking was an independent risk factor for TC.

Conclusion: Esophagectomy remains a challenging experience for both thoracic surgeons and patients. Despite advances in surgical techniques and intensive care, esophageal resections still result in high postoperative morbidity and mortality, with poor cancer survival outcomes. Careful preoperative assessment, high surgical experience, and meticulous postoperative care are essential in esophageal cancer surgery. In our study, technical complications were found to be associated with smoking status, FEV1%, surgical technique, tumor grade, overall complications, and the number of overall complications. Additionally, it was determined that not having smoked reduced the occurrence of technical complications by 3.8 times independently. Technical complications also prolonged intensive care, postoperative hospital stay, and total hospitalization duration. While numerous factors influencing perioperative morbidity and mortality were identified, there is no consensus in the literature. Most studies are retrospective, suggesting that more prospective studies with larger, carefully selected patient groups are needed to obtain more reliable and conclusive results.

Keywords: Perioperative Complications, Esophageal Cancer, Esophagectomy

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First Step To Unilateral Biportal Endoscopic Spine Surgery: Challenges and Complications

Eren YILMAZ[1]

Abstract

Unilateral biportal endoscopic spine surgery has been increasingly preferred in recent years due to the advantages provided by minimally invasive techniques. However, for surgeons who are new to this method, the learning process of the technique may bring certain difficulties and risks of complications. This technique, in which the surgeon optimizes the working area and imaging using two independent ports, requires both a different visual perception than conventional methods and hand-eye coordination. This situation may create a learning curve, especially for those who are new to surgery. One of the main difficulties specific to the technique is to effectively provide and maintain the endoscopic field of view. In cases where vision is limited, the risk of damage to dural or neural structures may increase. In addition, ensuring compatibility between independent portals and correct manipulation of surgical instruments are also important technical difficulties in the initial phase. In the first cases, the risk of inadequate dissection, incomplete decompression or unintentional damage to adjacent tissues may be observed. In terms of complications, the most common situations include dural tears, nerve root irritation and hematoma formation. The first unilateral biportal endoscopic spine surgery operation was performed in our clinic in July 2024. In the following 4-month period, a total of 32 patients underwent this minimally invasive surgical approach until November 2024. The diagnoses of the patients were classified as follows: 10 patients underwent surgery for lumbar stenosis, 19 patients underwent surgery for lumbar disc herniation, and 3 patients underwent surgery for disc herniation accompanying lumbar stenosis. The average recorded surgery time between the first incision and the last suture was recorded as 96.71 minutes. As a result of these operations, dural damage was observed in 3 patients, postoperative headache in 1 patient, and epidural hematoma in 1 patient. While the patient with epidural hematoma was successfully treated with reoperation, no second surgical intervention was required in the other patients. Success in unilateral biportal endoscopic spine surgery is directly proportional to increasing experience and appropriate case selection. For novice surgeons, simulation exercises and starting with small, relatively simple cases can accelerate the learning process.

Keywords: Unilateral Biportal Endoscopy

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Isolated Nondisplaced Linear Pediatric Skull Fractures

Aydın Sinan APAYDIN[1]

Abstract

Head trauma is a leading cause of morbidity in pediatric patients, with linear nondisplaced skull fractures (NDSF) being common but typically not requiring neurosurgical intervention. This study aimed to evaluate the management of pediatric patients with isolated NDSFs admitted to the hospital. We retrospectively reviewed clinical records of patients aged 0-16 years with isolated NDSFs at Karabük University Training and Research Hospital from January 2020 to December 2023. A total of 417 trauma cases were reviewed, with 90 patients meeting inclusion criteria for hospitalization. The majority of these fractures were caused by falls, with the occipital, parietal, and frontal bones most commonly affected. Of the hospitalized patients, 17 (19%) underwent follow-up CT scans due to vomiting, agitation, or suspected seizures, but no additional pathology was found. None required surgery, and all were discharged within one day. Follow-up visits showed no neurological deficits in any patients. Based on our findings, we conclude that hospital admission for pediatric patients with isolated NDSFs is often unnecessary. These patients are at very low risk for delayed complications, and such admissions could be avoided, potentially leading to significant cost savings. We recommend further multicenter studies to confirm these findings and optimize management protocols.

Keywords: Pediatric Head Trauma, Linear Nondisplaced Skull Fracture (ndsf), Ct Scan

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Incidental Findings on Cervical Magnetic Resonance Imaging Detected in Neurosurgery Outpatient Clinic

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Mehmet Denizhan YURTLUK [2]

Abstract

Magnetic resonance imaging (MRI) of the cervical spine is commonly used to evaluate patients with neck pain and radiculopathy. This study aimed to assess the prevalence and clinical significance of incidental findings detected during cervical MRI scans. Between April 2022 and April 2023, 324 consecutive patients with neck and arm pain who underwent cervical MRI at Karabük University Training and Research Hospital were included. The average age of the patients was 45.8 years. Incidental findings were detected in 34.25% of the cases, with thyroid nodules being the most common (33 patients, 10.18%). Other findings included mucosal thickening in the paranasal sinuses (27 patients), retention cysts (18), partial empty sella (11), and cervical lymphadenopathy (9). Among patients with incidental findings, 67 were referred for further evaluation, and 54 underwent additional testing, most frequently for thyroid-related issues. Six patients received medical treatment, with lymphadenopathy being the most treated condition. Notably, one patient was diagnosed with thyroid cancer. These findings highlight the frequent occurrence of incidental lesions in cervical MRI exams, emphasizing the importance of careful interpretation. While these incidental findings rarely lead to surgery, they can significantly influence patient management and health outcomes. The study suggests that incidental findings should be reported diligently to avoid overlooking potentially critical conditions and prevent medicolegal implications. Further long-term studies are needed to assess the clinical outcomes of incidental pathologies discovered through cervical MRI.

Keywords: Cervical Mrı, Thyroid Nodules, Incidental Findings

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Endoscopic Transnasal Surgical Approach and Current Additional Treatments in Skull Base Chordomas

Atakan EMENGEN[1]

Abstract

Chordomas are locally invasive, histopathologically low-grade neoplasms arising from notochord remnants and often located in the midline. Gross total resection(GTR) is the main treatment method for chordomas to have the best prognosis. The aims of this study are to determine the limits of endoscopic transnasal surgery, highlighting the need for additional combined approaches for tumors beyond these limitations for high resection rates. 98 patients with a histopathological diagnosis of chordoma among endoscopic endonasal surgeries performed between January 2004-January 2024 were included in the study. The patients' medical data, radiological images and surgical videos were examined retrospectively. Lesions observed on MRI were classified as panclival/upper/middle/lower in the sagittal plane, based on the clivus origin. A total of 121 endoscopic operations were performed on 98 patients. We used a combined approach in 6 patients for tumors that exceeded the limits of endoscopic surgery. The average age of the patients was 42.54±16.62. Postoperative follow-up period was 52.3±14.7 months. The most common presenting symptoms were headache and ophthalmatological complaints. GTR/STR are 65/98(66.3%)-33/98(33.7%) respectively. During the postoperative follow-up of the patients, adjuvant therapy(RT,gamma-knife) was not applied to 29(29.5%) patients.69(70.4%) patients received at least one RT/gamma-knife treatment. Proton beam therapy was applied to 2(2.0%) patients. Although chordomas are pathologically benign, they are clinically malignant. Despite GTR, relapse rates are high due to dense bone infiltration and adhesion to critical neurovascular structures. Although surgery and adjuvant treatments improve the 5-year survival of patients, mortality rates remain high.

Keywords: Chordoma, Skull Base, Endoscopic Transnasal Surgery

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Prevention of Skin and Nose Injuries Due to Noninvasive Mechanical Ventilation in Newborns

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Dilek KÜÇÜK ALEMDAR[2]

Abstract

Respiratory distress is the most important cause of morbidity and mortality in neonatal intensive care unit (NICU) hospitalizations. Premature infants are more prone to respiratory system diseases due to their anatomical and physiologic differences. Incomplete development of the nervous system and inadequate surfactant production in the lungs cause significant problems in respiratory control. Mechanical ventilation (MV) is an important and effective treatment method in the treatment of respiratory distress. Noninvasive mechanical ventilation (NIMV) methods are preferred more frequently to prevent ventilation-related lung damage. Binasal prongs-nasal cannulas are the most preferred NIMV method in NICUs because they are easy to use and economical. However, prolonged use of cannulas, constant pressure due to tight fixation, improper nursing care and the sensitive skin structure of the newborn may lead to serious complications in the nose and face.

Neonatal skin is one of the least developed organ systems at birth. In prematures, the stratum corneum, the protective barrier of the skin, is underdeveloped or not developed at all. This situation increases skin injuries due to friction and pressure of the devices used for diagnosis and treatment. A prevalence of up to 23% has been reported for pressure injuries in NICUs. The most common pressure injuries are nasal injuries caused by nasal cannula use. The globally reported incidence of nasal injuries ranges from 20% to 60%. In neonates, the incidence of skin injury during NIMV is 60-80% and nasal injury is 68%. In premature infants, nasal injury frequently develops in the septum in the first 48-72 hours. The incidence of nasal injury increases with decreasing gestational age and birth weight. Nasal injury may cause many problems ranging from short-term problems such as increased pain and stress, deterioration in comfort, especially the risk of infection, to functional and cosmetic deformities that may require surgical intervention.

Neonatal nurses play a major role in directing the care and treatment of the baby because they are in constant contact with the baby and observe the baby more frequently. Nursing care is the focal point during the prevention, identification, treatment and care of nasal injuries. Therefore, in this review, it was aimed to eliminate the lack of knowledge of neonatal nurses and healthcare workers who provide one-to-one care to the baby about the prevention of skin and nasal injuries related to NIMV application in the light of current literature and to raise awareness about the subject.

Keywords: Noninvasive Mechanical Ventilation, Preamature, Nasal Injury, Nursing Care, Skin Injury

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The Relationship Between Exposure to Cyberbullying and Social Media Appearance Anxiety and Eating Behavior in Adolescents

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Dilek KÜÇÜK ALEMDAR[2]

Abstract

Cyberbullying in adolescents includes intentional harassment and humiliation targeting individuals through digital platforms. Research in Turkey shows that a significant proportion of young people are exposed to cyberbullying and that it negatively affects their physiological health as well as their psychological health. In particular, appearance-based bullying can have devastating effects on body perception and eating behaviors in adolescents. Social media platforms provide an environment where young people are constantly exposed to idealized body images. Bullying on these platforms may increase young people's dissatisfaction with their own bodies, leading to disordered eating behaviors. Young people who are exposed to cyberbullying become more sensitive, especially about their body perception, and this can lead them to unhealthy eating behaviors. International studies show that cyberbullying contributes to eating disorders (e.g. anorexia, bulimia) and that young people tend to over-diet or engage in unhealthy eating habits in response to appearance criticism on social media. Studies conducted in Turkey also support these findings and reveal that both the risk of being exposed to cyberbullying and appearance anxiety increase with the increase in the time spent on social media. In this context, the relationship between cyberbullying, appearance anxiety and eating behaviors is considered as an important public health problem for adolescents. Developing protective policies against bullying that young people are exposed to on digital platforms, increasing trainings and psychological support programs that reduce appearance anxiety will play a critical role in solving this problem.

Keywords: Adolescent, Cyberbullying, Eating Disorder, Body Perception in Adolescents, Social Media

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Supporting Breastfeeding in Preterm Infants Hospitalized in the Neonatal Intensive Care Unit (NICU)

Özlem ÇAKCI [1]
Dilek KÜÇÜK ALEMDAR [2]

Abstract

Supporting breastfeeding success in preterm infants in the neonatal intensive care unit (NICU) has positive effects on both infant and maternal health. Breast milk is the best source of nutrition for preterm infants and frequent breastfeeding helps to provide essential nutrients, promote growth, strengthen the bond between mother and infant, reduce breast problems and increase maternal milk production. In preterm infants, the breastfeeding process can face many obstacles, both physiologic and environmental. The incomplete development of sucking and swallowing reflexes is one of the main reasons that make it difficult for preterm babies to suck breast milk directly. This can affect adequate nutrition and weight gain. However, preterm babies with low energy reserves may tire quickly during sucking and may not get enough milk. Problems in breast milk production are also among the important factors affecting breastfeeding in preterm babies.

After preterm birth, breast milk production may be delayed or reduced due to hormonal imbalances and lack of physical contact. Stress and anxiety in particular can suppress mothers' milk secretion. Therefore, multidisciplinary support programs for both the baby and the mother are of great importance. Physical and psychological factors should be considered to support breastfeeding success in preterm infants in the NICU. Practices such as kangaroo care, breastfeeding counseling and multidisciplinary approach contribute to the successful execution of this process. A support system centered on the needs of mother and baby supports the healthy development of preterm infants and increases the motivation of mothers in the breastfeeding process. More research and supportive programs are needed in Turkey to better understand the benefits of breastfeeding on preterm infants. Awareness-raising strategies should be developed considering the positive effects of breastfeeding awareness on the healthy development of preterm infants. In addition, it is important to implement breastfeeding support programs in NICUs and to raise

Key Words: NICU, Preterm Infants, Breastfeeding, Supporting

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Investigation of Clinical and Laboratory Findings in Hospitalized Children with Rotavirus Positive Diarrhea

Şeyma ÇİÇEK [1]
Sacit GÜNBEY [2]

Abstract

Objective: Acute gastroenteritis is a common disease of childhood. Rotavirus is the most common cause of viral gastroenteritis, especially in children under 5 years of age. Detection of rotavirus as a cause will prevent morbidity and mortality in patients with rapid and effective treatment and will prevent unnecessary use of antimicrobial therapy.

Method: 321 patients hospitalized in Ankara Keçiören Education and Research Hospital, Child Health and Diseases Department due to rotavirus positive gastroenteritis between 2010 and 2015 were included in our study. The patient files were reviewed retrospectively. The patients were evaluated according to their sociodemographic characteristics, clinical complaints and findings, degree of dehydration, vesikari score, additional symptoms if any, biochemistry and complete blood count parameters, treatment received and duration. The data obtained in this study were analyzed with SPSS 20 package program, Mann Whitney U, student-t and Chi-Square tests were used.

Results: 231 rotavirus antigen positive patients participated in our study.64.5% of the patients were male and the average age was 17. The disease was most frequently seen in the winter season, in December. 60.1% of the patients had 2nd degree dehydration and 3% had 3rd degree dehydration. 81% had a vesicari score of 11 and above, and the average score was 13.15.5% of the patients had elevated ALT, 15% had elevated AST, and 8.7% had both AST and ALT. When the patients were examined in two groups according to their vesicari scores, ALT elevation was significantly higher in those with a vesicari score of 11 and above. The average hospital stay of the patients was 4 days

Conclusion: Detection of rotavirus antigen positivity is very important for both clinical follow-up and treatment, and possible extraintestinal findings. Vesicari scoring will facilitate clinical course monitoring. Rotavirus antigen positivity should be sought especially in cases of gastroenteritis with high ALT and AST levels whose cause cannot be found.

Keywords: Gastroenteritis, Vesicari Scoring, Dehydration

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Pulmonary Thromboembolism Case Associated with Oral Contraceptive Use

Didem DOĞU ZENGİN [1]

Abstract

Pulmoner emboli(PE) sık karşılaşılan ve mortalitesi yüksek bir durumdur. PE'de erken tanı koymanın ve zamanında tedavi etmenin mortaliteyi azalttığını bilinmektedir. Pulmoner emboli, trombüsün bulunduğu yere göre asemptomatik veya hayatı tehdit eden hipotansiyon, şok tablosu gibi klinikle seyredebilir. PE düşünülen hastalarda immobilizasyon, komorbiditeler derin ven trombozu, abdominal cerrahi, oral kontraseptif (OKS) kullanımı, postpartum dönemde olup olmadığı, obezite, hipertansiyon ve otoimmün hastalıklar sorgulanmalıdır. Oral kontraseptif kullanımının derin ven trombozu ve pulmoner emboli riskini artırdığı birçok çalışmada gösterilmiştir. 39 yaşında kadın hasta nefes darlığı ve nefes almakla olan sırtta ağrı ve batma şikayetiyle polikliniğimize başvurdu. Son 1 hafta da şikayetlerinin giderek artması, ağrı kesici kullanımına rağmen devam etmesi üzerine başvurduğunu bildirdi. Hastanın kronik hastalık öyküsü yoktu.6 aydır düzenli olarak OKS kullanması dışında ilaç kullanım öyküsü bulunmamaktaydı. Ameliyat olmadığını ,yakın zamanda yolculuk öyküsü olmadığı, gebelik olmadığını belirtti. Aile de tromboza yatkınlık ile ilişkilendirilebilecek önemli bir özellik yoktu. Yapılan fizik muayenede solunum seslerinde azalma vardı. Vital bulgularında ateş 36,7 solunum sayısı 24/dk, nabız:100/dk, kan basıncı: 120/70 mmHg bulundu.Akciğer grafisinde akut patoloji izlenmedi. Laboratuvar bulgularında d-dimer değeri yüksek bulundu. Hastadan pulmoner bt anjiografi istendi. Bt de her iki pulmoner arter segmenter dallarında yer yer oklüzyona neden olan emboli ile uyumlu dolum defektleri izlendi. Derin ven trombozu için istenen bilateral her iki alt ekstremite venöz doppler ultrasonografide tromboz görülmedi. Hastaya pulmoner emboli tanısıyla antikoagülen tedavi başlandı. Hastamızın aile öyküsünün ve ek hastalığın olmaması ve bilinen risk faktörlerinden sadece OKS kullanımı olması nedeniyle, majör risk faktörü OKS olarak kabul edildi. Hasta genetik inceleme açısından yönlendirildi.

Oral kontraseptiflerin memede hassasiyet, baş ağrısı, depresyon, ödem, kilo alımı, görme sorunları gibi yan etkileri olabilmektedir. OKS kullanımı ile beraber hastanın yaşı, obezite, eş zamanlı sigara kullanımı, derin ven trombozu öyküsü, vaskülitler ,genetik faktörler kadınlarda VTE riskinde artışa neden olan diğer risk faktörleri olarak bilinmektedir. Hastalar açısından önemli kardiyovasküler yan etkilerde gösterilmiştir. Tromboza eğilim oluşturması hastamızda olduğu gibi ciddi durumlarla sonuçlanmaktadır.Oral kontraseptif ilaç içeriğinde bulunan venöz tromboemboli riskini arttıran östrojen, bazı pıhtılaşma faktörlerinin (Faktör II, VII ve X) plazma düzeylerini arttırırken antitrombin 3'ün plazma düzeyini düşürerek koagülasyona yatkınlık yaratır.

Pulmoner emboli sık rastlanılan mortalitesi yüksek olan bir hastalıktır. Nefes darlığı ve batma tarzında sırt ve göğüs ağrısı gelen hastalarda ayırıcı tanıda düşünülmelidir. Pulmoner emboli düşünülen kadınlarda mutlak oral kontraseptif kullanımı sorgulaması yapılmalı, tanı konulması halinde etkin tedavi sonrası kontrasepsiyon yöntemi düzenlenmesi için yönlendirilmelidir.

Anahtar Kelimeler: Pulmoner Emboli, Anti-koagülan Tedavi, Oral Kontraseptif Tedavi

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The Relationship between Cavitary Lesion-associated Pneumonia and Substance Abuse

Didem DOĞU ZENGİN [1]

Abstract

Toplum kökenli pnömoni (TKP), etkeni toplumdan alan akciğer parankiminin akut infeksiyonu olarak tanımlanmaktadır. Dünya genelinde önemli bir mortalite ve morbidite nedenidir. TKP olgularının yaklaşık olarak %50'sinde etken bulunamadığı için tedaviye genellikle ampirik olarak başlanır. Başta Streptococcus pneumoniae, Mycoplasma pneumoniae gibi etkenler ile pnömoniler meydana gelmekte ve başlangıç antibiyotik tedavisinin bu patojenleri kapsaması önerilmektedir. Staphylococcus aureus gibi patojenlerin bazı risk faktörlerinin varlığında TKP etkeni olarak saptandığı bilinmektedir. Bu durumda klinik seyir ve radyolojik bulgular ile başlangıç tedaviye yanıtsızlık önemli bir ipucudur.

Olgu: 25 yaşında bekar erkek hasta üç haftadır devam eden üşüme, titreme, düşmeyen ateş ve balgam şikayetleri ile ile polikliniğimize başvurdu. Daha önce hastane başvurusu olmuş ve üst solunum yolu enfeksiyonu düşünülerek antibiyoterapi reçete edilmiş. Tekrarlayan antibiyoterapi kullanımları olmuş. Kullandığı ilaçlardan bilinen sefuroksim aksetil'i bir hafta kullanmış. Şikâyetlerinde düzelme olmamış. İştahsızlık, halsizlik ve genel durumda bozulma olması üzerine aile hekimliği tarafından tarafımıza yönlendirilmiş.

Hastanın öyküsünde, öğrenci olduğu, tatil döneminde olduğu, sigara ve alkol kullanımı olmadığını ve kısa süre önce madde kullanmaya başladığını öğrenildi. Maddeyi tanımadığını, içeriğini bilmediğini belirtti. Özgeçmiş ve soygeçmişinde başka özellik saptanmadı. Ateş 38.2 santigrad dereceydi. Solunum sayısı dakikada 26, nabız 100 atım/dk, kan basıncı: 110/70 mmHg bulundu. Akciğer grafisinde sağ akciğerde kaviter lezyonlar görüldü. Kaviter lezyon olması ile izole edilerek hastaneye yatırıldı. Toraks tomografisinde sağ akciğer üst lob posterior ve alt lob superiorda kaviter lezyon izlendi. Laboratuvar bulguları: kan beyaz küre sayısı (WBC) 13.660/µl, C reaktif protein (CRP) 122,28 mg/L bulundu. Diğer tetkikler normaldi. Hastadan balgam kültürü, balgamda aside rezistan basil (ARB) yayma ve tüberküloz kültürü istendi. Madde kullanımı olması ve tekrarlayan tedaviye yanıtsız olması ve görüntülemelerde kaviter lezyonlar olması üzerine intravenöz piperasilin-tazobaktam 3x1 flakon ve linezolid 2x1 flakon tedavisi başlandı.

Hasta istenilen örnekleri veremedi. Bronkoskopi planlandı. Bronko alveolar lavaj (BAL) örneği, BAL kültürü, ARB ve tüberküloz kültürü istendi. BAL kültüründe Metisilin dirençli S. aureus üremesi oldu. Tüberküloz kültüründe üreme olmadı. ARB negatifti. Klinik olarak düzelen hasta da akciğerdeki kaviter lezyonlar geriledi. Tedavi sonunda hastamız taburcu edildi.

Tartışma: Staphylococcus grubu mikroorganizmalar oldukça yaygın bulunan bakterilerdir. En sık görülen tipi Staphylococcus aureus'tur. S. aureus'a bağlı pnömonilerde genellikle homojen olmayan, subsegmental opasiteler, düzensiz, kalın duvarlı kaviteler oluşumları bildirilmiştir. Bazı risk faktörleri tanımlanmıştır.Hastamızda olduğu gibi intravenöz uyuşturucu kullanan kişiler bu risk gruplarındandır.

Sonuç: Pnömoni düşünülen durumlarda kavitasyon varlığında belirlenmiş risk faktörleri de düşünülürek Stafilokok pnömonileri akla gelmelidir ve ayırıcı tanıda mutlaka düşünülmelidir.

Anahtar Kelimeler: Madde Kullanımı, Akciğerde Kaviter Lezyon, Stafilokok Pnömonisi

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Settling in the Lung Parenchyma Tuberculosis Abscess: A Case Report

Efraim GÜZEL[1]

Abstract

Background and Aim: Lung abscess describes limited inflammatory and necrotic areas in the lung parenchyma. In our study, we aimed to discuss tuberculosis abscess, which can frequently cause lung abscess but is rarely detected, with a case report.

Case Presentation: A 75-year-old patient with a history of chronic obstructive pulmonary disease (COPD), atrial fibrillation (AF) and diabetes mellitus (DM) and frequent hospital admissions due to exacerbations of COPD was hospitalized again due to pulmonary infection. In addition to bronchodilator, antiarrhythmic and antidiabetic treatments, broad-spectrum antibiotherapy was initiated. Despite antibacterial treatment, there was no clinical, laboratory and radiologic regression. Control thoracic computed tomography (CT) revealed an abscess in the upper lobe of the left lung. Drainage was provided for the abscess. While no significant growth was detected in the nonspecific culture examination of the drained material, acid-fast bacillus (ARB) was detected in the direct examination of Erlich-Ziehl-Neelsen (EZN) staining of this sample. With this result, the patient was accepted as tuberculosis-associated lung abscess and antituberculosis treatment was initiated. In addition to antituberculosis treatment, abscess drainage was also provided and the patient did not respond well to treatment. The patient with respiratory distress, hypoxemia and multiple comorbidities was evaluated in the high risk group for surgery. The patient who could not undergo surgery did not respond clinically to antituberculosis and other medical treatments in the following period and the patient died due to the progressive course of the disease.

Conclusion: In the presence of lung abscess in patients with risk factors for the development of tuberculosis, tuberculosis infection should be considered in the underlying etiology and necessary investigations should be performed for this purpose. In addition to medical treatment, these patients should be offered multidisciplinary follow-up and treatment in which methods such as abscess drainage with intraparenchymal catheter and surgical interventions can be evaluated together.

Keywords; Tuberculosis, Lung Abscess, Pneumonia, Necrotizing Pneumonia, Drainage

Figure 1. First thorax CT

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Figure 2. Thoracic CT during hospital follow-up

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An Unresolved Case of Chronic Cough: Endobronchial Hamartomas

Didem DOĞU ZENGİN[1]
Arif ATEŞ[2]

Abstract

Kronik öksürük ≥ 8 hafta süren öksürük olarak tanımlanır ve hastanın yaşam kalitesi üzerinde önemli bir olumsuz etkiye sahiptir. Tekrarlayan hastane başvuru sebeplerindendir. Bilinen kronik öksürük sebeplerin aksine nadir sebeplerde öksürük semptomu olarak karşımıza çıkabilir. Fiberoptik bronkoskopi ile akciğerde tespit edilen endobronşiyal lezyonların çoğu malign karakterde olsa da nadiren benign lezyonlarda saptanmaktadır. Pulmoner hamartomlar nadirdir. Akciğerlerde bulunan en yaygın iyi huylu tümörlerdir. Yavaş büyürler ve genellikle radyolojik görüntülemelerde tesadüfen tespit edilirler. Pulmoner hamartomların yaklaşık %10'u endobronşiyal olarak görülür. Mevcut lezyonun konumu önemlidir. Lezyonun konumuna bağlı olarak hastalarda kronik öksürük ,hırıltı ,göğüs ağrısı gibi semptomlara, hava yollarında tıkanıklığa ve post-obstrüktif pnönomiye sebep olabilirler. Olgu :6 aydır geçmeyen öksürük ile tarafımıza başvuran 72 yaş kadın hasta ,daha önce öksürük, balgam ve nefes darlığı nedeniyle birçok kez tedavi görmüştü. Tekrarlayan tedaviye rağmen semptomları devam etmekteydi. Kronik hastalık ve sigara kullanım öyküsü yoktu. Oda havasında oksijen satürasyonu %97 idi ve vital bulguları stabildi. Daha önce çekilen radyolojik görüntülemeleri değerlendirildi. Kontrastsız toraks BT istendi.Toraks bt görüntülemelerinde sağ ana bronş lümeninde endobronşiyal lezyon görüldü. Hastaya bronkoskopi planlandı. Bronkoskopi de sağ ana bronş lümenin polipoid lezyon görüldü. Hasta için göğüs cerrahi önerisi alındı. Kitle çıkarıldı. Patoloji sonucu: kondroid hamartom olarak geldi. Hastanın takibinde öksürük şikayetinin gerilediği görüldü ve nüks görülmedi.

Tartışma : Benign endobronşiyal lezyonlar nadir olarak bulunurlar. Çeşitli semptom ve bulgularla veya radyolojik görüntülemelerde tesadüfen saptanırlar. Hamartomlar , akciğerlerde bulunan ,en sık görülen iyi huylu tümörlerdir.(2) Histolojik olarak kıkırdak, bağ dokusu, yağ ve düz kas gibi iyi huylu elemanların çeşitli kombinasyonlarından oluşur. Endobronşiyal tümörler, genellikle geniş tabanlı lobüle nodüllerdir, yavaş büyürler ve öksürük, hemoptizi, dispne gibi semptomlara veya obstrüktif pnömonilere neden olurlar. (3).Pulmoner hamartom büyüdüğünde veya hastamızda olduğu gibi semptomatik hale geldiğinde müdahale gereklidir. Pulmoner hamartomlu hastalarda akciğer kanseri riski artmıştır. Obstrüktif pnömoni geliştirebilmesi ve malignite potansiyeli nedeniyle asemptomatik hastalarda da tedavi düşünülmelidir.

Sonuç: Endobronşiyal lezyonlar potansiyel komplikasyonlara yol açabilmesi nedeniyle tanı ve tedavi açısından erken tanı alması önem arzeden lezyonlardır. Kronik öksürük semptomu olan hastalarda endobronşiyal lezyonlar açısından başta klinik şüphe duyulmalıdır. Tekrarlayan semptomlarda ve tedaviye yanıt alınmaması durumunda hastalarda radyolojik görüntüleme ve gereklilik halinde bronkoskopik inceleme yapılmalıdır.

Anahtar Kelimeler: Endobronşiyal Hamartom, Bronkoskopik Eksizyon, Kronik Öksürük

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Early Detection of Parkinson's Disease through Machine Learning

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Abstract

Parkinson's disease is a neurological disorder that affects millions of people worldwide, and early diagnosis and intervention are crucial for slowing the progression of the disease. The absence of prominent motor symptoms in the early stages makes it challenging to diagnose the disease, delaying the initiation of treatment. In this context, developing new methods for early diagnosis and halting the progression of Parkinson's disease has become an important research topic. Parkinson's disease arises from the disruption in the production of dopamine, a substance that enables brain cells to communicate with each other. Dopamine-producing brain cells are responsible for the control, adaptation, and fluency of movements. When 60-80% of these cells are lost, sufficient dopamine is not produced, and the motor symptoms of Parkinson's disease become evident. The most effective strategies to stop the progression of the disease focus on detecting non-motor symptoms that appear in the early stages of Parkinson's. This study proposes a machine learning-based approach for diagnosing Parkinson's disease in its early stages. The proposed method includes data preprocessing steps, utilizing techniques such as normalization, feature selection, and k-fold cross-validation. Classification models used for diagnosis include Support Vector Machine (SVM), Random Forest (RF), and XGBoost, with their performances being compared. The results show that the XGBoost classifier demonstrates higher accuracy compared to the other methods. The models' performances were evaluated using metrics such as Accuracy, Recall, F1 Score, and AUC (Area Under the Curve).

Keywords: Machine Learning, Early Diaognasis, Parkinson's Disease, UCI Parkinson's Dataset

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Vitamin D Deficiency Is Associated with Severity of Diabetic Peripheral Neuropathy

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Abstract

Diabetic peripheral neuropathy represents a prevalent microvascular complication among individuals with diabetes, leading to a range of adverse outcomes, including neuropathic pain, foot ulcers, and limb amputations. The aim of this study was to examine the demographic, clinical, and laboratory factors that influence the onset of diabetic neuropathy.

This retrospective study analyzed patients diagnosed with diabetic peripheral neuropathy through electroneuromyography (ENMG) conducted in the electroneurophysiology laboratory. Individuals presenting with peripheral neuropathic symptoms but exhibiting normal ENMG results, as well as those with oncological and rheumatological diagnoses, were excluded from the study. The analysis included demographic data, comorbidities, medications, fasting glucose levels, fasting hemoglobin A1c, serum 25-hydroxyvitamin D, vitamin B12, folate, and thyroid-stimulating hormone levels.

A total of forty-two patients participated in the study, with a mean age of 67.2 years (±10.6). Among the participants, 17 were female, representing 40.5% of the cohort, and the mean duration of disease was 18.1 years (±9.9). Correlation analysis indicated a significant association between the severity of neuropathy and hemoglobin A1c levels ($r=0.526$, $p<0.001$), 25-hydroxyvitamin D levels ($r=-0.519$, $p<0.001$), and medical treatment ($r=0.566$, $p<0.001$). The ROC analysis yielded an area under the curve (AUC) value of 0.845 (95% confidence interval, 0.705-0.985, $p<0.001$), which was not sufficient to establish a definitive cut-off value for predicting neuropathy severity. However, a cut-off value of 25-hydroxyvitamin D less than 13.5 demonstrated the highest sensitivity (82%) and specificity (84%) for predicting the severity of neuropathy in patients with diabetic peripheral neuropathy.

Conclusion: Vitamin D deficiency and elevated hemoglobin A1c levels are significant factors that exacerbate the severity of diabetic peripheral neuropathy. In addition to the necessity for further research in this area, there is a pressing need for new studies that investigate the impact of vitamin D supplementation on the severity of neuropathy.

Keywords: Vitamin D Deficiency, Diabetic Peripheral Neuropathy, Severity of Neuropathy, Electroneuromyography, Neuropathic Pain

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Quality of Life, Social Support, and Caregiver Burden in Family Caregivers of Huntington Disease Patients

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Abstract

The study aims to evaluate the quality of life, perceived social support, and caregiving burden among caregivers of patients with Huntington's disease (HD) and to investigate the relationships between these variables. Family carers of patients diagnosed with HD were included in the study. Descriptive information on patients and caregivers, such as age, sex, and duration of care, was collected. Caregivers' quality of life was assessed using the World Health Organisation Quality of Life Scale-Short Form, perceived social support using the Caregiver Social Support Scale, and caregiving burden using the Zarit Caregiving Burden Scale. The study included 13 (10 women, 3 men) patients with HD and 13 (9 women, 4 men) relatives who were the primary caregivers. The mean age of the patients was 55.84±12.61 years, and the mean age of the caregivers was 43.76±15.74 years. The mean disease duration of the patients was 9.00±4.67 years, while the mean caregiving duration was 6.61±3.04 years. Caregivers' physical health quality of life was 14.54±2.98, perceived social support was 35.46±12.47, and caregiver burden was 38.00±19.05. There was a positive moderate correlation between mental health quality of life and perceived instrumental support (p:0.023, r:0.623), a positive moderate correlation between social relationship quality of life and perceived emotional support (p:0.034, r:0.590), and a negative moderate correlation between perceived social support and care burden (p:0.013, r:-0.666). No correlation was found between the quality of life and the burden of care. These findings suggest that improving the quality of life and perceived social support of caregivers for HD patients is crucial in reducing caregiving burden. Interventions by healthcare professionals that strengthen social support systems may play a critical role in alleviating caregiver stress.

Keywords: Caregiver, Caregiver Burden, Huntington Disease, Quality of Life, Social Support.

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A New Perspective on Breast Augmentation: Accuracy, Utility and Availability of the Knowledge for Patient Education and Consultation with Artificial Intelligence

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Abstract

Introduction

The purpose of this study is to compare the answers of most asked 12 questions about breast augmentation surgery on both Google and ChatGPT. Our research mentioned the importance of artificial intelligence in informing patients before surgery in clinical use.

Methods

The 12 most asked questions about breast augmentation were obtained from the Realself website. These 12 questions asked by websites users, investigated on both Google and ChatGPT. Information received from both Google and ChatGPT were asked to be analyzed and evaluated by ten plastic surgeons with European Board of Plastic Reconstructive & Aesthetic Surgery (EBOPRAS) certification. The Global Quality Score (GQS) scale was used for the evaluation.

Results

The average results obtained were compared with each other. While the average of Google's responses was calculated at 2.841, the average of ChatGPT's responses was calculated at 3.866. It was found that the ChatGPT responses were superior than Google's according to the Global Quality Score (GQS).

Conclusion

We suggest that Artificial Intelligence (AI) programs are significant for patient education. However, AI should be used cautiously after assessing the risks. While ethical concerns persist, this study underscores the practicality of ChatGPT in informing patients about plastic surgery procedures, emphasizing the need for careful usage and collaboration to optimize benefits while minimizing risks.

Keywords: Artificial Intelligence, Breast, Plastic Surgery, Breast Surgery, ChatGPT

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Paratesticular Fibrolipoma Excision due to Autologous Fat Injection Used for Penis Enlargement

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Abstract

Although penile enlargement surgeries are common nowadays, there is no consensus on the use of appropriate materials. Although many synthetic and autologous agents have been used, many complications can occur. In this video case, we present the application of paratesticular fibrolipoma excision, which is caused by autologous fat injection into the penis for penile enlargement and then migrated to the scrotum. Case: A 21-year-old male patient applied to our clinic with a palpable painful mass in both testicles. The patient had undergone autologous fat injection for penile enlargement in another clinic 1 year ago. On physical examination of the patient, irregular hard masses were palpable in both testicles, more commonly on the left side. There was no fat formation on the penis. The patient's flaccid penis length was 9.2 cm, streched penis length was 14.1 cm, and mid-penile circumference was 8.2 cm. These masses were palpated in adherence with the testis. In MRI examination, masses with irregular borders, necrosis and fat density were observed in both paratesticular areas. The patient was operated under spinal anesthesia. After the midscrotal incision, the subcutaneous tissues were opened. First, the left testis was dissected with paratesticular fibrolipoma. After this stage, the synechiae between the testis and the fibrolipoma were separated by sharp and blunt dissection. After the fibrolipoma was separated from the testicular tissue, dissection was performed around the corpus cavernosum for its proximal side. At this stage, the lipomas were quite fixed and in close proximity to the corpus cavernosum. Fibrolipoma tissue was excised after these dissections. Then the same procedure was performed for the right testis and paratesticular fibrolipoma. The operation time was 125 minutes. There was no bleeding requiring peroperative blood transfusion. Both testicles and corpus cavernosum were intact. After excision, a drain was placed in the mid-scrotal area. Subcutaneous tissue (3/0 vicril) and skin (3/0 rapid vicril) were sutured in accordance with its anatomy. The patient was externed on the 1st postoperative day. Postoperative complications did not develop. Although autologous grafts for penile enlargement seem innocent, some complications can be observed due to their anatomical incompatibility. Autologous fat injection used for penis enlargement is not a reliable method.

Keywords: Penile Enlargement, Autologous Fat Injection, Migration, Paratesticular, Fibrolipoma

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Clinical and Ultrasonographic Comparison of the Effect of Hot and Cold Treatments Before Stretching Exercises on Spasticity in Stroke: Preliminary Study

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Abstract

This study aims to evaluate clinical and ultrasonographic comparisons of the effects of hot and cold treatments on spasticity before stretching exercises in patients with stroke. The study is randomized and controlled. The data of 24 participants who applied to the outpatient clinic with the complaint of spasticity after stroke, aged between 18-75 years were evaluated as a preliminary study. These participants were divided into three groups randomly, group 1 (n=9): stretching exercises after cold therapy, group 2 (n=8): stretching exercises after hot therapy, and group 3 (n=7): only stretching exercises. All participants were assessed 3 times, before treatment, immediately after the first session, and at the end of the 5th session with ultrasound measurements, ankle range of motion, and spasticity levels. Passive range of motion (PROM) of ankle dorsiflexion and the Modified Ashworth Scale were used as clinical measures. The ultrasound measures assessed were muscle fascicle length, pennation angle, Achilles tendon length (ATL), and muscle thickness. There were no significant demographic or baseline differences between the groups. Within-group repeated measures showed a significant increase in ankle dorsiflexion PROM in knee extension and flexion in all groups compared with baseline at the final assessment ($p=0.01$ and $p=0.03$ for group 1, $p=0.02$ and $p=0.007$ for group 2, $p=0.02$ and $p=0.02$ for group 3). There was a significant increase in ultrasound ATL at the final assessment compared to baseline in groups 1 and 2 ($p=0.01$ and $p=0.01$, respectively), whereas no significant difference was found in group 3 ($p>0.05$). All follow-up clinical and ultrasound parameters did not differ significantly between groups ($p>0.05$). An improvement was observed in ultrasound measurements such as ATL after pre-stretch ice therapy and pre-stretch heat therapy. However, no significant difference was found regarding the additional contribution of these pre-stretching therapies. It was found that adding hot or cold application to stretching exercises did not contribute according to our preliminary study results. The significance of the additional contribution is planned to be re-evaluated by increasing the number of participants.

Keywords: Spasticity, Stroke, Stretching, Ultrasound, Achilles Tendon

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A Retrospective Analysis of the Prognostic Value of the Serum Glucose/Potassium Ratio in Predicting Mortality in Acute Ischemic Stroke Patients in the Intensive Care Unit

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Abstract

The glucose-potassium ratio (GPR), calculated by dividing serum glucose by potassium levels, has been suggested as a rapid and accurate predictor of morbidity and mortality in patients with subarachnoid hemorrhage, pulmonary embolism, traumatic brain injury, or blunt abdominal trauma. It is hypothesized that the GPR could play a significant role in predicting mortality in patients admitted to the intensive care unit with acute ischemic stroke (AIS). This study aims to evaluate the role of GPR in predicting mortality and to determine the optimal cut-off value for GPR in this context.

The study was conducted with the approval of the Uşak University Faculty of Medicine Ethics Committee (Date: 21.11.2024, Decision: 483-483-01) and adhered to the principles of the Declaration of Helsinki. It was designed as a retrospective study with no interventional procedures performed on patients.

The primary outcome of the study was the role of GPR in predicting 28-day mortality. The secondary outcome was to identify the cut-off value of GPR in AIS patients. Serum glucose, potassium, and GPR levels were assessed on Days 1, 7, 14, 21, and 28. Multivariate logistic regression analysis was performed to identify independent predictors of 28-day mortality using statistically significant variables.

Among the independent variables, alanine transaminase (ALT) (OR = 1.124, CI = 0.952–1.326), glucose on Day 28 (Glu28) (OR = 1.009, CI = 0.983–1.036), and GPR on Day 14 (GPR14) (OR = 1.067, CI = 1.002–1.137) were identified as independent parameters associated with mortality. Notably, GPR14 was found to be significant (p = 0.042). Receiver operating characteristic (ROC) analysis was conducted to determine the optimal cut-off value for GPR14 in predicting mortality. The best cut-off value for predicting mortality was identified as "47.1 or higher."

In conclusion, these findings suggest that GPR could serve as a valuable parameter for predicting mortality in patients with acute ischemic stroke.

Keywords: Acute Ischemic Stroke, Anticoagulant, Glucose-Potassium Ratio, Intensive Care Unit, Mortality.

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Comparison of Tourniquet and Tourniquet-Free Techniques in the Surgical Treatment of Carpal Tunnel Syndrome

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Abstract

Dünya Sağlık Örgütü (World Health Organization: WHO)'ne göre obezite, sağlık açısından risk oluşturacak düzeyde vücutta anormal veya aşırı miktarda yağ birikimi olarak tanımlanmıştır. Pratik olarak kilogram cinsinden vücut ağırlığının metre cinsinden boyun karesine bölünmesiyle bulunan beden kitle indeksi (BKİ) obezitenin tanısında kullanılmaktadır; BKİ değeri 25 ve üzeri olan kişiler aşırı kilolu, 30 ve üzerinde olan kişiler obez olarak kabul edilir. Obezite kısıtlı olan sağlık bakım harcamalarını tehdit eden, Tip 2 diyabet, kardiyovasküler hastalıklar, kanser ve hipertansiyon sıklığında artışa sebep olan epidemik bir hastalıktır. Obezitenin tedavisinde başlıca yaklaşım sağlıklı ve dengeli beslenmenin temini olmalıdır.

Obezitede meydana gelen değişiklikler basitçe iki grupta toplanabilir: adipoz doku kitlesindeki artış ve artmış yağ dokusu hücrelerinden patojen ürünlerin (adipokinlerin) salınımındaki artış. Adipositler olarak bilinen yağ hücreleri, kuvvetli bir şekilde obezite ile bağlantılı ürünlerin karışımını salgılarlar. Enflamatuvar sitokinlerin, peroksisom proliferatörü ile ilişkili reseptör (PPAR) ve hedef geni, plazma lipoprotein lipazı (LPL) ve glikoz taşıyıcısı, glukoz transporter tipi 4'ü (GLUT4) regüle ederek trigliserit sentezini inhibe ettiği bildirilmiştir (Hossain ve ark 2016, Mauri ve ark 2007, Fain ve ark 2004). Aynı zamanda, TNF- α lipoliz insülin aracılı zayıflatmayı azaltır, lipit damlacık ilişkili protein perilipini (PLIN) aşağı yönde düzenler ve cAMP havuzunu artırır, bunların hepsi serbest yağ asidi (FFA) salınımını artırır (Guilherme ve ark 2008). Artan FFA, IRS-1 ekspresyonunu azaltır, karaciğer ve iskelet kaslarında PI3K-AKT'nin (Khromi ve ark 2015, Bouzakri ve ark 2003) sinyalleşmesini bozar ve pankreastaki JNK sinyalinin ekspresyonunu artırır (Cheon ve ark 2010). Sonuçta, PI3K-AKT'nin azaltılmış ekspresyonu karaciğer ve iskelet kaslarında insülin direncine neden olur ve artmış JNK ekspresyonu pankreastaki apoptozisi kötüleştirir (Hossain ve ark 2016).

Flavonoidler olarak bilinen ve yüksek antioksidan ve antiinflamatuar aktiviteye sahip olmalarıyla karakterize edilen, gen ifadesini ve metabolik yolları olumlu bir şekilde düzenleyebilen bu moleküller anti obezite özellikleriyle dikkat çekmektedir. Klinik etkinlik gösteren doğal bileşiklerin veya moleküllerin etki mekanizmalarını anlamak ve bugüne kadar yürütülen klinik çalışmalarda elde edilen sonuçları analiz etmek önemlidir.

Flavonoidler, etkili ve güvenli anti-obezite ve ilaçlarının geliştirilmesi için potansiyel bir alternatif tedavi stratejisi olarak değerlendirilmektedir. Bu nedenle, obezite komplikasyonlarının tedavisinde besinsel flavonoidlerin geliştirilmesini desteklemek için ek çalışmalara ihtiyaç vardır.

Keywords: Obezite, Flavonoid, Moleküler Mekanizma

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Comparison of Blood Crp, Sedimentation, Neutrophil/lymphocyte Ratio, Platelet/lymphocyte Ratio, Wbc Values with Synovial Fluid Wbc and Polymorphonuclear Leukocyte Ratio Values in Culture Negative and Positive Septic Arthritis Patients

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Abstract

Septic arthritis (SA) is a musculoskeletal emergency in which rapid diagnosis and treatment are critical. However, traditional diagnostic criteria of synovial fluid (SF) white blood cell count (WBC) >50,000 cells/mm3 or >90% polymorphonuclear leukocytes (%PMN) are not particularly sensitive or specific for the diagnosis of SA. Furthermore, prognostic markers are lacking. However, standard culture methods fail to identify the cause of septic arthritis in approximately 50% of cases. Management of culture-negative septic arthritis can be challenging, with failure to identify the causative agent complicating antibiotic selection and patient follow-up. Schwab and his friends reported that the neutrophil/lymphocyte ratio NLR is a good parameter for assessing the severity of septic arthritis and suggested that it may be better than white blood count, CRP and sedimentation rate in predicting 90-day mortality risk. The aim of our study was to compare the CRP, sedimentation, neutrophil/lymphocyte ratio, platelet/lymphocyte ratio values measured in blood samples taken from septic arthritis patients at the time of admission to the emergency department, and the leukocyte count and ratio values seen in the joint fluid after sampling from the relevant joint in culture-negative and culture-positive septic arthritis patients.

Keywords : Septic Artritis , Neutrophil/Lymphocyte Ratio ,Crp , Sedimentation , Culture

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Z4P May Strengthen the Anticancer Effect of Cabazitaxel in Prostate Cancer Cells

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Abstract

Prostate cancer is the most prevalent malignancy type in men and is the second-leading cause of cancer death in the United States. Although with continuous progress over the past decades in understanding molecular mechanisms and treatment targets for prostate cancer, recurrence and metastatic foci may still occur in patients due to limitations in treatments. Semi-synthetic cabazitaxel is the primary natural taxane found in the needles of various Taxus species and is a dimethoxy derivative of docetaxel. It exhibits potent anti-cancer activities through stabilizing microtubules. In the present study, we aimed to investigate the therapeutically enhancing effect of Z4P-mediated targeting of the IRE1α branch of unfolded protein response (UPR) signaling on cabazitaxel in prostate cancer cells. Because IRE1α signaling plays a pivotal role in the carcinogenesis process, recurrence and drug resistance status of prostate cancer cells. To this aim, we used human androgen-responsive prostate cancer cell lines, LNCaP and 22Rv1. The anti-cancer activities were evaluated by WST-1-based proliferation assay, 2D colonial formation and invasion assays. Present data revealed that Z4P-mediated targeting of the IRE1α branch might importantly enhance the anti-cancer activity of cabazitaxel in prostate cancer cells by reducing proliferation, colonial growth and invasion capacity of cells.

Keywords: Cabazitaxel, Prostate Cancer, IRE1α, Unfolded Protein Response, Z4P
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Ameloblastoma

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Abstract

Introduction: Ameloblastoma is a rare, noncancerous (benign) tumor of odontogenic epithelium that develops most often in the lower jaw near the molars. The exact etiology remains unclear, but several genetic changes (mutations) may play role in its development. According to WHO classification ameloblastoma is divided into four clinical categories as solid multicystic, unicystic, desmoplastic, and extraosseous/peripheral.
Case report: A 32 years old male patient visited our clinic with the complaint of painless swelling in the buccal mucosa of left mandibular region. Panoramic radiography revealed a multilocular radiolucent lesion with sclerotic border located between canine and first molar teeth, there is external root resorption in teeth number 35. Electric pulp test (EPT) indicated that involved teeth were vital. A provisional diagnosis was given as OKC, Simple Bone Cyst, Ameloblastoma. Cone beam computed tomography (CBCT) confirmed the presence of 2 separate lesions foci: one inferiorly ($16.9\times 13.3 \times 13.4\ mm$)and the other superiorly ($10.7 \times 13.7 \times 10.7\ mm$), perforation was seen in vestibular - lingual cortical bone. The lesions were iso-hypodense. Mandibular canal located inferior-lingual to the lesion.
For histopathological examination, sample was obtained from the patient. The preliminary diagnosis was reported as ameloblastoma with fibrocollagenous storma covered with stratified squamous epithelium. However, it was stated that a definitive diagnosis could only be made after complete removal of the lesion, as the sample did not represent the entire lesion. Nevertheless, a diagnosis of ameloblastoma was made according to radiological and histological evidence.
Conclusion: In summary, while biopsy remains the definitive method for diagnosing lesions such as ameloblastoma, the use of CBCT offers significant advantages. The primary benefit of CT lies in its ability to provide detailed cross-sectional images, allowing for accurate measurement of lesion size and assessment of its relationship with surrounding anatomical structures. In conclusion, although pathology is the gold standard for lesion detection, it may sometimes be insufficient on its own and must be supported by advanced imaging. This case highlights the importance of combining different diagnostic modalities for accurate diagnosis.
Keywords: Ameloblastoma, Multicystic Ameloblastoma, Biopsy, Cone Beam Computed Tomography

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Odontogenic Cutaneous Fistula: Case Report

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Kübra TÖRENEK AĞIRMAN[2]

Abstract

Introduction: Odontogenic cutaneous fistula (OCF) is a pathologic communication between the cutaneous surface of the face and oral cavity. OCF usually seen in the chin or jaw. Affected patients usually seek help from dermatologists or surgeons rather than from dentists. The diagnosis is challenging and can lead to unnecessary usage of antibiotic. According to the reports Majority of oral cutaneous fistulas are arise from chronic dental infection.

Case report: A 23 years old female patient attended our clinic with the complaint of swelling on left cheek for a while, she doesn't feel any pain. The patient had previously seen dermatologist and she had been referred to the dentist by him/her. According to the patient history she had root canal treatment on left first molar teeth after a while the restoration was broken and they renew the filling after it the fistula appeared on left cheek, the initial diagnosis was supported the idea of dental originated extraoral fistula. We asked for a detailed ultrasonography. Detailed extraoral US revealed a lesion with a diameter of 18.4 mm in surface and extending in cone shape through the apex of related teeth. The lesion appeared anechoic in size of 5.3× 9.1 mm which had connection with chronic apical periodontitis lesion with hypo-isoechoic appearance. A fistulous tract was observed, containing isoechoic foci along the lumen.

Conclusion: The advantages of ultrasonography over conventional radiography are its usage for diagnosis of soft tissue abnormalities and the use of non-ionizing radiation make it safer option. This case highlights the importance of considering dental origins in cases of cutaneous fistulas and supports the use of ultrasonography in the diagnostic process.

Keywords: Odontogenic Cutaneous Fistula, Ultrasonography, Extraoral Dental Abscess

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An Introduction to Bayesian Statistics: Bayesian t-tests with IBM SPSS

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Harika Gözde GÖZÜKARA BAĞ[2]

Abstract

There are two main approaches to statistical inference: Bayesian and Frequentist. While the Frequentist approach performs analysis only with the available data, the Bayesian approach allows for updates as new data is collected by including previous beliefs and existing information in the analysis. Bayesian theorem, which helps to determine whether an event will occur based on a previously occurred event, enables the creation of Bayesian statistics. Bayesian statistical methods are becoming increasingly popular in medical and health studies. It can be said that with the developments in computer technology, accessible and powerful software plays a key role in the increasing interest in Bayesian methods. SPSS statistical software with version 25, since 2017, has also started to offer Bayesian counterparts of tests (Bayesian t-tests, Bayesian analysis of variance (ANOVA), Bayesian correlation and Bayesian linear regression, etc.) frequently used in the classical approach in the Analysis menu by adding a new module titled Bayesian Statistics.

When the studies conducted in the field of health and medicine in Turkey are examined, it is seen that Bayesian methods are used in practice in a limited number. The purpose of this study is to; improve the knowledge and skills of professionals working in the field of medicine and health in interpreting and applying Bayesian independent and paired samples t-tests with SPSS, thus helping them prefer these methods more in their academic studies. Afterwards, SPSS applications, which are preferred by most researchers for their statistical analyses and are user-friendly, are given in comparison with classical statistical methods.

Keywords: Bayesian, SPSS, Frequentist, Health Studies, Bayesian t-test

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Conducting Bayesian Regression Analysis using IBM SPSS

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Abstract

Frequentist (Classical) statistics and Bayesian statistics are the two approaches when producing statistical information from probabilistic processes. While the results obtained in the classical approach and statistical estimation processes are derived only from the available data, in the Bayesian approach, they are derived from a mixture of prior knowledge or expectations and available data.

Most of the researchers and academicians working in the health and medical fields in Turkey receive training on classical statistics-based tests (independent t-tests, paired t-tests, one-way analysis of variance, correlation analysis and linear regression analysis) in their undergraduate biostatistics education. Bayesian statistics topics and applications are not included in the undergraduate biostatistics curriculum. As a result, while classical statistical methods are highly preferred for the analysis of data sets discussed in the articles written and theses advised, it is seen that academic studies in which Bayesian methods are preferred are quite rare.

This study aims to help researchers and practitioners understand the stages of analyzing data using Bayesian methods under the SPSS package program after theoretically explaining the Bayesian equivalents of the basic concepts in classical statistics. For this purpose, it presents applications using Bayesian statistical inference for regression analysis. In addition, the study shows how to interpret the results of Bayesian statistics obtained at the end of the applications.

Keywords: Bayesian Approach, Frequentist Approach, Medicine, Bayesian Regression, IBM SPSS

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Impact of Prolonged Online Education on Sleep Quality and Respiratory Function in University Students

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Abstract

Background&Aim: The COVID-19 pandemic, which caused global transformations, significantly increased the adoption of online education. University students spend extended hours in front of screens due to educational demands, leading to health risks associated with screen exposure and inactivity. This study aims to investigate the relationship between sleep quality and respiratory functions in university students receiving online education.
Method: The study included undergraduate students from the Departments of Physiotherapy and Rehabilitation and Sports Sciences, who had been enrolled in online education since 2020 and returned to online learning after the earthquake disaster in Turkiye in 2023. Pulmonary function tests (PFTs), including forced expiratory volume in 1 second (FEV1), FEV1 percent of predicted (FEV1%), forced vital capacity (FVC), FVC percent of predicted (FVC%), and forced expiratory flow at 25–75% of FVC (FEF25-75%), was conducted using a spirometer (Spirobank II Smart, MIR, USA) according to ERS and ATS criteria. Sleep quality was assessed using the Pittsburgh Sleep Quality Index (PSQI).
Results: Thirty-eight students (30 females, 8 males; mean age 22.63 ± 1.53 years) with online education durations of 2–5 years (mean: 3.86 ± 0.83 years) participated. No significant correlation was observed between total PSQI scores and PFT parameters ($p>0.05$). However, Sleep Latency (a PSQI subscale) showed a moderate negative correlation with FEV1/FVC ($p=0.002$, $r=-0.484$) and weak negative correlations with FEV1/FVC (%) and FEF25-75% ($p=0.016$, $r=-0.390$; $p=0.047$, $r=-0.324$). PSQI-Sleep Duration exhibited weak negative correlations with FEV1 (%) and FEF25-75 (%). The duration of online education was moderately positively correlated with PSQI-Sleep Disturbances ($p = 0.013$, $r = 0.498$).
Conclusion: This study highlights the impact of prolonged online education on sleep quality and respiratory function in university students. While no significant correlations were found between overall PSQI scores and PFTs, specific PSQI subscales, such as sleep latency and sleep duration, showed negative correlations with key respiratory parameters, including FEV1/FVC and $FEF_{25-75\%}$. Additionally, the duration of online education was positively associated with sleep disturbances. These findings emphasize the potential health risks of prolonged online education and underscore the need for strategies to mitigate these effects in university students.
Acknowledgment: This research was supported by the TÜBİTAK 2209-A Research Project Support Program for Undergraduate Students.
Keywords: Sleep Quality; Respiratory Function Tests; Online Education; Pulmonary Ventilation; Pandemics

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The Relationship Between Glycemic Control and Postural Sway in Patients with Diabetes Mellitus and Peripheral Neuropathy

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Bilge TAŞKIN GÜREL[3]
Coşkun MERİÇ[4]

Abstract

Background&Aim: Hyperglycemia, a key feature of diabetes mellitus (DM), is a major contributor to the development of complications such as peripheral neuropathy. These complications can negatively impact postural control, increasing the risk of balance impairments in individuals with DM. This study aimed to investigate the relationship between postural sway and glycemic control in diabetic patients with peripheral neuropathy.
Method: This cross-sectional study included individuals diagnosed with DM for at least five years who had HbA1c levels measured within the past two weeks. Postural sway was evaluated using the Poise Q10 device (Quadrotics, Ankara, Turkiye), which measures Center of Pressure (CoP) and related variables. Measurements were conducted with participants standing with their eyes open. Parameters analyzed included mean CoP distance (mm), mean CoP velocity (mm/s), and sway area (mm²) to define the limits of postural sway. Additionally, the standard deviation of CoP (mm) and standard deviation of velocity (mm/s) were recorded to assess variability in CoP distance and velocity.
Results: Twelve individuals with DM and peripheral neuropathy (6 females, 6 males; mean age: 63.65±9.07 years) participated in the study. Among them, 10 had Type 2 DM, and 2 had Type 1 DM. Analysis of postural sway parameters revealed no significant correlation between HbA1c levels and mean CoP distance, mean CoP velocity, or sway area ($p>0.05$). However, HbA1c levels demonstrated a moderate negative correlation with the standard deviation of CoP ($p=0.017$, $r=-0.673$) and a strong negative correlation with the standard deviation of velocity ($p=0.008$, $r=-0.725$).
Conclusion: These results suggest that individuals with poorer glycemic control (higher HbA1c levels) exhibit less variability in CoP distance and velocity, reflecting a reduced adaptability in postural regulation. While overall postural sway parameters (mean CoP distance, velocity, and sway area) were not significantly influenced by HbA1c levels, reduced variability in CoP distance and velocity in individuals with higher HbA1c levels indicates potential rigidity or diminished adaptability in postural control. These findings underscore the critical importance of optimal glycemic management to preserve postural adaptability in patients with DM and peripheral neuropathy.
Acknowledgment: This research was supported by the TÜBİTAK 2209-A Research Project Support Program for Undergraduate Students.
Keywords: Diabetes Mellitus; Peripheral Neuropathy; Postural Balance; Glycemic Control; Center of Pressure

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Growth Cone Collapse Inhibitors and Their Clinical Significance

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Abstract

Spinal cord injury is a event often resulting in permanent neurologic deficit. As of yet, there is no effective treatment for spinal cord injuries. Most of the treatment methods developed are aimed at preventing secondary damage mechanisms. Growth cones, located at the ends of dendrites and axons of nerve cells, are specialized structures that direct axonal growth and branching. They are effective in the neuronal development stage as well as necessary for plasticity in the developed brain and recovery after nerve damage. Glial scar develops in the region after spinal cord injury. The growth cone collapses as a result of this glial scar, both structurally and through the molecules it secretes. As a result, axonal growth and regeneration stop. Oligodendrocyte-myelin glycoprotein (OMgp), myelin-associated glycoprotein (MAG) and neurite growth inhibitor A (NOGO-A) are secreted with myelin damage after spinal cord injury, and these molecules activate signaling pathways in the axons, causing growth cone collapse. However, after spinal cord injury, reactive astrocytes in the glial scar begin to widely secrete chondroitin sulfate proteoglycan (CSPG), which is an extracellular matrix component. Increased amounts of CSPG in the scar cause growth cone collapse, inhibiting remyelination and axonal growth. There are some molecules developed for these targets. Molecules used to eliminate inhibitory effects that prevent axonal extension include Nogo A Neutralizing Antibody, Elezanumab, Leukocyte Common Antigen-related Phosphatase-targeting Peptides, RhoA/Rho kinase inhibitors, Enzyme-structured; Chondroitinase and Sialidase are the most studied targets. Preclinical studies with these molecules after spinal cord injury are promising, but experimental clinical studies with these molecules are still needed.

Keywords: Spinal Cord Injury, Growth Cones, Pharmacology

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The Knowledge Level Assesment of Workers in Çiğli Training and Research Hospital with in the Scope Of The Quality Of Hospital Standard Version 6 Chemical, Biological Radiological And Nuclear (cbrn) Hazards Management Standard

Gamze BASKICI[1]
Vahide BAYRAKAL[2]
A. Hüseyin BASKIN[3]

Abstract

The concept of quality in health is defined as providing timely, efficient, effective, safe and secure, equitable, patient centered healthcare. Civil institutions as well as military institutions must be ready against Chemical - Biological - Radiological - Nuclear (CBRN) Threats. Quality Standards in Health-Hospital Version 6.0 "Management of Chemical Biological Radiological Nuclear Threats" standard in the hospital set specifies the prevention, harm reduction and improvement activities for these hazards that will arise inside and outside of civil hospitals. In this context, civil hospitals are held liable in line with their roles determined by the ministry by ensuring the safety of patients, their relatives and employees, including environmental safety.

The main purpose of the Master's thesis research on Quality Improvement and Accreditation in Healthcare, which is the subject of this study, is to ensure that the hospital personnel who will be involved in the management of Chemical, Biological, Radiological and Nuclear (CBRN) hazards comply with the disaster plan and to establish a "CBRN Threats Management" in line with the Health Quality Standards Version 6.0. to create a model and present its positive reflections and to share with health institutions.

In this context, the descriptive and cross-sectional research questionnaire was applied to a total of 195 health personnel working in Çiğli Training and Research Hospital between November 2020 and April 2021.

When the answers of the participants who accepted to participate in the master's thesis research survey are analyzed, it is seen that the awareness of the CBRN Threats Management Standard within the framework of Health Quality Standards Version 6.0 has not yet been formed, that the knowledge level and awareness-raising activities should be started urgently, and that starting from the orientation trainings, in order to better understand the process, the training given at regular intervals. It has been seen that it is necessary to provide trainings for this standard in in-service and refresher trainings.

Key Words: Chemical, Biological, Radiological and Nuclear (CBRN), Quality Standards in Healthcare, Vocational Training

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Investigation of Attachment and Separation Individuation Behaviors in Adolescents

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Ceyda İRMEK[4]

Abstract

Adolescence is a period of many changes and developments. During this period, the adolescent leaves childhood and prepares for adulthood and gradually tries to separate from the people around him/her with whom he/she has developed strong attachments and to establish his/her own individuality. In this study, it was aimed to examine the relationship between attachment and dissociation individuation in adolescents. The sample of the study, which was designed as a descriptive study in the relational survey model, consisted of 735 students studying in the 9th-10th-11th-12th grades in Çorum City Center in the fall semester of the 2023-24 academic year. After ethics committee permission was obtained, data were collected from the relevant units. Demographic Information Form, Dissociative Individuation Test in Adolescents and Attachment Styles Scale in Adolescents were used as data collection tools. The results showed that there was a positive correlation between avoidant and anxious attachment with the rejection expectancy, separation anxiety and restriction anxiety dimensions of dissociation-individuation and a negative correlation with secure attachment in adolescents. In the data related to attachment, there was no difference between gender and attachment, but there was a difference between grade level, parental employment status and parental marital status in terms of anxious attachment, mother's education level and number of siblings in terms of secure attachment, perceived income level in terms of secure and avoidant attachment, relationship level with parents and relationship status between parents in terms of secure, avoidant and anxious attachment, and sharing of problems in terms of secure and anxious attachment. Regarding dissociation individuation, differences were found between gender and grade level and expectation of rejection and separation anxiety, between marital status of parents, mother's employment status, mother's education level, perceived income level and expectation of rejection, between father's employment status and restriction anxiety, between the child's relationship level with parents and relationship status between parents and expectation of rejection and restriction anxiety, and between sharing of problems and expectation of rejection, separation anxiety and restriction anxiety. The data obtained were discussed in line with the literature..

Keywords: Adolescent, Attachment, Individuation, Autonomy, Dissociation

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Comparison of Patient-Specific Quality Assurance Tests for SRS/SBRT Treatment Plans Using Different Dosimetric Systems

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Abstract

Aim: With today's technological developments in both treatment devices and imaging systems have enabled the stereotactic application of significantly higher treatment doses to the patient in a single or small number of fractions compared to previous conventional fractionations. In these treatment schemes called stereotactic radiosurgery (SRS) and stereotactic body radiotherapy (SBRT), it is strongly recommended that patient-specific quality assurance tests be performed before the dose distributions calculated in the treatment planning system (TPS) are given to the patient in the treatment device. In this study, it was aimed to evaluate the dose responses of the ArcCheck dosimeter system, which has portal dosimetry (Electronic Portal Imaging Device/EPID) and circularly arranged multiple diode detectors, according to different gamma index evaluation criteria, in patient-specific quality assurance tests for SRS/SBRT treatment plans and to compare the results.

Methods: For this purpose, the dose distributions of 30 patients from different disease groups planned to be treated with SRS/SBRT treatment schemes and the results obtained by measuring the quality assurance tests required before treatment separately in EPID and ArcCheck detector systems were compared with the dose distributions calculated in TPS using the gamma index method. During the comparisons, the gamma index criteria were different dose difference and distance to agreement (DTA) parameters used. Then, the differences between the two dose distributions were calculated according to each gamma index evaluation criterion and gamma index passing rates (GPR) were found.

Results: In the results obtained, according to the 3-3% mm, 3-2% mm, 2-3% mm and 2-2% mm gamma index criteria, the GPR values obtained from EPID and ArcCheck detectors, respectively were 98.54±2.20%; 97.66±0.63%; 97.22±3.90%; 92.26±16.98% and 99.60±0.33%; 98.34%±0.20; 99.17±0.58%; 97.01±1.69%. It has been observed that there is no significant difference in these criteria between the results of two different measurement systems. However, when the evaluation criteria were reduced to 2-1% mm, 1-2% mm and 1-1% mm, significant differences were observed in the GPR results of both detectors.

Conclusions: All dosimetric systems used in quality assurance tests of patients in radiotherapy have different features and different spatial resolutions. It may be possible to increase the quality of treatment for the patient by using detectors that can detect errors that may occur during treatments in advance. In order to obtain accurate quality assurance tests, the selection of gamma tolerance limits should be specific to each clinical treatment site and detector used.

Keywords: Stereotactic Radiosurgery (SRS), Stereotactic Body Radiation Therapy (SBRT), Patient-specific Quality Assurance Test, Portal Dosimetry, ArcCheck

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Investigation of Commonly Prescribed Drugs for the Treatment of Acute Nasopharyngitis in Primary Care Centers in Turkey

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Volkan AYDIN [2]
Fatma İŞLİ [3]
Ahmet AKICI [4]

Abstract

Introduction: Acute nasopharyngitis (AN) is among the most common diagnoses in primary care in Turkey. In our study, it was aimed to evaluate the trend analyzes of the most commonly prescribed drugs for AN.
Method: Single-diagnosed prescriptions written by primary care physicians in Turkey between 2013 and 2016 and registered in the Prescription Information System managed by the Turkish Medicines and Medical Devices Agency were retrospectively analyzed. The frequency order of the drugs prescribed for AN was determined based on the item number of drugs, and the first 30 drugs were evaluated by years.
Results: The number of the first 30 drugs most frequently prescribed for nasopharyngitis in 2013-2016 were 4.748.148, 6.634.153, 6.085.510 and 6.533.448, respectively, and a total of 24,001,259 drugs examined. “Other cold preparations” (38.5-39.4%), paracetamol (6.2-6.6%), oxymetazoline (6.0-6.3%), butamirate (4.7-6.0%) and xylometazoline (4.4-5.3%) were the top five most frequently prescribed drugs in all years. These drugs were followed by ibuprofen, acetylcysteine, “amoxicillin and beta-lacmatase inhibitors”, “various” (ATC-5 code: A01AD11), levodropropizine and oxolamine. It was determined that the drugs up to half of the frequency order maintained their place in the top 14, although their place in the ranking changed slightly in all years. At the ATC-3 level, "decongestants and other nasal preparations for topical use" (11.3-11.8%) are in the second place (3rd in 2016), after "other cold preparations" in all years and “cough suppressants, excl. combinations with expectorants” (10.5-12.1%), ranked third (2nd in 2016). It was determined that the percentage of antibiotics among the drugs examined showed a decreasing trend (5.7 - 3.6%). The percentage of generic drugs showed an increasing trend (62.3-64.9%).
Conclusion: In this study, it was seen that the symptomatic treatment approach is mainly adopted in the treatment of AN in primary care in Turkey. The decrease in the percentage of antibiotics prescribed and the increase in the percentage of generic drugs in this frequently encountered diagnosis can be considered as positive in terms of a rational pharmacotherapy approach.
Keywords: Acute Nasopharyngitis, Primary Care, Prescription, Drug Utilization, Generic

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Empirical Antibiotic Use for Elevated PSA Levels

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Abstract

Objective: Prostate-specific antigen (PSA) is a serum protein secreted by prostate tissue in both benign and malignant conditions. High serum PSA levels are not specific to prostate cancer but can be observed in various clinical conditions, including inflammation and infection. We aimed to investigate the effects of empirical antibiotic use for high PSA levels.

Materials and Methods: Data from patients with a PSA>2.5 ng/ml and normal rectal exams who underwent prostate biopsy between January 2023 and January 2024 were evaluated. Patients with a history of prostate biopsy within the last year or those with a urinary tract infection detected at the time of PSA measurement were excluded from the study. Data of patients who were given antibiotics due to elevated PSA levels were compared with other patients.

Results: 223 patients were included in the study. The average age of the patients was 67.04±8.0, and the average PSA level was 30.06±60.91 ng/ml. Antibiotic therapy was given to 33 patients due to elevated PSA levels. The average PSA level for these patients was 20.61±25.84 ng/ml before antibiotics and 20.73±26.07 ng/ml after antibiotics. There was no statistically significant difference in PSA changes ($p>0.05$). Prostate cancer was detected in 52.9% of patients who underwent prostate biopsy. In patients given empirical antibiotic therapy, prostate cancer was detected in 42.4%. After prostate biopsy, fever was observed in 7 patients, and febrile urinary tract infection was observed in 3 patients. No sepsis was observed in the included studies.

Conclusion: The use of empirical antibiotics for elevated PSA levels in asymptomatic patients does not provide clinical benefits and may delay a possible prostate cancer diagnosis.

Keywords: PSA, Antibiotics, Prostate Cancer

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Our Results in Supravalvular Aortic Stenosis Repair Using the Doty Technique: A Single-Center Experience

Mustafa YILMAZ[1]

Abstract

Supravalvular aortic stenosis (SVAS) is a rare yet critical pathology in pediatric patients, with an incidence of approximately 1:20,000. This study aims to evaluate the outcomes of patients diagnosed with SVAS who underwent surgery using the Doty technique in our clinic and to compare these results with the current literature.Patients diagnosed with SVAS and operated on between August 2019 and November 2024 in our clinic were retrospectively reviewed. Preoperative imaging studies, intraoperative and postoperative data were collected from patient records and the electronic database. Additionally, follow-up data, including postoperative imaging and control examinations, were analyzed. Patients requiring further interventions during follow-up were also recorded.Between August 2019 and November 2024, 7 patients underwent surgery for SVAS in our clinic. None of the patients had a genetic disorder associated with Williams syndrome. The mean age of the patients was 10.3±5.5 years, and the mean weight was 32±15.5 kg. Doty repair was performed in all patients (100%), and postoperative in-hospital mortality was observed in one patient (14.5%). The mean maximum cardiopulmonary bypass and cross-clamp times were 71±25 minutes and 48±14 minutes, respectively. The preoperative maximum gradient across the SVAS region was 123±35 mmHg, which significantly decreased to 24±11 mmHg in the postoperative period. The mean length of intensive care unit stay was 1.4±0.7 days, and the total hospital stay was 4.5±1.6 days. The patients were followed for a mean of 4.3±5 months, during which no additional complications were observed. The maximum mean SVAS gradient at the latest outpatient follow-up was reported as 27±8.7 mmHg.

Currently, the surgical treatment of SVAS can be successfully performed using various techniques. The Doty technique employed in our clinic yielded favorable results. The findings of our study align with the current literature.

Keywords: Supravalvular Aortic Stenosis, Doty Operation , Pediatrics

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Middle Ear Problems and Parental Education Status: A Study in School-Age Children

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Busemnaz AVŞAR AKSU
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Abstract

Introduction: Children who "pass" newborn hearing screening may have late-onset or environmental hearing loss. The 'School Age Hearing Screening Program' is implemented for early diagnosis and intervention in hearing losses that occur later. The aim of this study is to perform audiological evaluations of children referred from the screening programme carried out in primary schools within the Üsküdar District Health Directorate of Istanbul Provincial Health Directorate and to report the relationship between educational status of parents and the presence of middle ear problems.

Material-Method: This study was carried out with the approval of Üsküdar University Non-Interventional Research Ethics Committee (61351342/November 2023-33) and within the scope of Üsküdar University Scientific Research Projects Unit ÜÜBAP-YP-2024-001 protocol numbered project. First grade students referred from the school-age hearing screening programme participated in the study. Audiological evaluations included otoscopic examination followed by 226 Hz probe-tone tympanometry, eustachian tube function test, acoustic reflex measurements.

Results: Among the children of 31 mothers with university education, 12 had middle ear pathology in the right ear and 10 in the left ear; among the children of 28 mothers without university education, 15 had middle ear problems in the right ear and 12 in the left ear. Among the children of 33 fathers with university education, 14 had middle ear pathology in the right ear and 13 had middle ear pathology in the left ear; among the children of 26 fathers without university education, 13 had middle ear problems in the right ear and 9 had middle ear problems in the left ear. The educational status of the mother or father did not affect the middle ear problems that may occur in their children ($p>0.05$). In addition, there was no significant difference between the auditory awareness of mothers (7.38±2.13) and fathers (7.24±2.06) with university education and the auditory awareness of mothers (6.75±2.63) and fathers (6.88±2.77) without university education ($p>0.05$).

Conclusion: Our findings showed that there was no correlation between the educational level of the parents and the frequency of middle ear otitis in school-age children.

Keywords: Educational Status; Hearing Impairment; Middle Ear; Otitis Media; Parents

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Effects of Hesperidin on an Acute Lung Injury Model Induced by Alpha-Naphthylthiourea in Rats

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Görkem ŞEKERCİ[3]

Abstract

The sodium level, the most important electrolyte in our body, also helps us understand water balance. Very low or high sodium levels can be fatal. Balanced sodium levels ensure that water is adequately distributed throughout the body. The relationship between sodium and water is an important mechanism that affects the balance of intercellular fluid and blood pressure.

There is a complex relationship between the sodium and water balance in our body and environmental factors. This balance is one of the fundamental mechanisms that protect the body's internal environment and is influenced by multiple factors.

Global warming, rising temperatures, and environmental stress factors can have both indirect and direct effects on the sodium balance of the human body. The increase in average air temperatures, along with the rise in the frequency and intensity of heat waves, causes the body to sweat more for thermoregulation. Increased sweating leads to the loss of water and sodium, potentially leading to hyponatremia. In extreme heat, the body loses more sodium to maintain water balance. This can lead to symptoms such as oedema, dizziness, fatigue, and weakness. Heat change affects the thermoregulation centre in the brain at the cellular level, causing protein leakage from the blood-brain barrier, thus leading to vasogenic oedema. Excessive sweating and low urine production can trigger the formation of kidney stones. In addition, hot weather conditions increase the need to drink more water. However, when adequate sodium supplementation is not provided, excessive water intake can dilute the sodium concentration in the body.

Global warming can also increase dehydration. The body loses more water to cope with high temperatures, which can create a risk of hypernatremia. Thus, a vicious cycle is formed. Besides, the loss of water in the cells affects blood pressure and blood viscosity, leading to thromboembolic events and organ failure.

Moreover, high temperatures also affect food safety. For example, the difficulties in growing agricultural products can lead to changes in dietary habits and increasing dependence on processed and high-sodium foods. This barrier to accessing healthy food can make it difficult to obtain sufficient amounts of sodium and other electrolytes through the diet. Along with drought, increased temperatures, and higher evaporation rates, it will lead to higher salt concentrations in soil and water, putting us at risk of hypernatremia from the water and food we consume.

Keywords: Global Warming, Sodium, Water, Balance

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Unilateral Pigmentary Retinopathy: A Case Report

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Abstract

Giriş

Unilateral pigmenter retinopatinin, embriyogenez sırasında oluşan somatik bir mutasyon sonucu, vücuttaki hücrelerin belirli bir yüzdesinin retinitis pigmentoza'ya neden olabilecek bir gen mutasyonu taşımasıyla ortaya çıkabileceği düşünülmektedir. Retinitis pigmentoza, rod ve kon fotoreseptörlerinin yanı sıra retina pigment epitelinin dejenerasyonu ile karakterize edilen kalıtsal bir retina bozukluğudur. Hastalığın belirtileri arasında gece körlüğü, görme alanında daralma ve merkezi görme kaybı yer almaktadır. Unilateral pigmenter retinopati ise nadir görülen bir durum olup, etkilenen gözde klasik retinitis pigmentoza bulguları gözlenirken diğer göz tamamen sağlıklı olmalıdır. Travma, ilaç toksisitesi, enfeksiyonlar, otoimmün durumlar ve malignite gibi faktörler de unilateral pigmenter retinopatiye benzer bulgular oluşturabilir. Tanı koymada, ayırıcı tanıların dışlanması, bulguların yalnızca tek gözde olması ve diğer gözün tamamen sağlıklı olduğunun ERG, görme alanı ve OCT ile desteklenmesi gereklidir. Son yıllarda bazı genetik mutasyonlar tanımlanmış olsa da, bu mutasyonlar yalnızca az sayıda vakada tespit edilebilmiştir. Retinitis pigmentozanın herhangi bir formu için kanıtlanmış bir tedavi bulunmamakla birlikte, antioksidanlar, vitaminler ve besin takviyeleri gibi destekleyici tedaviler önerilmektedir.

Şikayet: Sağ gözde son 2-3 yıldır görme azalması ve gece görüşünün diğer göze kıyasla farklı olduğunun fark edilmesi.

Hikaye: Hasta, ilk kez 2024 Temmuz ayında Harran Üniversitesi Göz Polikliniği'ne başvurmuştur. Sağ gözde görme azalması ve gece görüşünde azalma şikayeti ile başvuran hastaya ayrıntılı ön segment ve fundus muayeneleri yapılmıştır. Fundus muayenesinde sağ gözün retinitis pigmentoza ile uyumlu olduğu, sol göz fundusunun ise doğal görünüme sahip olduğu tespit edilmiştir.

Oküler Geçmiş: Bilinen travma, inflamasyon veya cerrahi öyküsü bulunmamaktadır.

Özgeçmiş: Astım dışında bilinen inflamatuar, geçirilmiş enfeksiyon veya konjenital hastalık öyküsü yoktur. Diyabet mevcut değildir.

Kullandığı İlaçlar: Astım için inhaler, Cabral ve Vitokobal kullanmaktadır.

Aile Hikayesi: Akraba evliliği öyküsü mevcuttur. Diğer aile bireylerinde benzer bir rahatsızlık veya bilinen genetik hastalık bulunmamaktadır.

Göz Muayenesi: En İyi Düzeltilmiş Görme Keskinliği: Sağ: 20/200, Sol: 20/20. Göz İçi Basıncı: 10/10 mmHg. Göz Hareketleri: Primer bakışta ortoforik, bakış kısıtlılığı yok. Bilateral Eksternal ve Ön Segment Muayenesi: Normal. Bilateral İndirekt ve Direkt Işık Refleksi: Doğal. Relatif Afferent Pupil Defekti: Gözlenmemiştir. Renkli Görme: Bilateral doğal.

Fundus Muayenesi:

Sağ Göz; Periferik retinada RPE'de beneklenme, dört kadranda mid-perifer ve periferde yaygın kemik spikülleri, granüler pigmenter lezyonlar, vasküler yapılarda atenüasyon ve optik diskte solukluk. Sol Göz; Optik disk, makula ve periferik retina normal görünümde değerlendirilmiştir.

Sonuç

ERG testinin şu anda ulaşılamaz olmasıyla birlikte, hastamızın kriterlerin çoğunu karşılaması, hastamızda Unilateral pigmenter retinopati tanısını desteklemiştir. Olgunun bize başvuru süresinin kısa olmasına rağmen, şikayetlerinin 2-3 yıldır devam etmesi ve diğer gözün testlerde etkilenmemiş olması tanımızı güçlendirmektedir.

Anahtar Kelimeler: Unilateral, Görme Kaybı , RetinaAlpha-naphthylthiourea, Hesperidin, Oxidative stress, Lung, Occludin

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Obtaining Bone Tissue from Embalmed Cadavers: A Preliminary Study

Latif SAĞLAM [1]

Abstract

Human bones are indispensable in anatomy education because they form the basis of the human body and are used in surgical applications, and studies and research in the anatomy department. Therefore, it is very important to continue the use of end-of-life cadavers that have completed their useful life in education and scientific research. In this context, this study aimed to obtain bone tissue from said cadavers. After obtaining ethical approval (date: 09/20/2024, number: 18) from Istanbul University, Istanbul Faculty of Medicine, Clinical Research Ethics Committee, the 4th and 5th fingers of the left hand were removed from the cadaver and the soft tissues on the fingers were peeled off the bones as much as possible in the Department of Anatomy of the said faculty. The 4th finger bones were placed in 200 ml of 10% KOH solution and the 5th finger bones were placed in 150 ml of 30-32% H2O2 solution. Both samples were kept in a 60° heating oven for 17.5 hours continuously. When the bones of both fingers were examined, it was observed that the method using 10% KOH solution (For the 4th finger) gave results closer to the natural bone appearance. However, micro deformities were found to occur in both methods. In this study, the preliminary data of samples obtained from embalmed cadavers, to which two different solutions were applied to two different finger samples, was obtained. The study is planned to be extended with a larger sample and different solution types.

Keywords: Solution, Embalmed Cadaver, Bone.

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Identification of Phenolic Compounds in Cold-Pressed Turkish *Eruca Sativa* Seeds Oil and Estimation of Antioxidant Properties Using DPPH and ABTS Radical Scavenging Assays

Mohammad ALHILAL[1]

Abstract

Several studies have shown that *Eruca Sativa* seeds oil possesses promising pharmacological properties. Accordingly, in order to reduce the losing in the rare components that have medicinal importance, Turkish *Eruca Sativa* seeds oil was obtained by cold pressing of *Eruca Sativa* plant seeds which grow in Turkey. This study aimed to detect the phenolic compounds and to evaluate the antioxidant activity of cold-pressed *Eruca Sativa* seeds oil. This investigation is a necessary stage before inclusion this oil in the next medical *in vivo* investigations. LC-MS/MS as a chromatographic method was used for detection of phenolic compounds in DAYTAM, Ataturk University, Erzurum in August 27, 2024. In addition, the antioxidant activity of this oil was estimated using DPPH and ABTS radical scavenging assays. Our results showed that cold-pressed Turkish *Eruca Sativa* seeds oil contained the following conphenolic compounds with concentrations (ng/mL) that were expressed as mean±SD of 3 replicates: 4-OH-Benzoic Acid 222.27±10.02, Vanillic Acid 647.21±104.01, Syringic Acid 66.24±23.70, p-Coumaric Acid 5.09±1.03, Sinapic Acid 3145.01±236.72, Ferulic Acid 558.17±29.68, Rosmarinic Acid 24.66±1.60, Vanillin 309.87±11.07, and Isorhamnetin 14.10±2.44. According to the radical scavenging assays, it was determined that the antioxidant capacity of this oil reached to 5176.65±4.9 and 15189.40±0.43 micromole trolox equivalent/100g for DPPH and ABTS tests respectively. According to the results of this study cold-pressed Turkish *Eruca Sativa* seeds oil has a good variety of phenolic compounds and a reasonable ability to scavenge free radicals, which supports the use of this oil in future *in vivo* studies.

Keywords: *Eruca Sativa* Seeds Oil**,** Phenolic Compounds**,** Antioxidant Capacity, DPPH, ABTS

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The Relationship Between Sarcopenia and Zonulin Levels as a Marker of Intestinal Permeability

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Semih SEZER[3]

Abstract

Objective: Sarcopenia is a condition characterized by the loss of muscle mass and strength. The etiology of sarcopenia involves various factors such as aging, chronic diseases, insulin resistance, sedentary lifestyle, and malnutrition, with chronic inflammation being one of them. Increased intestinal permeability and gut microbiota dysbiosis have been implicated in low-grade chronic inflammation. Zonulin is a protein that modulates the permeability of tight junctions between intestinal mucosal cells and can be used as a biomarker of intestinal barrier function. In this study, we aimed to investigate the relationship between sarcopenia and serum zonulin levels in elderly patients.

Methods: This cross-sectional study included 93 patients aged 55 years and older who were admitted to the geriatrics outpatient clinic between November 2023 and April 2024. Muscle mass was assessed using ultrasonographic anterior thigh muscle thickness, muscle function was evaluated with hand grip strength (HGS) and the chair stand test (CST). The International Society of Physical and Rehabilitation Medicine's diagnostic algorithm (ISarcoPRM) was utilized to diagnose sarcopenia. In addition to the routine blood tests requested from the patient, 2 cc of blood was collected into a non-heparinized tube for the analysis of zonulin levels. After centrifugation, the obtained serum samples were stored at -80°C until the day of analysis.

Results: Of the 93 patients included in the study, 45 (48.3%) met the diagnostic criteria for sarcopenia. The zonulin level was 24.92 ng/ml (21.01–27.06) in the sarcopenic group and 19.52 ng/ml (18.00–22.85) in the non-sarcopenic group ($p<0.001$). Multivariate logistic regression analysis revealed that zonulin level was a risk factor for sarcopenia [odds ratio (OR) 1.204 (95% confidence interval (CI) 1.043–1.391), $p=0.011$]. A receiver operating characteristic (ROC) analysis based on zonulin levels to differentiate sarcopenic patients from non-sarcopenic patients yielded an area under the curve (AUC) of 0.745. The optimal zonulin threshold for distinguishing sarcopenic patients was determined to be 23.33 ng/ml, with a sensitivity of 71%, specificity of 79%, positive predictive value of 78%, and negative predictive value of 75%.

Conclusion: According to the findings of our study, a relationship was observed between sarcopenia and zonulin levels, which serve as a marker of intestinal permeability. This suggests that improving intestinal permeability could potentially be a target in the treatment of sarcopenia.

Keywords: Zonulin, Intestinal Permeability, Tight Junctions, Sarcopenia

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Image Processing-Based Analysis of the Light/Dark Box Test in Male Rats Subjected to Chronic Immobilization Stress

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Abstract

Introduction and Aim: The light/dark box test is a behavioral experiment used to assess anxiety/depression like behaviour in rodents. However, scoring the behavior of animals in this test can be time-consuming and subjective. Therefore, in this study, we aimed to develop an image processing-based program using the LabVIEW graphical interface application to provide an objective and time-sparing method to evaluate light/dark box test.
Materials and Methods: In this study, 16 male Sprague-Dawley rats, approximately 8 weeks old, were randomly assigned to one of two groups: control (n=8) and stress (n=8). Rats in the stress group were exposed to immobilization stress throughout the study period. During the first week, they were restrained in a device for 3 hours per day, which was increased to 6 hours per day in the second week. At the conclusion of the study, the light/dark box test was performed, and the animals' behaviors were recorded. Video recordings were analyzed both by an expert observer and the developed image processing program. The evaluation results were compared using GraphPad Prism software, and agreement between the two measurement methods was assessed with a paired sample t-test.
Results: No statistically significant difference was found between the data obtained by the expert observer and those obtained using the developed program. When the data were analyzed using both methods, the stress group was observed to spend significantly less time in the light area and more time in the dark area compared to the control group. However, there was no statistically significant difference between the groups in the number of crossings between the light and dark areas.
Discussion and Conclusion: The study results indicate that the developed program simplifies the analysis of the behavioral test while yielding outcomes comparable to those of an expert observer. These findings demonstrate that the program enables a more objective and substantially faster assessment of the light/dark box test.
Keywords: Stress, Light/Dark Box Test, LabVIEW, Image Processing, Rat

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Investigation of the Relationship between Socio-Demographic Variables, Hostility and Perceived Social Support in Caregivers of Individuals Diagnosed with Dementia

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Simge ARIKAN[3]

Abstract

Dementia is a disease that is reported to affect 5 million people worldwide and is expected to increase in the coming years. The structure of dementia, which makes it difficult for individuals to continue their lives, creates a need for caregivers for individuals diagnosed with dementia. Care is often provided by the relatives of individuals diagnosed with dementia. Caregivers provide care because they want to be close to the individual diagnosed with dementia and meet their needs. Providing care includes helping individuals diagnosed with dementia in many areas. As dementia progresses, the fact that caregiving takes longer hours makes it difficult for caregivers to spare time for themselves. The fact that caregivers cannot spare time for themselves and that the skills of their relatives are decreasing day by day brings many difficulties for caregivers. In parallel with these difficulties, caregivers have been reported to experience many psychological problems. It has been stated that caregivers of individuals diagnosed with dementia experience depression, anxiety, somatization and hostility. Hostility reflects feelings of injustice or suspicion of ill-intention and includes a violent opposition and destructive attitude. It has been reported that individuals who provide care to individuals with dementia report more hostility than those who do not. Studies examining factors associated with hostility suggest that one of these factors may be perceived social support. Perceived social support is based on the individual's perception of the social support they receive from their environment. The purpose of this study is to examine the relationship between hostility and demographic variables and perceived social support in caregivers of individuals with dementia. This study included 148 caregivers of individuals with dementia, aged between 18 and 82 (M=50.5, SD=10.8). 110 (74.3%) of the participants were female, and 107 of them were providing care to their parents. Demographic Information Form, Multidimensional Scale of Perceived Social Support, and Brief Symptom Inventory were applied to the participants. Descriptive analyses, independent samples t-test, and Pearson correlation analyses were applied to the obtained data. According to the results of the analyses, it was concluded that the duration of caregiving did not create a difference on hostility, and age and mini mental test scores were not associated with hostility. When the relationship between perceived social support and hostility was examined, it was concluded that total perceived social support, perceived social support from family, and perceived social support from friends were negatively associated with hostility. There is a great need for caregivers for individuals with dementia. It is thought that interventions should be developed for caregivers in order to ensure that caregivers can continue this process in a healthy way and to provide better care to individuals diagnosed with dementia. Clinicians working with caregivers may focus on the perceived social support and thus reduce the hostility levels of caregivers. Determining the factors related to hostility, which is one of the psychological problems experienced by caregivers of individuals diagnosed with dementia, seems to be very important for the development of future studies, intervention studies and prevention studies.

Keywords: Caregivers of Individuals Diagnosed with Dementia, Hostility, Perceived Social Support, Demographic Variables

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Association of MiR-145-5p with *CDK6*, *IRS1*, and *UHRF1* as Potential Target Oncogenes in Breast Cancer

İrem ENGÜLEÇ[1]
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Murat KAYA[3]
İlknur SUER[4]
Şükrü ÖZTÜRK[5]

Abstract

Breast cancer (BC) is the most diagnosed cancer and the leading cause of cancer mortality in women worldwide. MicroRNAs (miRNAs) are single-stranded, small non-coding RNAs (19 - 24 nucleotides) responsible for the post-transcriptional regulation of gene expression. Since miRNAs play a role in biological processes such as cell differentiation, proliferation, and cell death, elucidating the molecular mechanisms of miRNAs and target genes is crucial for the development of cancer treatment. miR-145-5p is a tumor suppressor miRNA that exhibits decreased expression in several cancers, including BC. In this study, we aimed to investigate the association of miR-145-5p and its potential target genes in BC cells. First, miRDB database was used to identify miR-145-5p target genes. Subsequently, the identified genes were searched in PubMed using keywords such as "gene name," and "breast cancer," to select the most related genes. Afterward, normal human breast epithelial MCF-10A cells and BC MCF-7 cells were cultured. MCF-7 cells were then transfected with 30 pmol miR-145-5p mimic and negative control miRNA mimic by using Lipofectamine reagent. MiR-145-5p and gene expression levels were detected by using quantitative real-time PCR (qPCR). The $2^{-\Delta\Delta Ct}$ method was used to analyze the relative changes in expression. A p-value less than 0.05 was deemed a statistically significant result. As a result of the silico analysis and literature search 4 genes (*CDK6*, *IRS1*, *UHRF1*, and *SIX4*) were selected as potential targets of miR-145-5p. In expression studies, *CDK6*, *IRS1*, and *UHRF1* genes were upregulated in the MCF-7 cells compared to MCF-10A cells. Additionally, miR-145-5p mimic-transfected MCF-7 BC cells showed significantly reduced expression of *CDK6*, *IRS1*, and *UHRF1* genes compared to negative control miRNA mimic transfected cells. Our in vitro and in silico analysis showed that miR-145-5p suppresses BC cells through *CDK6*, *IRS1*, and *UHRF1* genes. In conclusion, our study highlights the potential role of miR-145-5p and its potential target genes (*CDK6*, *IRS1*, and *UHRF1*) in BC tumorigenesis.

Keywords: MCF-7 cell line, miR-145-5p, *CDK6*, *IRS1*, *UHRF1*

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Telemedicine Applications in Gestational Diabetes

Elif Ebru ALKAN[1]

Abstract

Diabetes is a serious health issue that significantly reduces the quality of life for patients and leads to microvascular and macrovascular complications. The rapid increase in the prevalence of diabetes worldwide and the dissatisfaction with current treatment methods have driven researchers to explore new treatment approaches. Gestational diabetes is defined as varying degrees of glucose tolerance disorders first diagnosed during pregnancy. Particularly in situations where the patient's distance from a healthcare center poses a risk, in the diagnosis, treatment, and prevention of diseases or injuries, telemedicine, as defined by the World Health Organization, involves the delivery of healthcare services by healthcare professionals using information and communication technologies. This practice has gained importance, especially after the pandemic. Today, the use of telehealth services in clinical practice, treatment, and patient monitoring is generally referred to as telemedicine. Gestational diabetes poses a risk to both the mother and the baby, and thus requires continuous monitoring. Telemedicine applications are especially useful in situations where it is challenging to monitor the expectant mother, as they allow for the provision of remote healthcare services. It can be particularly beneficial for expectant mothers who have to travel for healthcare services or whose health conditions do not permit travel. In this study, examples of telemedicine applications from around the world have been reviewed in the literature, and the advantages, disadvantages, and feasibility of telemedicine applications in gestational diabetes patients have been investigated.

Keywords: Telemedicine, Gestational Diabetes, Telehealth

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Identification of Carbapenem Resistance Genes in Clinical *Klebsiella pneumoniae* Isolates

Fikriye MİLLETLİ SEZGİN1
Tuğçe ÜNALAN ALTINTOP 2
Pelin ONARER 3

Abstract

Introduction: The emergence of carbapenem resistance in multi-drug resistant pathogens is a significant public health problem worldwide. Carbapenemase-producing *Klebsiella pneumoniae* causes sepsis, urinary tract infections and pulmonary infections which lead to long hospitalization and considerable morbidity and mortality in especially intensive care units.

Materials and Methods: In this study, 75 *K. pneumoniae* isolates were isolated from various clinical samples in Amasya University Sabuncuoglu Serefeddin Training and Research Hospital Clinical Microbiology Laboratory. Isolates were identified using the Vitek 2 Compact Microbial Identification Kit (bioMérieux, France). Carbapenem resistance was determined using the Vitek 2 Compact Antimicrobial Susceptibility Kit and confirmed using the disc diffusion method as recommended by EUCAST guidelines. The boiling method was used for DNA extraction. bla_{KPC}, bla_{NDM-1}, bla_{IMP}, bla_{VIM}, bla_{OXA-48} carbapenemase genes were investigated using real-time PCR (Rt-PCR).

Results: A total of 38 isolates were investigated for carbapenemase genes. 30 (79%) of them were found to harbor bla_{OXA-48} and 7 (18%) bla_{NDM-1} carbapenemase genes. 6 of the isolates were found to co-harbor bla_{OXA-48} and bla_{NDM-1} carbapenemase genes together.

Conclusion: In our study, we have found that the majority of the resistant isolates have bla_{OXA-48} carbapenemase which is known to be endemic in our country. Our study has also demonstrated that bla_{NDM-1} carbapenemase genes are also on the rise in our country.

Keywords: *Klebsiella Pneumoniae;* Carbapenemase; OXA-48; NDM-1

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Early Detection of Cardiovascular Disease Using Deep Learning Technique

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Abstract

Cardiovascular disease (CVD) continues to be one of the leading causes of death worldwide. Early diagnosis plays a critical role in preventing fatal outcomes related to CVD. To achieve this, data analysis is essential in identifying potential risks and intervening in a timely manner. In this study, we explore the application of machine learning techniques to aid in the early detection and diagnosis of cardiovascular diseases. A hybrid dataset named Sathvi, which integrates the Hungarian, Switzerland, Cleveland, and Long Beach datasets, has been analyzed using deep learning techniques, convolutional neural network (CNN). The "Hybrid" and "Sathvi" datasets, with 920 and 531 instances respectively. The "Hybrid" dataset includes 920 instances, but over 50% of the values for the 'ca' and 'thal' features are missing. To address this, these two columns were removed, resulting in the creation of a new dataset called "Sathvi." Furthermore, any instances with missing values in the "Hybrid" dataset were eliminated. As a result, the final "Sathvi" dataset contains 531 instances and 12 features, all without missing data. The performance of the models was assessed using metrics including Accuracy, Recall, F1 Score, and AUC (Area Under the Curve). Obtained performance metrics compared with Logistic Regression (LR), k-nearest neighbour (k-NN) and Random Forest Classifier(RFC) machine learning techniques.

Keywords: Deep Learning, Early Diaognasis, Cardiovascular Disease, Sathvi Hybrid Dataset

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Subdiaphragmatic Extrapulmonary Sequestration: A Case Report

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Abstract

Objective: Subdiaphragmatic extralobar pulmonary sequestration is a rare congenital malformation characterized by lung tissue that develops completely independently of the tracheobronchial tree. This sequestration is a portion of lung tissue that is not connected to the normal lung parenchyma, has its own pleural covering, and is typically supplied by an abnormal systemic blood vessel.Through this case, we aim to contribute to the understanding of the clinical presentation, diagnostic approach, and potential management strategies for this rare pulmonary malformation.

Case Presentation: A 24-week 2-day pregnant patient, gravida 2, parity 1, was found to have a 20x24 mm hyperechoic mass in the left adrenal region during detailed fetal anatomical screening. To rule out differential diagnoses, a fetal MRI was performed. The fetal MRI revealed a lesion in the posterior part of the stomach, displacing the left kidney inferiorly and the adrenal gland anteriorly. The lesion, measuring 26x24 mm, was T2 hyperintense, T1 hypointense, and did not show diffusion restriction. Given the relationship of the lesion to the adrenal gland, the primary diagnosis of subdiaphragmatic extralobar pulmonary sequestration was considered.

Diagnostic Evaluation and Management: Following confirmation of the findings on fetal MRI, chromosomal analysis, QF PCR, and array CGH tests were planned. Exome sequencing (WES) was recommended for detailed genetic evaluation. After a multidisciplinary council review, the diagnosis of extralobar pulmonary sequestration was confirmed. During follow-up, no increase in the size of the mass was observed, and close monitoring was planned.

Results and Follow-up: The patient delivered via cesarean section at 34 weeks of gestation due to preterm labor. The female infant was born healthy, 2400 grams with an APGAR score of 7/8. In the neonatal period, the mass size was monitored and the infant remained stable during follow-up. No complications developed during the follow-up.

Discussion: Subdiaphragmatic extralobar pulmonary sequestration is a rare condition that is rarely diagnosed in the fetal period and typically presents asymptomatically. Diagnosis can be made through detailed fetal ultrasonography and MRI. In this case, the sequestration mass was initially misinterpreted as a suprarenal mass, but with accurate diagnosis and proper follow-up, a complication-free delivery was achieved. This case highlights the importance of accurate fetal diagnosis and a multidisciplinary approach in managing such rare pulmonary malformations.

Keywords: Subdiaphragmatic Extralobar Pulmonary Sequestration ,Fetal MRI, Congenital Malformation

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Nurses' Attitudes Towards Patients with Chronic Pain and Their Relationship with Care Behaviors

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Sevda TÜREN[2]

Abstract

The aim of this study is to examine the relationship between nurses' attitudes towards patients with chronic pain and their care behaviors. The study was conducted with nurses (n=206) working in a training and research hospital in Istanbul. Data were obtained using the "Data Collection Form", the "Healthcare Workers' Attitude Scale Towards Patients with Chronic Pain", and the "Care Behavior Scale". The average age of the participants is 26.84 and the majority are female, undergraduate graduates and nurses with 1-5 years of professional experience. The average score for attitudes towards patients with chronic pain was determined as 4.01. The average score for sensitivity, one of its sub-dimensions, was found as 4.14 and the average score for misconception, another sub-dimension, was found as 3.79. The average score for caring behavior was found as 5.05. The average scores for the sub-dimensions of assurance, knowledge-skill, respect and commitment were determined as 4.99, 5.32, 4.99, and 4.96, respectively. As a result of the study, it was determined that the attitude of nurses towards patients with chronic pain was strong in a positive direction. Caring behaviors were found to be high. It was observed that there was no significant relationship between the attitude score towards patients with chronic pain and the care behavior scores (r=-0.02, p>0.05). As a result, nurses should have a positive attitude towards patients with chronic pain; It can increase the patient's sense of individual control, reduce the individual's feeling of powerlessness, increase functional capacity, reduce anxiety and stress, reduce pain behavior and focused pain level, reduce the dose of analgesic drugs and, accordingly, reduce the side effects of the treatment.

Keywords: Attitude, Care Behavior, Chronic pain, Nursing, Patient.

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Factors Associated with CAM Practices in Parents of Children Diagnosed with Asthma

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Dilek KÜÇÜK ALEMDAR

Abstract

Asthma is a chronic airway disease characterized by excessive sensitivity to environmental triggers, which negatively affects the quality of life in children. The prevalence of asthma in children is increasing in Turkey, but the treatment process is lengthy, and concerns about side effects may lead parents to turn to complementary and alternative medicine (CAM) methods. The World Health Organization defines traditional medicine as health practices based on theories, beliefs, and experiences unique to different cultures, and CAM can be used either alongside or in place of modern medical treatment. The rate of CAM use among families of children with asthma varies based on socio-economic factors and the severity of the disease. Parents, particularly those who have had negative experiences with modern medicine or are concerned about the side effects of medications, may turn to CAM methods. However, some CAM methods lack scientific evidence and can create adverse effects. The impact of CAM use on asthma treatment is generally positive, but improper use or lack of information can lead to health risks. Studies indicate that CAM use in asthma treatment can reduce adherence to medication and delay the start of appropriate treatment. Therefore, it is essential to properly inform families about CAM and integrate it into treatment processes. The combined use of CAM and medication allows clinical specialists to gain knowledge about the safety and effects of treatment options. In conclusion, CAM should be used as a complement to modern medicine in asthma treatment, supported by accurate information. Parents should be educated, and awareness of the potential risks of CAM should be raised.

Keywords: Asthma, Complementary and Alternative Medicine – cam, Parents, Treatment Management.

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The Use of Serious Digital Games in Pediatric Patients During the Preoperative Period

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Abstract

The preoperative period is a stressful process that presents both physical and emotional challenges for pediatric patients. Preoperative anxiety can hinder children's adaptation to the surgical process, slow down the recovery process, and lead to postoperative complications. In this context, serious digital games, as part of non-pharmacological interventions, have emerged as an effective method for reducing anxiety in pediatric patients. These serious digital games combine entertainment-based content with educational and therapeutic objectives, helping to alleviate children's uncertainties about the surgical process and reduce their worries. The literature indicates that serious digital games reduce children's anxiety during preoperative preparation and improve their understanding of the process. Additionally, these games help children express their emotions, strengthen coping skills, and enhance health literacy. Nurses, who play a critical role in preoperative care, are key in understanding children's needs and managing anxiety through game-based approaches. By selecting age-appropriate games, nurses can provide information about the surgical process and offer distraction activities before the operation. However, to enable broader use of serious digital games in healthcare, it is necessary to implement training programs for nurses, integrate games into clinical processes, and increase research examining the effectiveness of serious games. In conclusion, the use of serious digital games during the preoperative period can reduce anxiety in pediatric patients, thereby helping both the patients and their families adapt to the process more easily. The widespread adoption of game-based interventions can positively impact children's surgical experiences, ultimately enhancing the effectiveness of healthcare services. The aim of this review is to examine the use of serious digital games in pediatric patients during the preoperative period, assess their effectiveness in reducing preoperative anxiety in children, and explore the advantages they provide, offering insights into how such digital tools can be utilized more effectively in healthcare settings.

.**Keywords:** Serious Digital Games, Preoperative Period, Anxiety, Pediatric Nursing.

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Oral Motor Problems in Cerebral Palsy

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Abstract

Cerebral Palsy (CP) is defined as a neurodevelopmental disorder that occurs as a result of permanent damage to the infant brain and can cause non-progressive posture, motor and movement problems. In addition to these disorders, abnormal movement patterns, weakness and spasticity, visual and hearing problems, epilepsy, oral motor problems and cognitive dysfunctions are also seen. CP can affect oral motor functions and cause drooling, speech problems, sucking, chewing and swallowing disorders, dental problems, drooling, lack of aspiration and bruxism. These problems can lead to anorexia and food refusal in children, resulting in inadequate nutritional intake. Lack of adequate nutrition is associated with morbidity. Nutritional problems vary according to the type and severity of CP. While children with ataxic and spastic dyskinetic type of CP can feed independently, children with spastic tetraplegic and dyskinetic type of CP cannot feed independently due to severe motor functions. Treatment of oral motor problems includes oro-facial rehabilitation, anticholinergic drugs, botolinum toxin injection and surgery. Oral motor rehabilitation focuses on problems such as chewing, swallowing, speech, feeding disorders, tongue incoordination, poor lip closure and sialorrhea. Various appliances have been designed for the treatment of oral motor disorders. These appliances were made to activate the muscle tone of the lip, lateralization of the tongue and jaw stability. The aim of this study was to provide information about what oral motor problems seen in cerebral palsy are, what problems they cause and how to treat them.

Keywords: Cerebral Palsy, Oral Motor Function, Sialorrhea, Tongue Lateralization, Chewing

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The Relationship between Interferon Regulatory Factor Levels and Behçet's Disease

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Murat ÇİBİK[2]

Abstract

Introduction and Aim

Behçet's disease (BD) is a systemic disorder characterized by recurrent acute inflammatory episodes. BD can affect multiple organs, including the skin, mucosa, eyes, cardiovascular system, central nervous system, gastrointestinal system (GIS), joints, lungs, and kidneys.

The exact etiopathogenesis of BD remains unclear; however, genetic, environmental, and inflammatory processes are believed to play roles in its development. Studies suggest that Th1 cells and Th1 cytokines, such as IL-2, IL-12, IL-18, and Interferon (IFN)-γ, may contribute to the pathogenesis of BD.

The interferon regulatory factor (IRF) family plays a role in regulating IFN responses and comprises nine members in mammals. One study demonstrated that the AGGG and CAAG haplotypes of IRF1 are risk factors for thrombosis in BD. Another study showed that hypermethylation of IRF8 promoter region CpG islands is associated with BD.

In this study, we aimed to compare the levels of IRF1, IRF2, IRF3, IRF4, IRF5, IRF6, IDF7, and IRF8 in Behçet's patients and healthy controls. Additionally, we investigated the association between elevated IRF levels and BD complications and clinical manifestations.

Methods

The study was approved by the Ethics Committee under protocol number 2024-01/06. A total of 60 patients with Behçet's disease and 60 healthy volunteers were included. Venous blood samples were collected from all participants to assess IRF levels. IRF concentrations were measured using an enzyme-linked immunosorbent assay (ELISA).

The micro-ELISA plate was pre-coated with an antibody specific to human IRF. The samples were added to the microplate and interacted with the specific antibody. Subsequently, a biotin-labeled detection antibody specific to human IRF and an HRP conjugate were added and incubated. Unbound components were removed by washing. A substrate solution was then added, and optical density (OD) was measured spectrophotometrically at a wavelength of 450 nm. The OD values of the samples were compared to a standard curve to determine the human IRF concentrations.

Results

The levels of IRF3 were lower in BD patients compared to the control group, while the levels of IRF4 and IRF7 were significantly higher in BD patients. Elevated IRF4 and IRF7 levels were associated with papulopustular lesions, genital ulcers, positive pathergy tests, and arthritis. Furthermore, IRF7 was also associated with GI involvement. No significant differences were observed in the levels of IRF1, IRF2, IRF5, IRF6, and IRF8 between BD patients and healthy controls.

Conclusion

Our findings suggest that IRF's may play a role in the pathogenesis and complications of BD.

Keywords: Behçet's Disease, Interferon Regulatory Factor

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Effect of Exercise on Serum Apelin Level: A Meta-analysis

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Özet

Amaç: Bu meta-analiz, egzersiz uygulamalarına katılan bireylerde serum apelin düzeylerinin potansiyel bir biyomarker olarak kullanılabilirliğini araştırmayı ve egzersiz kaynaklı fizyolojik adaptasyonlarla olan ilişkisini değerlendirmeyi amaçlamaktadır. Egzersiz sonrası vücutta meydana gelen biyokimyasal değişimlerin daha iyi anlaşılmasına katkı sağlamak amacıyla yapılan bu çalışma, serum apelin düzeylerinin egzersizle bağlantılı olarak nasıl değiştiğini ortaya koymayı hedeflemektedir.

Yöntemler: Bu çalışma, PRISMA yönergesine uygun olarak dikkatle tasarlanmış ve yürütülmüştür. PubMed, Cochrane Library, Web of Science ve Scopus veri tabanlarında yapılan sistematik bir tarama ile egzersiz uygulamalarıyla ilişkili serum apelin düzeylerini rapor eden çalışmalar belirlenmiştir. Arama sürecinde, hayvan modelleri, eksik veri raporlaması ve egzersiz uygulaması içermeyen çalışmalar dahil edilmemiştir. Dahil etme kriterlerini karşılayan toplam dokuz çalışma, kantitatif sentez (meta-analiz) için seçilmiştir. Meta-analiz, Revman 5.4.1 yazılımı kullanılarak gerçekleştirilmiş ve elde edilen veriler doğrultusunda forest plots grafikleri standartlaştırılmış ortalama farklar (SMD) üzerinden oluşturulmuştur.

Bulgular: Serum apelin düzeyleri, egzersiz uygulamalarına katılan bireyler ile kontrol grupları arasında karşılaştırıldığında, egzersiz yapanlarda daha yüksek bulunmuştur; ancak bu fark istatistiksel olarak anlamlı değildir (SMD: 0.425, %95 GA: -0.106 ila 1.566, p = 0.087). Bulgular, egzersizin apelin düzeyleri üzerinde etkisi olduğunu öne sürse de, bu etkinin büyüklüğü kesin olarak belirlenememiştir. Ayrıca, çalışmalar arasında önemli derecede heterojenlik gözlemlenmiştir (I^2: %94.36). Heterojenliğin nedenleri arasında katılımcı özellikleri, egzersiz protokolleri ve ölçüm yöntemlerindeki farklılıklar yer alabilir.

Sonuçlar: Bu meta-analiz, serum apelin düzeylerinin egzersiz uygulamalarının fizyolojik etkilerini değerlendirmek için bir biyomarker olarak potansiyele sahip olabileceğini öne sürmektedir. Bununla birlikte, çalışmalar arasındaki yüksek heterojenlik, bu bulguların yorumlanmasında dikkatli olunması gerektiğini göstermektedir. Apelinin klinik pratikte veya araştırmalarda daha yaygın bir şekilde kullanılabilmesi için standartlaştırılmış ölçüm protokollerinin geliştirilmesi ve farklı popülasyonlar ile egzersiz koşullarında doğrulayıcı çalışmaların yapılması gerekmektedir. Egzersizin insan sağlığı üzerindeki olumlu etkilerini daha iyi anlamak adına, gelecekte yapılacak bu tür çalışmalar büyük önem taşımaktadır.

Anahtar Kelimeler: Serum Apelin, Egzersiz, Biyomarker, Fizyoloji.

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Comparison of the Effects of Isometric and Shi's Daoyin Neck Exercises on Pain and Range of Motion in Women with Neck Pain

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Zelal APAYDIN[34]

Abstract

Neck pain is a common disorder that is largely influenced by psychosocial factors. The aim of our study is to investigate the effects of an Isometric Neck Exercise (INE) program and the Shi's Daoyin (SD) neck exercise program on functionality, disability, pain, and range of motion in women with neck pain. The study included 30 women aged 18-25 years who reported a pain score of at least 3 on the Numeric Pain Rating Scale (NPRS) within the last week and experienced neck pain for the past 2 months. The participants were randomized into two groups. In the study, the INE group performed exercises for 4 weeks, three times a week, with one session per day consisting of 5 repetitions per 2 sets. The SD neck exercise group performed exercises for 4 weeks, three times a week, with three sessions per day consisting of 4 repetitions per 3 sets. Each movement was carried out up to the physiological limit, held for 3 seconds, and then returned to the neutral position. The Neck Disability Index (NDI) and the Bournemouth Neck Pain Questionnaire (BNPQ) were used to assess functionality and disability before and after the treatment. The NPRS was used to assess pain, and a goniometer was used to measure the range of motion of the neck joints. Both groups were similar in terms of demographic and clinical characteristics before treatment ($p>0.05$). Improvements were observed in the NDI, BNPQ, and NPRS scores in both exercise programs ($p<0.05$). In the INE group, improvements were observed in all neck range of motion directions except for left rotation ($p<0.05$). In the SD exercise group, improvements were seen in all neck range of motion directions ($p<0.05$). In the between-group comparison, improvements in the NDI and BNPQ were similar in both groups ($p>0.05$). The improvement in the NPRS was greater in the INE group compared to the SD exercise group ($p<0.05$). The increase in range of motion was greater in the SD exercise group compared to the INE group in all directions, except for left lateral flexion ($p<0.05$). In conclusion, both exercise programs were found to have effects on improving neck functionality and disability. However, the SD exercises were found to be more effective in specific range of motion directions. Further research is needed to determine which exercise program is more effective by examining additional directions.

Keywords: Disability, Neck pain, Isometric Exercise, Shi's Daoyin Exercise, Women

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Case Report of Vulvar Hidradenoma Papilliferum

Cem Yağmur ÖZDEMİR1
Hasan Şakir ÇAKMAK 2

Abstract

Hidradenoma papilliferum (HP) is a benign tumor of apocrine sweat gland origin, composed of epithelial and myoepithelial cells. A 47-year-old female patient with a history of 3 vaginal births applied with the complaint of a mass in the vulva, which had been present for approximately 10 years and had intermittent pain attacks. When the patient's anamnesis was examined, it was learned that the mass never disappeared and that the pain complaint increased especially during menstruation. Pelvic ultrasonography revealed a cystic lesion of approximately 35 mm in the right ovary, which may be compatible with endometrioma. Excision of the mass was planned due to suspicion of vulvar endometriosis in the patient. However, immunohistochemistry of the completely excised material revealed positive cytokeratin 7, P63 and Actin. The final pathology result of the material was reported as "Hidradenoma Papilliferum". Diagnosing HP in the vulva can be difficult due to Bartholin cysts, lipoma and malignant lesions. In addition, when diagnosing HP, one must be very careful in histopathological examination, because it can clinically mimic carcinoma. In our patient, the history of endometrioma and the fact that the mass was painful, especially during menstruation, made us think of vulvar endometriosis, although it is a rare diagnosis..
Keywords: Hidradenoma Papilliferum, Vulva, Benign

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Prenatal Diagnosis and Postnatal Outcome of Galen Vein Aneurysm: A Case Report

Nurten ÇİLEK[1]

Abstract

Galen vein aneurysm (GVA) is a rare congenital vascular malformation that can be identified prenatally using ultrasonography or fetal MRI. Despite early diagnosis, the prognosis remains poor due to severe complications. This report presents a case of a prenatally diagnosed GVA where the newborn succumbed to high-output heart failure shortly after birth.

Case Presentation: A 40-year-old gravida 3, parite 2 pregnant woman at 28 weeks of gestation reported for assessment of an intracranial anomaly, which was identified in the course of a routine ultrasound. Galen vein aneurysm was verified by Fetal MRI. Nothing was unusual for the cardiovascular system during the diagnosis, without any findings of fetal hydrops or heart dysfunction. At 30 weeks of gestation, cardiomegaly and absent end-diastolic flow in the umbilical artery was also discovered on ultrasound examination.

At 33 weeks of gestation, presence of fetal distress ended up with emergency cesarean section. The neonate was born with a birth weight of 1,980 grams and Apgar scores of 5 at both 1 and 5 minutes. Postnatal echocardiography also brought up high-output cardiac failure secondary to arteriovenous shunting, along with serious pulmonary hypertension. Despite all the efforts and care performed, including ventilatory support and inotropic therapy, the new born has developed multi-organ failure and passed away exactly on the fourteenth day of life.

Discussion: GVA is a serious anomaly, which could be linked with high perinatal morbidity and mortality as well. Prenatal diagnosis allows perinatal management and preparation at experted centers. However, postnatal consequences are strongly affected by the intensity of the malformation and resulting complications. This case points out that how the managing severe GVA would be quite difficult, even though with the accomplishment of diagnosis upfront and deploying immediate treatments.

Conclusion: This study outlines how the prenatal diagnosis in planning and optimizing care for GVA cases have key importance. Nevertheless, it is still inevitable to end up with neonatal mortality, particularly in severe cases. More research for innovative therapeutic should become avaliable to enhance outcomes and have more satisfactory results.

Keywords: Galen Ven Anevrizması, Arteriovenöz Malformasyon, Kardiak Yetmezlik

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Megaloblastic Anemias

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Abstract

Megaloblastic anemias are a type of anemia that results from defects in erythrocyte production and are characteristically characterized by the accumulation of large, immature erythrocyte precursors (megaloblasts) in the bone marrow.Megaloblastic anemia is a type of macrocytic anemia that is usually caused by a deficiency of folate (vitamin B9) and cobalamin (vitamin B12).This type of anemia results in defects in DNA synthesis during erythropoiesis, resulting in the formation of immature and abnormally large erythroid precursor cells (megaloblasts).Megaloblastic anemias can affect not only erythrocytes but also all cell lines and may lead to neurological symptoms in addition to hematological abnormalities.Major etiologic factors for megaloblastic anemia include malnutrition, malabsorption syndromes (e.g., Crohn's disease), post-gastrectomy conditions, side effects of certain medications, and increased vitamin requirements (such as pregnancy or hemolytic anemias).Clinically, patients may present with symptoms such as malaise, pallor, fatigue, and neurological signs.Paresthesia, balance disorders and mental status changes are frequently observed, especially in patients with vitamin B12 deficiency.In laboratory findings, macrocytic anemia (high MCV), hypersegmented neutrophils, and low serum B12/folate levels are important for diagnosis.Treatment involves replacing the deficient vitamin, and while hematological symptoms improve rapidly with early treatment, reversal of neurological damage may be slower or limited.This article aims to detail the pathophysiology, clinical findings, diagnostic methods and current treatment approaches of megaloblastic anemia.The importance of early diagnosis and treatment of megaloblastic anemia will be emphasized and suggestions will be made to improve the prognosis of patients.

Keywords: Megaloblastic Anemia, Vitamin B12 Deficiency, Folic Acid Deficiency, DNA Synthesis Disorder, Hematopoiesis

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Assessing β-Glucan Potential as an Antihelmintic Agent in *C. elegans*

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Abstract

Caenorhabditis elegans is a transparent nematode widely recognized as an ideal model organism for laboratory research due to its simplicity, adaptability, and well-annotated genome. Its ease of genetic manipulation and short lifespan of approximately three weeks make it exceptionally suited for studies on molecular pathways, development, and aging.

This study investigated the effects of β-glucan on the survival of *C. elegans* by using three concentrations: 1.2 mg/mL (C1), 0.6 mg/mL (C2), and 0.12 mg/mL (C3), along with a control group that received no *β*-glucan. Kaplan-Meier survival analysis revealed that higher concentrations of β-glucan (C1 and C2) significantly reduced mean lifespans to 30.11 and 30.96 minutes, respectively, compared to the control group's 44.94 minutes, with highly significant p-values ($p = 8.5\times10^{-8}$ for C1 and $p = 7.2\times10^{-6}$ for C2). In contrast, the lowest concentration (C3) resulted in a mean lifespan of 41.05 minutes, which was not significantly different from the control ($p = 0.092$).

Pairwise comparisons indicated a dose-dependent response. While no significant difference was observed between C1 and C2 ($p = 0.659$) both concentrations were significantly different from C3 ($p = 9.6\times10^{-6}$ for C1 vs. C3, and $p = 0.0002$ for C2 vs. C3). These findings suggest that elevated β-glucan concentrations may adversely affect survival, potentially through an antihelmintic effect. Further molecular investigations are needed to elucidate the mechanisms underlying this response and to confirm its potential as an antihelmintic agent.

Keywords: *Caenorhabditis elegans,* Antihelmintic, β-Glucan, Lifespan

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Effect of Education on "Early Marriage: Child Brides"

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Neslihan GÖRGÜLÜ[4]

Abstract

Marriage is a lifestyle chosen by individuals with their free will, in accordance with the rules of law and society, and is an individual right. In order for the marriage to be established in a valid and healthy manner, the individuals who will get married must have completed the age specified in the law. The existence of such an age limit for marriage is necessary, on the one hand, so that women, in particular, can meet the physical conditions required for marriage, and on the other hand, to have the necessary maturity to understand the importance of marriage and to undertake some of the responsibilities it brings with it.

In the international document (Convention on the Rights of the Child), those under the age of 18 are defined as children. In this case, any marriage made under the age of 18 can be referred to as "Child marriage". Unfortunately, although the minimum age limit for a marriage decision to be made is accepted as 18, girls, especially, are introduced to marriage at an earlier age. Hundreds of young girls who have not completed their spiritual, social and physical development, who have not yet been able to control their own lives, and who do not know their rights, marry either of their own will or under family pressure. These marriages restrict the child's right to a healthy life, from the right to work and education to the right to think freely and have an opinion.

Keywords: Patriarchy, Child, Education, Woman, Instrumental Gender.

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Effects Of Hesperidin On An Acute Lung İnjury Model İnduced By Alpha-Naphthylthiourea İn Rats

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Abstract

Introduction: Acute Respiratory Distress Syndrome (ARDS) is a disease characterized by non-cardiogenic pulmonary edema resulting in respiratory failure and hypoxemia. Due to its high incidence in patients with Coronavirus Disease 2019 (COVID-19) in the last five years, ARDS has shown significant morbidity and mortality rates. The pathophysiology of ARDS is acute inflammation caused by non-cardiogenic pulmonary edema secondary to increased permeability due to disruption of lung endothelial and epithelial barriers. Flavonoids are a large group of phenolic compounds found both in free form and as glycosides in plants. Hesperidin (Hsd) is a flavanone glycoside (a subclass of flavonoids) abundantly found in citrus fruits. Scientific studies have described the antioxidant, anticancer and anti-inflammatory effects of hesperidin. In our study, the effect of hesperidin on the acute lung injury model induced by alpha-naphthylthiourea (ANTU) was investigated.

Materials and Methods: In our study, 32 4-month-old Wistar albino female rats weighing 200-250 g were randomly divided into 4 groups as control (CON), hesperidin (HSD), ANTU, and ANTU+HSD. A single dose of 100 mg/kg HSD was administered to the HSD and ANTU+HSD groups for 7 days, and 1 ml PBS was administered to the CON and ANTU groups by gavage. On the last day of the experiment (Day 7), ANTU, suspended in olive oil at a level of 4 mg/ml, was administered to the ANTU groups at a dose of 10 mg/kg ip. The animals were sacrificed 4 hours after ANTU administration. The rats in all groups were anesthetized and their rib cages were carefully opened. The effusion fluid accumulated in the pleural space in the ANTU groups

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was measured. The lung tissue samples taken were stored appropriately for histopathological examinations and biochemical analyses.

Findings: An increase in lung weight and PE was observed in the ANTU and ANTU+HSD groups. In the preparations of the lung tissue stained with Hematoxylin-Eosin, it was observed that the CON and HSD groups exhibited normal tissue morphology. In the ANTU group, alveolar lesions such as alveolar edema, increased alveolar interstitial area, increased number of inflammatory cells and macrophages, and perivascular expansion were observed. Although lesions were observed in some areas in the ANTU+HSD group, there was generally a near-normal alveolar structure. SOD, an indicator of the antioxidant defense system, showed a statistically significant increase in the ANTU+HSD group. To evaluate the effect of HSD on the inflammatory response, tumor necrosis factor-α (TNF-α), interleukin 1 beta (IL-1ß), inducible nitric oxide synthase (iNOS), nuclear factor-kappa B (NF-κB) and occludin expression levels were studied by immunohistochemical method. TNF-α, IL-1ß, iNOS and NF-κB expressions were higher in ANTU groups, while occludin expression was higher in HSD group. A decrease in all protein expressions was observed in ANTU+HSD group, which is the treatment group.

Conclusion: As a result of the analyses, it was observed that hesperidin has a protective effect with its anti-inflammatory and antioxidant properties in acute lung injury caused by ANTU.

Keywords: Alpha-naphthylthiourea, Hesperidin, Oxidative stress, Lung, Occludin

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