12. ANATOMİ KIŞ GÜNLERİ

29 Ocak – 1 Şubat 2025

Bursa Uludağ Üniversitesi

Prof. Dr. Mete CENGİZ Kültür Merkezi

KONGRE BİLDİRİ KİTAPÇIĞI

Komite ve Kurullar

Kongre Onursal Başkanları
Ferudun YILMAZ, Bursa Uludağ Üniversitesi Rektörü
Funda COŞKUN, Bursa Uludağ Üniversitesi Tıp Fakültesi Dekanı

Kongre Başkanı
Erdoğan ŞENDEMİR, Bursa Uludağ Üniversitesi Anatomi Anabilim Dalı

Kongre Sekreteri
Alper VATANSEVER, Bursa Uludağ Üniversitesi Anatomi Anabilim Dalı
avatansever@uludag.edu.tr, 0224-2953815

KONGRE DÜZENLEME KURULU

İlknur ARI	Bursa Uludağ Üniversitesi Anatomi Anabilim Dalı
Kerem ATALAR	Gazi Üniversitesi Anatomi Anabilim Dalı
Serdar BABACAN	Bursa Uludağ Üniversitesi Anatomi Anabilim Dalı
Çağatay BARUT	İstanbul Medeniyet Üniversitesi Anatomi Anabilim Dalı
İhsaniye COŞKUN	Bursa Uludağ Üniversitesi Anatomi Anabilim Dalı
Ayhan CÖMERT	Ankara Üniversitesi Anatomi Anabilim Dalı
Nadire ÜNVER DOĞAN	Selçuk Üniversitesi Anatomi Anabilim Dalı
İlke Ali GÜRSES	Koç Üniversitesi Anatomi Anabilim Dalı
Sefa IŞIKLAR	Bursa Uludağ Üniversitesi Sağlık Mizmetleri Meslek Yüksekokulu
İlker Mustafa KAFA	Bursa Uludağ Üniversitesi Anatomi Anabilim Dalı
Ayla KÜRKÇÜOĞLU	Kırıkkale Üniversitesi Anatomi Anabilim Dalı
Senem TURAN ÖZDEMİR	Bursa Uludağ Üniversitesi Anatomi Anabilim Dalı
Mehmet ÜZEL	İstanbul Üniversitesi Cerrahpaşa Tıp Fakültesi Anatomi Anabilim Dalı
Hatice VATANSEVER	(Kamu)
Gizem ÇETİN	Bursa Uludağ Üniversitesi Anatomi Anabilim Dalı
Hümeyra DENİZ	Bursa Uludağ Üniversitesi Anatomi Anabilim Dalı
Kemal GÜLŞEN	Bursa Uludağ Üniversitesi Anatomi Anabilim Dalı

BİLİM KURULU
TAKAD Üyesi Öğretim Üyeleri

Değerli Meslektaşlarım,

Bursa Uludağ Üniversitesi Tıp Fakültesi Anatomi Anabilim Dalı olarak sizlere dördüncü kez ev sahipliği yapacak olmanın gururu ve tatlı telaşı içindeyiz. 1991 yılındaki ilk kongremizi takiben (henüz ilk olduğu için birinci ifadesi de yoktu ve yalnızca Anatomi Kongresi idi), 2011 yılında Joint Meeting of Anatomical Societies ile Derneğimizin 20. yılını güzel bir uluslararası kongre ile kutlamıştık. 2017'de ise, katılanların anılarında canlılığını hala çok sıcak koruduğunu bildiğimiz Uludağ'daki Anatomi Günlerinde sizleri misafir etmiştik.

Başlangıçta Anatomi Günleri olarak adlandırdığımız, ancak zaman içinde Anatomi Kış Günleri'ne evrilen toplantılarımızın 12'ncisini 29-31 Ocak – 1 Şubat 2025 tarihleri arasında, Bursa Uludağ Üniversitesi Tıp Fakültemizin kuruluşunun 50. yılında, kampüsümüz içindeki Prof. Dr. Mete Cengiz Kültür Merkezinde gerçekleştireceğiz.

Ana tema olarak Nöroanatomi / Sinirbilim konularına odaklanma hedefimiz ve diğer anatomi bilimi konuları ile beraber son gelişmelerin, güncel çalışmaların sunulacağı oturumlarımız ile alanında uzman bilim insanları ve akademisyenler ile bilgi alışverişi yapma, yeni araştırma fırsatları oluşturma ve meslektaşlarımızla verimli bir ağ kurma imkânı sunması amacındayız. 29 Ocak öğleden sonrası çalıştay/kurs/atölye programlarına, 30-31 Ocak günleri bilimsel faaliyet günlerine ve 1 Şubat ise sosyal etkinliklere ayrılacaktır. Yarım asırlık kuruluş yıl dönümümüzü sizler ile paylaşmak ve sizleri aramızda yüz yüze görmek bizleri onurlandıracaktır.

Kayıt ve diğer detaylı bilgileri kongre web sitemiz (https://www.anatomigunleri2025.org) ve duyurularımız aracılığı ile takip edebilir, bizimle doğrudan iletişime de geçebilirsiniz.

Doğası ve tarihi ile olduğu kadar bilimsel ortamı ile de sizlere doyurucu bir Anatomi Günleri sunacağımıza inanıyor, katılımınızı bekliyoruz.

Düzenleme Kurulu Adına

Erdoğan ŞENDEMİR
Bursa Uludağ Üniversitesi Tıp Fakültesi Anatomi Anabilim Dalı Başkanı

KURSLAR VE BİLİMSEL PROGRAM

29 OCAK 2025 - ÇARŞAMBA

13:00
Thalamus çekirdek segmentasyonu ve ITKSnap ile üç boyutlu modelleme
Prof. Dr. Niyazi ACER, Doç. Dr. Sefa IŞIKLAR Kat 2 Dersliği

13:00
Kozmetik ve Minimal İnvaziv Tedaviler İçin Yüz Bölgesi Anatomisi
Dr. Öğr. Üyesi Meriç YILDIZ YILMAZ Kat 3 Dersliği

13:00
Probleme dayalı öğrenmenin tıp eğitiminde kullanılması
Prof. Dr. Esat ADIGÜZEL Anatomi Derslik

13:00
Horos Yazılımı ile 3 Boyutlu Modelleme
Doç. Dr. Alper VATANSEVER Anatomi Laboratuvarı 2. Salon

13:00
Anatomik Çalışmalar İçin İleri İstatistiksel Modelleme Kursu
Prof. Dr. Güven ÖZKAYA, Doç. Dr. Serdar BABACAN Anatomi Laboratuvarı 1. Salon

13:00
Deney Hayvanlarında Anksiyete ve Depresyon Testleri
Dr. Öğr. Üyesi Hasan ÇALIŞKAN Kat 1 Dersliği

30 OCAK 2025 - PERŞEMBE

08:30 - 09:15 Kayıt ve Karşılama - Fuaye Alanında Toplanma

09:15 - 10:00 AÇILIŞ KONUŞMALARI
Prof. Dr. Erdoğan ŞENDEMİR - **Kongre Başkanı**
Prof. Dr. Ayhan CÖMERT - **Türk Anatomi ve Klinik Anatomi Derneği Yönetim Kurulu Başkanı**
Prof. Dr. Funda COŞKUN - **Bursa Uludağ Üniversitesi Tıp Fakültesi Dekanı**
Prof. Dr. Ferudun YILMAZ - **Bursa Uludağ Üniversitesi Rektörü**
Mustafa BOZBEY - **Bursa Büyükşehir Belediye Başkanı**

10:00 - 10:15 Tıbbiyeli Müzisyenler Topluluğu Müzik Dinletisi

10:15 - 11:30 PANEL: Nöroanatomide evrensel perspektif paneli: Gelişimi, güncel uygulamaları ve geleceği
Moderatör: Prof. Dr. İbrahim TEKDEMİR
Nöroanatominin Geleceği: Bilim, Sağlık ve Teknolojiye Katkıları, Gelecekte karşılaşılabilecek sorunlar ve kapanış
Prof. Dr. İbrahim TEKDEMİR
Nöroanatomi Eğitimi
Prof. Dr. Piraye KERVANCIOĞLU
Nöroanatomi ve Yapay Zeka
Prof. Dr. Behice DURGUN
Nöroanatomi ve Klinik Uygulamalar
Doç. Dr. Begümhan TURHAN
Nöroanatominin Evrimi ve İnsan Beyninin Gelişimi
Doç. Dr. Seher YILMAZ

Nöroanatominin Bugünü: Modern Nöroanatomi araştırmalarının temel alanları
Dr. Öğr. Üyesi Mehmet Ali GÜNER

11:30 - 12:00 POSTER SUNUMLARI (P1 - P10)

12:00 - 13:30 Öğle Yemeği

13:30 - 14:40 SÖZLÜ BİLDİRİLER

Piyade Kurmay Yarbay İlker Çelikcan Salonu

Oturum Başkanları:
Prof. Dr. Bayram Ufuk ŞAKUL, Dr. Öğr. Üyesi Saliha Seda ADANIR

Yapılandırılmış anatomi uygulama sınavı: Kas ve nöroanatomi örneği
İsmihan İlknur Uysal, Muzaffer Şeker, Aynur Emine Çiçekcibaşı, Mehmet Tuğrul Yılmaz, Anıl Didem Aydın Kabakçı, Duygu Akın Saygın, Gülay Açar, Betül Digilli Ayaş, Abdullah Taha Talan, Sümeyye Özdemir, Halime Kabalcı, Ertuğrul Özbey, Selenay Ünal Çolak

Yapay zekâ destekli eğitim: Tıp fakültesi için anatomi ders notlarının hazırlanmasında yapay zekâ modellerinin performansı ve geçerliliği
Fatma Ok, Burak Karip, Fulya Temizsoy Korkmaz

Üç boyutlu anatomi uygulamasının pratik sınav başarısına etkisi
Özge Irmak Doğancı, Ömer Alp Taştan, Eda Görgün, Mehmet Üzel

Dijital teknolojilerin anatomi eğitimi ve klinik uygulamalardaki rolü: bir SWOT analizi
Merve İzci

Fizyoterapi ve rehabilitasyon bölümü öğrencilerinin anatomi eğitimine ilişkin görüşleri
Beril Tekin, Işık Ecem Kılıç, Caner İncekaş, Can Pelin

ChatGPT-4 ve tıp öğrencilerinin radyografik anatomik yapıları ayırt edebilme performanslarının karşılaştırmalı analizi
Sefa Işıklar

ChatGPT ile hazırlanan nöroanatomi sorularının tıp fakültesi kurul soruları ile karşılaştırılması
Salih Murat Akkın, Niyazi Acer Pınar Günel, Özdemir Sevinç, İbrahim Halil Çelikkıran

Özel Harekât Polis Memuru İlyas Kaygusuz Salonu

Oturum Başkanları:
Prof. Dr. Ayla KÜRKÇÜOĞLU, Dr. Öğr. Üyesi Dilara PATAT

Tıp fakültesinde, gluteal bölge topografik anatomisi eğitiminde 3D yazılım kullanımı ile geleneksel yöntemlerin karşılaştırılması
Rıza Aktepe, Yılmaz Üçüncü, Ali Yavuz Uzun

Asemptomatik femoroasetabular sıkışma sendromunda kalça eklemi morfolojisi: üç boyutlu bilgisayarlı tomografi değerlendirmesi

Pelin İsmailoğlu, Cengiz Kazdal, Emrehan Uysal, Alp Bayramoğlu

Arteria maxillaris ve segmentlerinin üç boyutlu BT anjiyografi ile topografik olarak incelenmesi
Feyzanur Ocak, Mustafa Büyükmumcu, Yasin Arifoğlu, Serdar Balsak, Özlem Toluk

Hafif ve orta derecede omuz ağrısı olan inme hastalarında m. triceps brachii ve m. biceps brachii'nin miyotonometrik özelliklerinin karşılaştırılması
Tuba Maden, Hakan Polat, Begümhan Turhan

Sakroiliak eklem varyasyonlarının cinsiyet ve lateralizasyona göre değerlendirilmesi
Sümeyra Doğmuş, İsmihan İlknur Uysal, Pınar Diydem Yılmaz

Musculus biceps brachii caput longum tendonunun anatomik varyasyonlarının manyetik rezonans görüntüleme ile değerlendirilmesi
Yunus Topal, Hilal Kırmızıgül, Emre Emekli

3B modelleme yöntemlerinin kuru kemik örnekleri üzerinde değerlendirilmesi
Gizem Serpil Balyemez, Çağatay Barut

14:40 - 14:50 Kahve Arası

14:50 - 16:00 SÖZLÜ BİLDİRİLER

Piyade Kurmay Yarbay İlker Çelikcan Salonu

Oturum Başkanları:
Prof. Dr. Çağatay BARUT, Doç. Dr. Seher YILMAZ

Relapsing remitting multipl sklerozda subkortikal yapıların zamana bağlı hacim değişiminin relevansı: volbrain ile morfolojik analiz
Buket Kılıç, Ayla Tekin, Sena Destan Bünül, Hüsnü Efendi, Özgür Çakır, Tuncay Çolak

Tek bir sağlıklı erkek bireyde lobus temporalis ve lobus occipitalis'in hacim ve kortikal kalınlıklarının 29 ve 46 yaş arasındaki değişimlerinin incelenmesi
Furkan Mehmet Özden, İsmail Sivri, Emre Kaygın, Tuncay Çolak

Cinsiyetin yetişkin sıçanlarda farklı nöroanatomik bölgelerde artemin düzeyine etkisi
Burak Gülcen, Deniz Demirtaş, Hasan Çalışkan

Glial hücre kökenli nörotrofik faktör ve altın nanopartikül uygulamalarıyla iyileştirilmiş biyoselüloz greftlerin periferik sinir hasarında kullanımı
Fatih Maral, Nermin Yasinoğlu, Fatih İçbudak, Sezin Çevik, Semra Ü. Yıldırım, Banu T. Karaca, Merve A. Elmas, Ümit S. Şehirli, Yasin Arifoğlu, Özlem Kirazlı

Taze kadavralarda arteria basilaris'in distal morfolojisi ve dallanma özelliklerinin incelenmesi
Emine Nas, Gkionoul Nteli Chatzioglou, Osman Coşkun, Ayşin Kale, Özcan Gayretli

Gergin omurilik sendromu ve eşlik eden diastometamiyeli'nin ilgili yapıların anatomik seviyeleri ve morfometrisi üzerindeki etkisine yönelik bir ön çalışma: yaş ve cinsiyete göre

retrospektif bir analiz
Betül Digilli Ayaş, Muhammed Ertuğrul Özbey, Zuhal Ak, Aynur Emine Çiçekcibaşı, Demet Aydoğdu

Parkinson hastalarında bilişsel bozukluk düzeylerinin subkortikal bazal ganglionların hacimleri ve korteks kalınlığı ile ilişkisinin incelenmesi
Necati Emre Şahin, Zülal Öner, Gülhan Ertan Akan, Lütfü Hanoğlu, Bünyamin Şahin

Özel Harekât Polis Memuru İlyas Kaygusuz Salonu

Oturum Başkanları:
Prof. Dr. Burak BİLECENOĞLU, Dr. Öğr. Üyesi Mehmet Ali GÜNER

Canalis nasopalatinus'un anatomik ve morfolojik özelliklerinin değerlendirilmesi
Ayşe Zeynep Yılmazer Kayatekin, Furkan Bodur, Anıl Didem Aydın Kabakçı, Duygu Akın Saygın, Cenk Murat Özer

Auricula'da nadir bir arteriyel varyasyon: rekonstrüktif cerrahiye yön veren bir olgu sunumu
Burak Karip, Fatma Ok, Fulya Temizsoy Korkmaz, Papatya Keleş

İkinci trimester abortuslarını öngörmede ilk trimester servikal uzunluk ölçümü ve kanamanın önemi
Rıza Aktepe, Ahmet Nuri Danışman

Arteria subscapularis'in anatomik ve morfometrik özellikleri
Fulya Temizsoy Korkmaz, Osman Coşkun, Özcan Gayretli, İlke Ali Gürses, Sevim Özdemir, Adnan Öztürk, Ayşin Kale

Arteria vertebralis'in seyrine bağlı varyasyonu
Yusuf Seçgin, Halil Şaban Erkartal, Şeyma Toy, Nevin Köremezli Keskin

Bilgisayarlı tomografi görüntülerinde tiroidektomi için güvenilir noktalar: Piramidal lob ve Zuckerkandl tüberkülü varlığı
Anıl Didem Aydın Kabakçı, Selma Yakan, Pınar Diydem Yılmaz, Mehmet Tuğrul Yılmaz

Mobil oyun destekli ayak egzersiz aparatının pes ekinovarus hastalarındaki dinamik supinasyon deformitesi üzerine etkisi
Bayram Ufuk Şakul, Osman Nuri Özyalvaç, Fatıma Sümeyye Bolat

16:00 - 16:10 Kahve Arası

16:10 - 17:20 SÖZLÜ BİLDİRİLER

Piyade Kurmay Yarbay İlker Çelikcan Salonu

Oturum Başkanları:
Prof. Dr. Mustafa BÜYÜKMUMCU, Doç. Dr. Serdar BABACAN

Cerrahi bakış açısı ile canalis infraorbitalis ile sinüs maxillaris arasındaki ilişkinin klinik korelasyonu: ön rapor

Simge Eşme, Gizem Kaya, Berin Tuğtağ Demir, Burak Bilecenoğlu, Kaan Orhan

Nonrekürren laringeal sinirin tiroid cerrahisi için önemi
Tural Baghirov, Serdar Babacan

Bir üniversite hastanesinin kulak burun boğaz polikliniğine başvuran hastaların musculus masseter ile os mandibulae'larının antropometrik ölçümlerinin mr görüntüleri kullanılarak değerlendirilmesi
Büşra Şahinoğlu, H. Bengü Yaldız Çobanoğlu, Polat Koşucu, Ali Faruk Özyaşar

Yetişkin erkek bireylerde farklı oklüzyon tiplerinin çiğneme kaslarına ve boyun kaslarına etkisinin araştırılması
Barış Çağrı Delilbaşı, Sümeyye Yahyaoğlu

Crista galli ve fossa olfactoria'nın kafa tabanı cerrahileri için klinik önemi: Bilgisayarlı tomografi ile radyolojik değerlendirme
Anıl Didem Aydın Kabakçı, Muhammed Ertuğrul Özbey, Duygu Akın Saygın, Abdullah Taha Talan, Ganime Dilek Emlik

Otopsi olgularında sella turcica'nın cinsiyete bağlı morfometrik özelliklerinin incelenmesi: bir ön çalışma
Ahmet Depreli, Mustafa Furkan Öztürk, Sefa Sönmez, Hüseyin Uğur Bakan

Endoskopik endonasal transsphenoidal yaklaşım perspektifinde septum deviasyonunun sphenoid sinus ile ilişkili anatomik yapılar üzerindeki etkisinin değerlendirilmesi: Bir ön rapor
Hilal Melis Altıntaş, Tuğçe Akın, İbrahim Hıra, Ali Köksal, Berin Tuğtağ Demir, Burak Bilecenoğlu

Özel Harekât Polis Memuru İlyas Kaygusuz Salonu

Oturum Başkanları:
Prof. Dr. Niyazi ACER, Dr. Öğr. Üyesi Hilal GÖREN

Mitral isthmus: vasküler yapıların morfolojik özellikleri ve sınıflandırılması
Buse Naz Çandır, Kader Yılar, Çağla Ergin, Özcan Gayretli

Çizim nöroanatomi öğrenimini kolaylaştırır mı? Beyin sapı örneği
Zekiye Karaca Bozdağ, Buse Naz Çandır Gürses

Epilepsili çocuklarda beyin yaşı tahmini: bir radyolojik anatomi çalışması
Tanju Özsoy, Özlem Öztürk Köse, Erdinç Tunç, Burak Karip, Selman Aktaş, Yunus Emre Akpınar

Arteria uterina'nın morfolojik ve morfometrik özelliklerinin değerlendirilmesi
Elif Bayraktar, Ayşin Kale, Özcan Gayretli

Bilgisayarlı tomografi görüntüleri ile vena portae hepatis dallanma paternlerinin incelenmesi
Bilge Türkmen, Mehmet Tuğrul Yılmaz, Duygu Akın Saygın, Cengiz Kadıyoran

Orificium zygomaticum'un kemik morfometrik özelliklerinin tanımlanması

Necati Salman, Mehmet Yılmaz

Otizmli bireylerde limbik sistemle ilgili yapılarının volümetrik olarak incelenmesi
Mazhar Özkan, Fatma Adıgüzel, Muhammed Taha Kara, Talha Bora Akpınar

17:20 - 19:00 ASİSTAN OKULU I
Prof. Dr. Çağatay BARUT, Prof. Dr. Güven ÖZKAYA, Dr. Öğr. Üyesi Sezer ERER KAFA

19:00 Açılış Kokteyli

31 OCAK 2025 - CUMA

09:00 - 10:00 PANEL: Anatomi Özelinde Yükseköğretimde Yapay Zekâ
Moderatör: Prof. Dr. Muzaffer ŞEKER
Prof. Dr. Bahadır GÜNTÜRK / İstanbul Medipol Üniversitesi
Prof. Dr. Mustafa ALDUR / Hacettepe Üniversitesi
Prof. Dr. Ahmet SINAV / Galata Üniversitesi
Prof. Dr. Turgay Bilgin TUGAY / Bursa Teknik Üniversitesi

10:00 - 10:15 Kahve Arası

10:15 - 11:30 PANEL: Multidisipliner Sinirbilim Araştırmaları
Moderatör: Prof. Dr. M. Ayberk KURT
Prof. Dr. M. Ayberk KURT / İstinye Üniversitesi
Prof. Dr. Özhan EYİGÖR / Bursa Uludağ Üniversitesi
Prof. Dr. Mehmet CANSEV / Bursa Uludağ Üniversitesi

11:30 - 12:00 POSTER SUNUMLARI (P11-P19)

12:00 - 13:30 Öğle Yemeği (Çamlık Yemekhanesi)

13:30 - 14:15 KONFERANS: Prof. Dr. İlkan TATAR
3D Anatomik Modelleme: Cerrahi planlama ve hibrit eğitimde uygulamalar. / Hacettepe Üniversitesi

14:15 - 14:45 KONFERANS: Öğr. Gör. Dr. Murat ŞEN, Öğr. Gör. Dr. Süleyman ÇEÇEN
3D Anatomik Modelleme: Klinik uygulama örnekleri. / Bursa Uludağ Üniversitesi

14:45 - 15:00 Kahve Arası

15:00 - 16:10 SÖZLÜ BİLDİRİLER

Piyade Kurmay Yarbay İlker Çelikcan Salonu

Oturum Başkanları:
Prof. Dr. İbrahim TEKDEMİR, Doç. Dr. Mehmet ÜZEL

Bilimsel makale yazımında yapay zekanın kullanılması
Alper Vatansever

Spinal travma hastalarında bilgisayarlı tomografi incelemesinde kırık varlığı ve kırık tipinin yapay zeka yöntemiyle belirlenmesi
Hilal Er Ulubaba, Rukiye Çiftçi, İpek Atik, Farah Ahmed Mohamed

Bursa Uludağ Üniversitesi kadavra bağış verileri ve bağış kadavraların kuruma ulaştırılmasındaki sorunlar
Kemal Gülşen, İlker Mustafa Kafa, Erdoğan Şendemir

Hemşirelik öğrencilerinin beceri uygulamalarında güvenli alanı belirlemek için kullandığı anatomik noktalara yönelik bilgi düzeylerinin incelenmesi
Nevnihal Akbaytürk, Şule Bıyık Bayram

Anatomi dersinde "Google Formlar" ve "Kahoot"
Ümmühan Yağmurkaya, Burak Bilecenoğlu

Parkinson hastalarında hippocampus, subiculum ve thalamus alt çekirdekleri hacimlerinin incelenmesi, pilot çalışma
Rumeysa Dikici, Büşra Candan, Hilal Geçgel, Meryem Aydoğan, Ayşe Karakuş, Dila Sayman, Burak Yuluğ

Özel Harekat Polis Memuru İlyas Kaygusuz Salonu

Oturum Başkanları:
Prof. Dr. Nadire ÜNVER DOĞAN, Dr. Öğr. Üyesi Ali Faruk ÖZYAŞAR

Arteria vesicalis superior dal sayısı ile arteria iliaca communis ve arteria iliaca interna uzunlukları arasındaki ilişki
Elif Toklu, Özcan Gayretli, Osman Coşkun

İnsan kadavra karaciğerinin morfolojik çalışması
Meryem Arıkan, Damla Bilge, Turgay Karataş

Suçun nörogelişimsel ve nöroanatomik temeli: Adli nörobilim ve nörokriminoloji
Serdar Babacan

Sert damak morfometrisi kullanılarak foramen palatinum majus' un lokalizasyonunun tahmin edilmesi: Pilot çalışma
Hilal Gören, Nilgün Tuncel Çini

Metatarsofalanegeal eklemi uyumlu halluks valgus hastasında birinci metatarsa kubbe temelli çift osteotomi tekniği: metatars proksimaline tam kubbe osteotomisi, metatars distalinde dorsale kubbe-plantara aksiyel osteotomi. Cerrahi teknik.
Kürşad Aytekin

Formaldehite maruz bırakılan sıçanların akciğer dokusunda ve serumlarında salbutamol'un phoenixin-14 seviyeleri üzerine etkisinin araştırılması
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17:45 KAPANIŞ

1 ŞUBAT 2025 - CUMARTESİ

Bursa Büyükşehir Belediyesi Bursa Gezisi

10:00 Hareket (Prof. Dr. Mete Cengiz Kongre Merkezi)
10:30 Cumalıkızık
12:00 Panorama 1326 Fetih Müzesi
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14:00 Öğle Yemeği
15:00 - 17:00 Ulucami - Koza Han - Tarihi Çarşı - Serbest zaman

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ORAL PRESENTATIONS

OP1

Relevance of time-dependent volume change of subcortical structures in relapsing remitting multiple sclerosis: morphological analysis with volbrain

Buket Kılıç[1,2], Ayla Tekin[2], Hüsnü Efendi[3], Sena Destan Bünül[3], Özgür Çakır[4], Tuncay Çolak[2]
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Objective: Multiple Sclerosis (MS) is a demyelinating and neurodegenerative disease affecting central nervous system. Relapsing Remitting Multiple Sclerosis (RRMS) is the most common subtype of MS, and subcortical volume loss is a significant marker for understanding prognosis of the disease and neurological symptoms. This study aimed to evaluate time-dependent changes by measuring volume differences in thalamus and nuclei basales using volBrain software on MR images of RRMS patients taken in three different years.
Materials and Methods: The study included 50 RRMS patients (age: 33.5 ± 6.3 years; 68% female, 32% male) and 50 healthy controls (age: 38.0 ± 5.8 years; 64% female, 36% male). T1-weighted brain MR images from 2017, 2019, and 2022 of RRMS patients and the most recent MR images of the control group were analyzed using volBrain software. Patients were divided into two groups based on disease duration: 0-5 years (52%) and 5-10 years (48%). Statistical analyses included Shapiro-Wilk test for normality, Mann-Whitney U, Friedman, and Dunn tests.
Results: Volumes of the thalamus, nucleus caudatus, and nucleus lentiformis in RRMS group were significantly lower compared to the control group ($p<0.05$). Significant volume loss was observed between the 1st and 3rd MR and the 2nd and 3rd MR ($p<0.05$), but the difference between the 1st and 2nd MR was not statistically significant ($p>0.05$). Volume loss rates were calculated as 5.49% for the thalamus, 5.64% for the nucleus caudatus, and 4.35% for the nucleus lentiformis. Atrophy was observed across disease duration groups, but this difference was not statistically significant ($p>0.05$).
Conclusion: Volume losses in the thalamus and nuclei basales indicate significant atrophy in these structures in RRMS patients. MS has been shown to cause subcortical atrophy, affecting brain structure and function. VolBrain software, with its speed, accuracy, and reliability, distinguishes this study in literature and provides clinically relevant data.

Keywords: relapsing, remitting, multiple sclerosis, volbrain, subcortical volume

OP2

A rare arterial variation in the auricula: a case report guiding reconstructive surgery

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Objective: Anatomical variations of the external carotid artery branches are of significant importance, particularly in head and neck surgery. Cadaveric dissection is one of the most effective methods for identifying these branches. Understanding the potential variant conditions of these branches is crucial in guiding clinicians during surgical interventions. This case report describes an artery that could be considered a variant of the posterior auricular artery.

Case: During a dissection of a male cephalus cadaver for educational purposes, an atypical variation originating from the external carotid artery was observed while examining its branches. This branch was noted to proceed perpendicularly from its origin towards the surface, then traversing the parotid gland before becoming more superficial and continuing towards the lobule of the auricle. This branch, which could be considered a variant of the posterior auricular artery, was observed to run parallel to the ramus of mandible above the parotid gland and subsequently divide into smaller vessels supplying the posterior portion of the auricle and the lobule. Additionally, branches were noted to distribute to the cartilage tissue over the lobule and the surface of the parotid gland. The entire course of the artery was documented with photographs.

Conclusion: Understanding the vascular architecture of the auricula, particularly the anatomical variations of the posterior auricular artery and the superficial temporal artery, is critical in developing surgical procedures such as ear reconstruction and microtia treatment. Observing this unusual arterial structure is expected to contribute to a better understanding of the vascular complexity in this region. Accurate identification and preservation of these anatomical variations could be critical in reducing surgical complications and achieving successful outcomes in treating congenital anomalies, especially in microsurgical procedures. Advanced imaging techniques and surgical approaches may help to improve patient outcomes.

Keywords: external carotid artery, variation, auricle

OP3

The importance of first trimester cervical length measurement and bleeding in predicting second trimester abortions

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[2]Department of Obstetrics and Gynecology, Bayındır Sögütözü Hospital, Ankara, Türkiye

Objective: It was aimed to investigate the importance of evaluating the amount and characteristics of vaginal bleeding together with cervical length measurement by TV USG in predicting second trimester abortions in imminent abortions at 11-14 weeks of gestation.
Material and Methods: 246 pregnant women with bleeding complaints in the 11th-14th weeks of pregnancy and 227 pregnant women without bleeding complaints participated in the study. Pregnant women with chronic diseases, habitual abortion history, previously diagnosed cervical insufficiency, history of uterine/cervical surgery such as conization and septum resection, and congenital anomalies were excluded from the study. Cervical lengths of pregnant women were measured in mm (millimeters) with TV USG once they were accepted to the study; the color, duration, and amount of vaginal bleeding were evaluated.
Results: The pregnancies of 11 (2.3%) of the 473 pregnant women participating in the study ended in abortion. Mean cervical length measurements were measured as 41.85 ± 2.33 mm in the abortion imminence group and 43.03 ± 2.05 mm in the control group, respectively. As a result of the evaluation performed with ROC (Receiver operating characteristic) analysis, it was seen that cervix length at 11-14 weeks of gestation in those with bleeding had diagnostic value in predicting second trimester abortions [Area Under the Curve = 0.71, 95% Confidence Interval: 0.58-0.84, p = 0.025]. When the cervix length cut-off value was taken as 41.5 mm, sensitivity was 80%, specificity was 58%, positive predictive value was 7% and negative predictive value was 99%.
Conclusion: It was found that in pregnant women with a cervix length of ≤ 41.5 mm measured at 11-14 weeks, vaginal bleeding was more valuable in predicting abortions when evaluated together with its severity and duration.

Keywords: abortion, cervix length, vaginal bleeding

OP4

Comparison of traditional methods with the use of 3D software in the education of topographic anatomy of gluteal region in medical school

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Objective: The aim of this study is to compare classical education with anatomy education using 3D anatomy software in teaching gluteal region topographic anatomy and to investigate students' attitudes towards each method.
Materials and Methods: A total of 126 students were first taught the theoretical lesson "regio glutealis" for 2 hours. Then, 62 of the students were randomly divided into two groups and participated in laboratory course training with cadavers in small groups; 64 people were also taken to 3D virtual anatomy course (Cyber Anatomy 3D) training in small groups. All students participating in the study were given a common exam including cadaver images, 3D virtual anatomy images and theoretical questions after the completion of their theoretical and practical training. After the exam, a survey consisting of 15 questions was conducted to evaluate the students' perceptions and thoughts about the laboratory course they took.
Results: The average exam performance score of the students in the group receiving anatomy training with cadavers was 76.69 (Std ± 15.295); The average exam performance score of the students who received 3D virtual anatomy training was found to be 81.29 (Std ± 17.152) ($p > 0.05$). There was no statistically significant difference in education method satisfaction scores and discomfort scores calculated according to the results of the survey assessing students' positive and negative thoughts about learning methods ($p > 0.05$).
Conclusion: Although anatomy education with cadavers still maintains its place and importance in anatomy education as the gold standard method; new technologies such as 3D cyber anatomy are also recognized as useful teaching tools. However, since the results of this study are limited to the anatomy of the gluteal region, further research on this subject, covering the entire anatomy curriculum and being multicenter, is needed.

Keywords: 3D, anatomy education, gluteal region

OP5

Evaluation of sacroiliac joint variations according to gender and lateralization

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Objective: To identify variations in the sacroiliac joint (SIJ) to evaluate these variations according to gender and lateralization, and to investigate the relationship between the identified sacral types and these variations.
Materials and Methods: The study was performed retrospectively on the abdominal CT images of 100 patients (51 males, 49 females) over 18 years of age who were admitted to different clinics with any complaint between 2019 and 2024. Sacrum types were determined according to the presence and morphology of the discus intervertebralis by fixing the S1-S2 vertebra in the sagittal sections with a slice thickness of 1.5 mm in the PACS archive. Variations of the SIJ were identified on axial sections at the same level. The distribution of variations according to gender and lateralization, as well as their relationship with sacral types, was statistically analyzed using the SPSS program.
Results: According to the S1-S2 discus intervertebralis morphology classification, the most common type 2 sacrum (disc not filling the intervertebral space) (50%) and the least common type 3 sacrum (disc filling the intervertebral space) (1.7%) were found. SIJ variations were detected in 60% of the patients (male 22.5%, female 77.5%). Variations included accessory SIJ (36%), semicircular defect (33%), iliosacral complex (22%), bipartite complex (5%), crescentric defect (3%) and persistent ossification center (1%). The frequency of variation was statistically significantly higher in female ($p<0.05$). No difference was found according to lateralization. SIJ variations were 16% unilateral (7 male, 9 female) and 44% bilateral (15 male, 29 female). There was no statistically significant correlation between the sacrum types and the variations determined ($p>0.05$).
Conclusion: The findings on the presence of SIJ variations differ in the literature. Considering these variations in the interpretation of radiological images will provide a basis for diagnosis and treatment planning.

Keywords: variation, sacroiliac joint, sacral types

OP6

Investigation of the effect of on phoenixin-14 levels in lung tissue and serum of rats exposed to formaldehyde

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Objective: Anatomists are exposed to high concentrations of formaldehyde due to their work. In experimental studies, both salbutamol and phoenixin-14 have been reported to be associated with the inflammatory process. In this study, the effect of salbutamol on phoenixin-14 levels in lung tissue and serum of rats exposed to formaldehyde was investigated.
Materials and Methods: In the study, 28 male Sprague-Dawley rats were used and the rats were divided into 4 groups. Group I (Control), Group II (Salbutamol), Group III (Formaldehyde), Group IV (Formaldehyde + Salbutamol). Formaldehyde exposure was administered by inhalation at 10 ppm (8 h/day, 5 days/week) for 4 weeks, while salbutamol was administered orally at 4 mg/kg/day, 5 days/week (Monday-Friday) for 4 weeks. Phoenixin-14 levels were determined by ELISA method using a rat phoenixin-14 ELISA kit obtained from Sunred Biological Technology Co. Ltd. (Shanghai, CHINA) in accordance with the procedures described in the manufacturer's catalogue (catalogue no: 201-11-4475). SPSS 22 package programme was used for data analysis.
Results: Both lung and serum phoenixin-14 levels were close to each other in control and salbutamol groups ($p>0.05$). Phoenixin-14 levels were significantly decreased in the formaldehyde group (serum: 174.26±20.75 pg/ml, lung: 265.01±44.09 pg/ml) compared to the control group (serum: 246.8240±20.31 pg/ml, lung: 332.10±47.55 pg/ml) ($p<0.05$). In the formaldehyde + salbutamol group (serum: 218.5675±2.30 pg/ml, lung: 305,4150±15.95), phoenixin-14 levels increased compared to the formaldehyde group, but this increase was not significant ($p>0.05$).
Conclusion: In this study, it was found that formaldehyde exposure significantly decreased phoenixin-14 levels in lung tissue and serum, while salbutamol increased this decrease caused by formaldehyde, but this increase was not significant.

Keywords: phoenixin-14, salbutamol, formaldehyde

OP7

Structured anatomy practice exam (SAPE): Muscle and neuroanatomy example

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Objective: To create and discuss the feasibility of SAPE model to measure students' ability to correctly identify anatomical structures and to reinforce their theoretical knowledge.
Materials and Methods: In the 2024-2025 academic year, SAPE was administered at the end of the 2nd year muscular and neuroanatomy boards of the medical school. In this exam, three stations were created in which each student would be evaluated based on standardized criteria and the change of station were made with the computer's audible warning. The first station included spot questions (4 or 6) wand students wrote their answers on the exam paper. In the second station, the students showed the anatomical structures and four additional formations, which were the answers to the questions in the first station, on the models to the lecturer at the station. Meanwhile, the lecturer marked the answers as true-false. At the third station, students were asked to write two anatomical structures marked on the cadaver on the exam paper and their answers were marked as true or false. The markings on the exam paper were completed at the end of the exam. A 16-question web-based survey was administered to post-SAPE students.
Results: It was determined that 98.3% of the participants stated that they were satisfied with the new exam system, but according to the average score of the scales, the participants were undecided in terms of satisfaction with the new exam (mean: 3.28). Muscle SAPE evaluations were more positive. In Neuro SAPE, stress was reported to be higher, especially in terms of the number of models at the station and the attitude of the instructors. When the SAPE results were compared with the previous year's with bell exam results, a balanced distribution was observed in the feasibility of the questions.
Conclusion: It was concluded that SAPE made the difference between the students who studied regularly from the beginning of the board and the students who studied in the last weeks evident, but increased the stress level in the board where the number of subjects and related models was high.

Keywords: structured anatomy practice exam, multidimensional assessment, show and write

OP8

Investigation of changes in volume and cortical thickness of the temporal and occipital lobes in a single healthy male between the ages of 29 and 46

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Objective: Neuroplasticity reorganizes neuronal connections throughout life, while neurogenesis generates new neurons, active during embryonic period but limited in adulthood. Neuroplasticity may affect substantia alba, while reduced neurogenesis in adulthood may alter substantia grisea. This study examines changes in temporal and occipital lobe volume and cortical thickness in a healthy male aged 29–46.

Materials and Methods: SIMON dataset, containing 73 anatomical T1-weighted Magnetic Resonance Imaging sessions of a single healthy male volunteer aged 29-46, was analyzed. Five images were excluded due to insufficient segmentation quality, as assessed by three anatomists, leaving 68 MR images for analysis. Volume and cortical thickness data of the temporal and occipital lobes were obtained using the Vol2Brain automated brain segmentation tool. Relationships between age and these structural parameters were analyzed using the SPSS software.

Results: Age correlated positively with total substantia alba volume, the substantia alba/grisea volume ratio, cerebrum substantia alba volume, cerebellum/cerebrum substantia grisea and alba volume ratios ($p<0.05$), and cerebellum substantia alba volume ($p<0.01$). Negative correlations were found between age and occipital lobe cortical thickness, fusiform gyrus, middle occipital gyrus, temporal pole ($p<0.05$), and transverse temporal gyrus thickness ($p<0.01$). Temporal and occipital lobe volumes showed no significant age-related changes ($p>0.05$).

Conclusion: While no significant changes were observed in the total volume of substantia grisea with age, the significant positive changes in the total volume of substantia alba and the ratio of total substantia alba to substantia grisea volumes suggest an increase in white matter volume with advancing age. Cerebellum white matter changes were more significant than in the cerebrum. Although the total volumes of the temporal and occipital lobes remained stable with age, cortical thinning in certain subregions indicates localized structural changes. These findings suggest neuroplasticity focuses on white matter, and cortical thinning by reduced neurogenesis may begin earlier than expected.

Keywords: cortical thickness, temporal lobe, occipital lobe volum

OP9

The comparison of myotonometric properties of triceps and biceps brachii muscles in stroke patients with mild and moderate shoulder pain

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Objective: The aim of this study was to investigate myotonometric changes in the biceps brachii (BB) and triceps brachii (TB) muscles in relation to shoulder pain (SP) after stroke and to determine the viscoelastic differences according to pain severity.
Materials and Methods: It was conducted on 45 patients who had experienced their first-ever stroke, 3-9 months prior. They were allocated into the painless group (CG,n=15, 54.93±12.71 years,5M/10F), mild SP group (MiPG,n=16, 56.25±15.15,10M/6F), and moderate SP group (MoPG,n=14, 60.57±14.86, 9M/5F) using the Visual Analog Scale. The muscle tone, stiffness and elasticity of BB and TB muscles were evaluated with the MyotonPro® (Myoton AS, Estonia) device. Intra-group (Kruskal–Wallis) and inter-group (Mann–Whitney U) comparisons were done.
Results: The tone of the muscles on both sides in all groups was similar ($p>0.05$), but not on the affected and unaffected sides in the painless group in terms of triceps muscles. The TB tone of the CG was higher on the affected sides ($p=0.041$). The tones of BB and TB muscles were different between the groups ($p<0.05$). The stiffness of BB muscle was higher on the unaffected sides of MiPG and CG ($p<0.05$). There was a difference between the CG and patients with shoulder pain for the affected and unaffected sides in BB stiffness, it was higher in the CG ($p<0.05$). The TB stiffness of the groups on both sides was similar, and there was also no difference between group values ($p>0.05$). The elasticity of TB is higher on the unaffected sides of MiPG and CG ($p<0.05$). The BB and TB elasticity was similar to groups ($p>0.05$).
Conclusions: Significant differences were observed between individuals with shoulder pain following hemiplegia and the pain-free control group. The results indicate that muscle tone and myotonometric characteristics may change in relation to pain after hemiplegia.

Keywords: shoulder pain, musculus biceps brachii, musculus triceps brachii

OP10

The hip joint morphology in asymptomatic femoroacetabular ımpingement syndrome: A three-dimensional computed tomography evaluation

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Objective: The objective of this study was to evaluate the congruence between the articular surfaces of the hip joint in three dimensions regarding femoroacetabular impingement syndrome, to detail the morphology of asymptomatic hip joints that may have impingement, and to examine the frequency of femoroacetabular impingement syndrome.

Materials and Methods: Retrospective three-dimensional reconstructions of 86 hip joints were performed using Mimics software from computed tomography (CT) scans of the lower abdomen and pelvis obtained from hospital records without fracture, and with preserved anatomic integrity were performed using Mimics software, (20 females, 23 males, bilateral), aged between 24 and 76 years. To define asymptomatic femoroacetabular impingement syndrome, the average measurement data of the lateral center angle (LCA) and alpha angle were obtained from three-dimensional CT images, and differences based on gender and side (left/right) were evaluated. Through detailed morphological examination of the CT images and three-dimensional reconstruction of the images, the measurement data of the LCA and alpha angles were statistically analyzed to determine the presence or risk of femoroacetabular impingement syndrome.

Results: Significant gender differences were observed in alpha angle measurements. The mean right alpha angle was 46.57±3.12° in females and 49.28±6.66° in males (p=0.046), while the mean left alpha angle was 43.75±5.53° in females and 47.37±5.77° in males (p=0.021). An alpha angle >50°, indicative of potential FAS, was observed in 25.6%of right hips and 13.9% of left hips. LCA values showed no significant differences by gender or side, with a mean value of 30.21±8.96° for both genders.

Conclusion: Three-dimensional hip joint evaluations revealed that morphological differences related to FAS might exist asymptomatically. These findings enhance the understanding of hip joint morphometry and its role in identifying individuals predisposed to FAS, supporting early recognition and intervention strategies.

Keywords: femoroacetabular impingement syndrome, three-dimensional reconstructions, the articular surfaces

OP11

AI-assisted education: Performance and validity of AI models in preparing anatomy lecture notes for medical school

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Objective: This study aims to evaluate the potential of AI models in developing educational materials. Specifically, it examines the contribution of AI-supported tools to the process of creating lecture notes in knowledge-intensive fields for medical students. The study investigates the adequacy of various AI models in providing theme- and subtheme-level information and analyzes their integration into the educational material preparation process.
Materials and Methods: Four different AI models—CHATGPT 4, CHATGPT 4o Mini, COPILOT, and GEMINI—were tasked with preparing anatomy lecture notes for medical students. In the first stage, lecture note materials generated by the AI models using identical prompts were analyzed using thematic analysis. In the second stage, the CVI (Content Validity Index) method was applied to evaluate the content validity of the generated materials.
Results: CHATGPT 4 demonstrated the highest performance, achieving a theme success rate of 94.6% and a subtheme success rate of 76.2%, along with the highest content validity scores (S-CVI/Ave: 0.952, S-CVI/UA: 0.857). CHATGPT 4o Mini achieved a theme success rate of 89.2% and a subtheme success rate of 62.3%, but its validity scores were comparatively lower (S-CVI/Ave: 0.810, S-CVI/UA: 0.714). COPILOT and GEMINI exhibited limited subtheme success rates of 54.9% and 52.3%, respectively, and demonstrated low content validity scores (COPILOT: S-CVI/Ave: 0.524, GEMINI: S-CVI/Ave: 0.286).
Conclusion: The thematic analysis and CVI evaluations revealed that the AI models generally achieved high success at the theme level but showed variability in comprehensiveness and accuracy at the subtheme level. CHATGPT 4 proved to be the most effective model in terms of both content coverage and validity, indicating its potential as a useful tool in lecture note preparation. However, the limited sub-theme scope and low content validity of other models indicate that these tools, in their current form, may not be sufficient on their own for preparing educational content. Future studies could focus on optimizing these models specifically for the field of education.

Keywords: education, artificial intelligence, medical school

OP12

Evaluation of anatomical and morphological features of the nasopalatine canal

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Objective: This study aimed to evaluate the anatomical and morphological characteristics of the nasopalatine canal (NPC) in the Turkish population, contributing to a better understanding of this region before surgical and clinical procedures.
Materials and Methods: The retrospective study analyzed computed tomography (CT) images of individuals who underwent head imaging at Zonguldak Bülent Ecevit University Hospital between 2015 and 2021. A total of 200 individuals (100 males, 100 females) aged 18-73 years, with no lesions affecting the evaluation of the NPC, were included. Measurements, including NPC length, shape, angle, inclination, and the number and diameters of nasal fossa openings, were performed using Osirix MD v.10.0.4 software.
Results: In females, the most common NPC type was Hourglass (40.0%), followed by Spindle (32.0%), Cylindrical (16.0%), Funnel (11.0%), and Inverted Funnel (1.0%). In males, the most frequent types were Hourglass (39.0%) and Spindle (32.0%), followed by Cylindrical (21.0%) and Funnel (8.0%). No statistically significant differences were observed between genders regarding age groups, NPC type, or the number of nasal fossa openings ($p>0.05$). However, males exhibited significantly larger NPC lengths (LNPC) and foramen incisivum anteroposterior diameters (IF-APD) compared to females ($p<0.05$). Among females, IF-APD increased from the 18-34 age group to the 35-50 age group but decreased in the 50-73 age group ($p<0.05$). No statistically significant differences in these parameters were observed among males ($p>0.05$).
Conclusion: This study demonstrated that the anatomical and morphological characteristics of the NPC may vary based on gender and age. The significantly larger LNPC and IF-APD values in males and the age-related changes in IF-APD in females highlight the importance of considering these parameters in surgical planning, implant placement, and other clinical applications.

Keywords: the nasopalatine canal, Turkish population, morphology

OP13

The use of artificial ıntelligence in scientific article writing

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Objective: This study aims to examine the applications, advantages, and potential limitations of artificial intelligence (AI) technologies in scientific article writing, evaluating current practices and providing future recommendations for researchers.
Materials and Methods: A literature review was conducted on scientific articles published between 2018 and 2024. The study focused on the impact of AI technologies, such as natural language processing (NLP), machine learning (ML), and neural networks, on scientific writing processes. The evaluation criteria included literature review, reference management, data analysis, abstract preparation, language editing, and article review processes. Data were collected from databases such as PubMed, Scopus, and Google Scholar and analyzed using content analysis.
Results: The analysis indicates that AI significantly enhances efficiency in scientific writing processes and optimizes time management for researchers. Tools such as ChatGPT, Grammarly, and Zotero were found to be widely used in abstract preparation, language editing, and reference management. However, limitations were noted, including the inability of machine learning models to fully reflect subjective evaluations and the emergence of ethical concerns.
Conclusion: AI technologies have the potential to streamline and accelerate scientific writing processes. However, their limitations and ethical implications must be carefully considered. Researchers can leverage the benefits of AI to contribute to more efficient and effective scientific production. In the future, broader studies are needed to better understand the impact of AI in the field of scientific writing.

Keywords: artificial intelligence, scientific article, writing

OP14

The effect of 3D (three dimensional)-anatomy application on practical exam success

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Objective: Practical anatomy education involves demonstrating human body structures using cadavers. This training is enhanced through models and mannequins and further developed with three-dimensional computer programs enabled by modern technology. In the Department of Anatomy at Cerrahpaşa Faculty of Medicine, unique lecture materials were created using the "Complete Anatomy" application. These materials correlated with the structures demonstrated in the practical lab and consisted of video content with supplementary interactive screens, allowing students to manipulate and examine structures in detail. This study aimed to measure the impact of these hybrid educational materials on students' practical anatomy exam success.
Materials and Methods: This study included 288 third-year medical students in the Turkish Medicine Program at Cerrahpaşa Faculty of Medicine who participated in the Topographic Anatomy practical exam during the 2023-2024 academic year. Scores from a 16-point section of the practical exam based on Complete Anatomy visuals were collected. Data on how much lecture content students viewed, completed, and reviewed within the application were recorded. Additionally, students' general grade point averages (GPA) were obtained through the university's AKSİS system. Correlations between students' overall academic success, topographic anatomy practical exam performance, and participation in the Complete Anatomy lectures were analysed. Statistical analysis was performed using SPSS software, employing the bivariate Pearson correlation coefficient.
Results: The study analysed the correlation between students' viewing rates of the Complete Anatomy lectures and their performance in answering exam questions based on Complete Anatomy visuals, cadavers and models, considering their GPA. All partial correlation results showed a significant but low positive relationship with viewing rates when GPA was included. When GPA was excluded, the results of the bivariate Pearson correlation coefficient were found to be higher.
Conclusion: Our study supports that practical lecture content prepared using 3D software and visual resources (e.g., videos, and photographs) contributes positively to exam performance.

Keywords: three dimensional, anatomy, exam success.

OP15

Anatomical and morphometric features of the subscapularis artery

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Objective: Anatomy and variations of subscapular artery are important for clinical and surgical approaches. However, researches about anatomy and morphometric parameters of subscapular artery aren't enough. That is why exploring subscapular artery was aimed.

Materials and Methods: Our study was planned as both a cadaveric and radiological study. For the cadaveric study, bilateral dissections were performed in 28 cadavers used in educational activities at the Department of Anatomy, Istanbul University, Istanbul Faculty of Medicine, Istanbul. For radiological evaluation, 25 cases with contrast-enhanced thoracic computed tomography examination were retrospectively scanned bilaterally and included in the study, after obtaining ethics committee approval (30.09.2020-188035). The subscapular artery, anterior and posterior humeral circumflex arteries which all originate from third part of axillary artery were examined. The close relation between subscapular artery and radial nerve was also examined. The initial diameter of subscapular artery, length of subscapular artery up to exit of circumflex scapular artery, initial diameters of thoracodorsal artery and circumflex scapular artery were all measured with digital calipers.

Results: Average values for cadaveric samples were 4.1±0.7 mm, 17.1±6.3 mm, 2.6±0.5 mm, 3.1±0.8 mm respectively whereas average values for radiological samples were 3.9±0.7 mm, 24.3±4.1 mm, 2.2±0.4 mm, 2.5±0.3mm respectively. According to branching morphology of third part of axillary artery; 35.2% of cases were type-1; 31.5% of cases were type-2; 22.2% of cases were type-3; 7.4% of cases were type-4 respectively in cadavers. In radiological samples; 82% of cases were type-1; 2% cases were type-4 and 4% of cases were type-5 (only one case, bilaterally) respectively.

Conclusion: We believe that detailed description of subscapular artery itself, branch variations, morphometric measurements and relations of it we have provided, will be helpful for surgical approaches.

Keywords: the subscapularis artery, variations, anatomy

OP16

Does handgrip strength and body mass ındex reflect aggression?

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Objective: Aggressive behaviors are frequently researched topics that vary in terms of their causes and the ways they are expressed. One method of assessing aggression, which includes types such as physical, verbal and indirect aggression, hostility and anger, is the aggression scale Buss-Perry. In this study, we evaluated total aggression and its subdimensions measured by the scale, together with hand grip strength (HGS) and body mass index (BMI) in gender differences, it was aimed to reveal the physical indicators that affect the emergence of unwanted aggression-type behaviors and are associated with such tendencies.
Materials and Methods: 156 participants (85 female, 71 male) from Hitit University Faculty of Arts and Sciences were included in the study on a voluntary basis. Aggression subdimensions were measured with the HGS hydraulic dynamometer and the Buss-Perry aggression scale, height was measured with a stadiometer and weight was measured with a scale sensitive to 100gr.
Results: The anger subdimension score of the aggression scale was found to be significantly higher in women than in men ($p<0.00$). Verbal aggression score was significantly higher in men than in women ($p=0.006$). Physical aggression scores in both women and men differed significantly across BMI groups ($p=0.017$). In men, the physical aggression score of underweight individuals was lower than in overweight and obese people, while it was significantly lower than in normal weight people ($p=0.04$). In women, weak positive correlations were found between the Buss-Perry total score, anger, verbal aggression, and left HGS ($p=0.018$, $p=0.021$, $p=0.037$), while in men, weak negative correlations were observed between verbal aggression and right/left HGS ($r=0.446$,$r=0.367$).
Conclusion: The negative correlation observed in men with verbal aggression attributed to women in shows that men with low HGS prefer verbal aggression. There are positive significant differences between BMI and HGS.

Keywords: handgrip, aggression, body mass index

OP17

Course-dependent variation of the vertebral artery

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Objective: The vertebral artery originates from the subclavian artery and enters the cranium through the foramen magnum, passing through the transverse foramen of the cervical spine except the seventh cervical spine. The aim of this study was to determine the variations of the arteria vertebralis during its anatomical course.
Material and Methods: The study was performed retrospectively on Computed Tomography (CT) angiography images of 258 individuals aged 18-90 years. A total of 516 right and left vertebral artery were analysed for variations.
Results: It was found that 3 vertebral artery entered the transverse foramen at the level of the 3rd cervical spine, 2 vertebral artery entered the transverse foramen at the level of the 4th cervical spine, and 13 vertebral artery entered the transverse foramen at the level of the 5th cervical spine.
Conclusion: As a result of the study, it was found that the vertebral artery entered the transverse foramen variationally at the level of the 3rd, 4th and 5th cervical spine. We believe that these results will contribute to surgical interventions, physiotherapy applications and anatomy knowledge in this region.

Keywords: the vertebral artery, variation, angiography

OP18

Dome-based double osteotomy technique for the first metatarsal in a patient with hallux valgus with congruent metatarsophalangeal joint: full dome osteotomy to proximal metatars and dorsal dome-plantar axial osteotomy to distal metatars. Surgical technique

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Objective: Hallux valgus (HV) is a deformity characterized by an increased intermetatarsal joint angle (IMA) and first metatarsal-to-thumb angle (HVA). In cases with preserved first metatarsophalangeal joint congruency, the distal metatarsal joint angle (DMEA) is high and double osteotomy is necessary. Because while single osteotomy corrects the deformity, it may disrupt the joint alignment and cause osteoarthrosis and pain. Therefore, open/closed wedge double osteotomy of the metatarsal has been described, those are technically easier but more unstable osteotomies compared to dome osteotomies. The risk of extension of the distal metatarsal osteotomies to the sulcus sesamoideus and avascular necrosis of the metatarsal head may cause patient dissatisfaction. For this reason, a technique in which the distal osteotomy is performed in a reverse-L shape has been described. However, the reverse-L osteotomy technique is also a closed wedge ostetomy. In this presentation, the types of hallux valgus, current surgical techniques and our newly described osteotomy technique will be discussed.
Case: The anteroposterior radiograph of the foot taken in standing position showed IMA 160, HVA 300 and DMEA 310. At the distal metatarsal, dome osteotomy was performed on the dorsal cortex and axial osteotomy was performed on the plantar cortex. Subsequently, fixation was provided with a double mini plate according to the 90-90 technique. Her AOFAS-MTP-IF score increased from 28 to 82 preoperatively. Postoperative IMA was 7.50, HVA 150 and DMEA 60.
Conclusion: The most important advantages of curernt technique are low risk of reduction loss and nonunion due to its stability, avascular necrosis, higher probability of early union due to the high contact surface, no need for graft, not extending to the sulcus sesamoideus. The technique we described is useful in HV patients with high DMEA.

Keywords: hallux valgus, osteotomy, surgical technique

OP19

Evaluation of distal morphology and branching patterns of basilar artery in fresh cadavers

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Objective: We aimed to evaluate the anatomical and morphological features of the branching patterns in the distal region of the basilar artery, to reveal the morphological variations and to relate the obtained data to the applications in the diagnosis and treatment of the pathologies of this artery.
Materials and Methods: This study was conducted at the Morgue Department of the Forensic Medicine Institute of the Ministry of Justice of the Republic of Türkiye. 184 (38 female, 146 male) fresh cadavers brought for autopsy were included in the study. Cadavers whose brain tissue integrity was intact and whose arteries were not damaged due to reasons such as gunshot wounds, falls from heights, traffic accidents, trauma, etc. were included in the study. Cadavers whose brain tissue integrity was impaired and cadavers under the age of 18 were not included in the study. The brains were examined using a routine autopsy procedure. The arachnoid mater overlying the arteries was carefully removed, and the branching pattern distal to the basilar artery was photographed and recorded in detail.
Results: In 184 cadavers included in the study, the morphology of the branching pattern of the basilar artery was revealed and the observed variations were recorded. Bifurcation, trifurcation, quadrifurcation, pentafurcation and hexafurcation were observed in the basilar artery as 36.96%, 15.76%, 33.7%, 11.41% and 2.17%, respectively.
Conclusion: Anatomical variations of the basilar artery are associated with an increased incidence of vascular lesions such as aneurysms and hemorrhages. The different branching pattern in the distal part of the basilar artery may expose the artery to abnormal blood flow, which may lead to atherosclerotic changes and aneurysms. At the same time, the different branching patterns in the distal part of the artery may compress the oculomotor nerve and cause nerve dysfunction. For these reasons, researching and learning the normal anatomy of the basilar artery as well as the existing variations is extremely important for radiological and surgical interventions planned for this region.

Keywords: the basilar artery, fresh cadavers, branching pattern

OP20

Sex-dependent variations in artemin levels across neuroanatomical regions in adult rats

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Objective: Artemin is a glial cell-line-derived neurotrophic factor family ligand. The aim of this study was to investigate the effect of sex on artemin levels in different neuroanatomical regions.
Materials and Methods: 10 male and 10 female Wistar Albino adult rats were used (Balıkesir University, Ethics committee permission: 2024/4-3). Subjects were sacrificed under 50 mg/kg ketamine + 10 mg/kg xylazine anesthesia. After sacrification, the prefrontal cortex, striatum, thalamus, hypothalamus, hippocampus, cerebellum, mesencephalon, lobus parietalis, lobus occipitalis, and serum of each were prepared for ELISA.
Results: In the prefrontal cortex, cerebellum, and mesencephalon, male rats had significantly higher levels of artemin than female rats ("t-test," $p<0.001$). In addition, artemin levels were significantly higher in the lobus parietalis of male rats ("t-test," $p<0.05$). Artemin levels in the cerebellum were significantly lower than artemin levels in the striatum, thalamus, hypothalamus, and hippocampus in female rats ("one-way ANOVA", $p<0.0001$). Similarly, in female rats, cerebellum artemin levels were significantly lower than the prefrontal cortex, lobus occipitalis, and serum artemin levels ("one-way ANOVA", $p<0.005$). In addition, cerebellum artemin levels were significantly lower than lobus parietalis and mesencephalon artemin levels in female rats ("one-way ANOVA", $p<0.001$, $p<0.05$). No significant difference was found between brain regions and serum artemin levels in male rats.
Conclusion: Many previous studies have reported that neurotrophic factor levels differ across brain regions depending on sex. This study revealed that the level of artemin, a neurotrophic factor, in some brain regions differed depending on sex. These findings may explain why susceptibility to neuropsychiatric disorders varies by gender and may provide new therapeutic targets for these disorders. It is interesting to note that artemin levels in the cerebellum were lower than artemin levels in other brain regions and serum in female rats. More research is needed to explain why this is the case.

Keywords: variations, artemin, neuroanatomy

OP21

Relationship between the branches of the superior vesical artery and the lengths of the common iliac and internal iliac arteries

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Objective: This study was performed to determine the number of superior vesical artery branches and the distances between the origin points of these branches. The relationship between the number of branches and the common and internal iliac artery lengths was also evaluated.
Materials and Methods: Ethical approval of the study was obtained from the Istanbul University, Istanbul Faculty of Medicine Clinical Research Ethics Committee (28.01.2022, No: 2022/153). A total of 102 human cadavers (50 females, 52 males) were examined bilaterally at the Istanbul Forensic Medicine Institute. The age range varies between 18 and 96 (53.04±23.08) for females and between 20 and 89 (45.83±18.37) for males. The lengths of common and internal iliac arteries were measured and the points of origin of superior vesical artery arising from arteria umbilicalis were determined.
Results: It was determined that number of superior vesical artery branches varied between 1 and 4. The most common number of branches was 2, in 51 (49%) males and 47 (47%) females. When the distance between origin of the umbilical artery and origin of the first superior vesical artery was compared between the genders, a significant difference was found on both the right and left sides ($p=0.001$). This distance was greater in females than in males. The distance between the beginning of umbilical artery and origin of the most distal superior vesical artery was significantly different between right and left sides in all cadavers ($p=0.043$). This distance was greater on left side than on the right side. The mean value of the length of the internal iliac artery was not significant for number of branches in females, whereas the number of branches increased with increasing length in males.
Conclusion: We believe that our study results will guide clinicians in bladder-oriented pelvic surgeries, oncological treatments, endovascular operations, and interventional radiological treatments.

Keywords: superior vesical artery, common iliac artery, internal iliac artery

OP22

Morphological study of human cadaver liver

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Objective: Knowledge of normal and variation anatomy of the liver is important during radiological examination and surgery. Variations in liver morphology may be congenital or acquired. Congenital abnormalities of the liver include agenesis, atrophy or hypoplasia of lobes, accessory lobes, accessory fissures. The aim of this study was to analyze the morphological measurements of the liver.
Materials and Methods: This study was conducted on 4 human cadaver livers at the Inonu University Cadaver Dissection Laboratory. Here, the demographic characteristics and morphometric measurements of the cadavers were evaluated. Morphometric measurements were recorded in millimeters (mm) by measuring both with sutures and digital calipers. Accessory fissures were noted and measured. All findings were photographed.
Results: Data analysis in this study included the use of descriptive statistics to summarize the observed measurements. The mean age of the cadavers was 73±6.98, mean height was 1.64±0.77 m, mean weight was 51.63±9.1 kg, and mean body mass index was 19.16±3.29. Lobus dexter diameter was 94.30±13.51, lobus dexter length was 176.18±37.04, lobus caudatus diameter was 35.67±6.35, lobus caudatus length was 58.38±17.89, lobus sinister diameter was 80.85±6.57, lobus sinister length was 125.13±23.21, lobus quadratus diameter was 32.73±5.94, lobus quadratus length was 74.85±12.71, and vena porta diameter was 13.70±0.77, Harbin index (Lobus caudatus diameter/Lobus dexter) was calculated as 0.39±0.12, Accessory fissures were observed in 3 of 4 livers. 2 accessory fissures were observed in lobus dexter in 1 liver. One was observed in the others. All were type 5 according to Netter classification. Accessory fissure lengths were measured as 34.52±16.6.
Conclusion: Good knowledge of liver morphology will help surgeons and radiologists to prevent possible interpretation errors, especially when planning liver transplantation.

Keywords: variations, liver, morphology

OP23

The role of digital technologies in anatomy education and clinical practice: a SWOT analysis

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Objective: Anatomy is the foundation of medical education and serves as a bridge between basic medical sciences and clinical sciences. Rapid developments in digital health technologies affect the teaching methods of anatomy and its integration into clinical practice. Today, anatomy technologies such as augmented reality, virtual reality, mixed reality, 3D printing technologies, 3D modelling and simulation, anatomy training software and digital cadavers are being used to enhance anatomy education and clinical applications. The aim of the study is to make an in-depth evaluation of the use of digital technologies in anatomy education and clinical practice through a SWOT analysis.
Materials and Methods: In this study, the current literature was surveyed using scientific databases such as PubMed, Web of Science, Google Scholar, TR Index and Science Direct, and the role of digital anatomy in the medical sciences was analysed in detail in terms of strengths, challenges, opportunities and threats using a SWOT analysis.
Results: As a result of the SWOT analysis, the strengths of digital anatomy in contributing to medical education include advanced visualisation, accessibility, and time with cost efficiency. The weaknesses of digital anatomy include high start-up costs, technological errors and difficulties in accessing digital tools. In terms of opportunities, the potential for expansion in global education, personalised learning opportunities and multidisciplinary collaborations stand out. Threats include ethical issues, the loss of traditional methods of teaching anatomy, and data security concerns.
Conclusion: Although digital anatomy offers important opportunities in medical education, there are several factors and ethical dimensions that need to be considered for its proper integration into education. Improving educators' skills in digital anatomy, using digital and traditional teaching methods in harmony, and considering ethical responsibilities are critical to making the most effective use of digital anatomy.

Key words: education¸ SWOT analysis, digital technologies

OP24

Topographic examination of maxillary artery and segments by three-dimensional ct angiography

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Objective: Maxillary artery is one of the terminal branches that courses as a continuation of external carotid artery at the level of mandibular neck, deep in parotid gland. It extends from mandibular neck to the bottom of pterygopalatine fossa and gives off numerous branches. The anatomy, course and distribution of the sections, branches and the regions of maxillary artery are important. Maxillary artery supplies various tissues and organs including parotid gland, masseter, cranial nerves and meninges. The aim of the study was to evaluate the anatomy of maxillary artery and its segments, topographic relationships and variations, distances to certain bone points, diameter and depth at certain points by three-dimensional CT angiography. The plan of the data obtained is to determine the anatomy of the maxillary artery and to prevent complications that may occur during surgical procedures to the jaw area.
Materials and Methods: The study included 120 individuals, 60 male and 60 female, between the ages of 18 and 65 with bilateral maxillary artery were evaluated. The study cases were evaluated using CT angiography images on the Syngo.via (software version syngo.viaVB30A HF06,Siemens,Germany) Workstation from Fuji PACS, and various parameters of the maxillary artery were evaluated.
Results: It was found that there were significant differences between the right and left sides and between genders in the distance measurements from the starting point of the maxillary artery to the head of mandible, angle of mandible, mastoid process, zygomatic arch, medial surface of the mandible, transversus process of C2 vertebra, notch of mandible, external acoustic opening, coronoid process ($p<0.001$). It was determined that there was a significant difference between the right and left sides in the diameter and depth measurements of the maxillary artery ($p<0.001$). The 240 measured arteries It was determined that 122 of them originate from the maxillary artery at the level of the CI vertebra, 107 at the upper level of the CI vertebra, 11 at the level between the CI-CII vertebrae from the external carotid artery, 98 of them pass from the medial side of the lateral pterygoid muscle, 138 from the lateral side, and 4 of them pass through it.
Conclusion: It is thought that knowing the anatomy of the maxillary artery in the application areas will contribute to the prevention of vascular complications that occur and may occur in oral and maxillofacial surgeries, temporomandibular joint surgeries, and repairs of mandibular fractures.

Keywords: angiography, the maxillar artery, topographic examination

OP25

Opinions of physiotherapy and rehabilitation students about anatomy education

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Objective: The anatomy course in the physiotherapy and rehabilitation undergraduate education program is a necessary and basic course to train a physiotherapist equipped to perform effective clinical applications. In-depth understanding of anatomy and the development of clinical skills on this basis are very important for safe and effective treatment practices in the professional life of students. In this context, there are discussions on how anatomy education should be given to students, and student feedback is utilized in the evaluation of educational effectiveness. In this concept, this study was designed to evaluate the thoughts of physiotherapy and rehabilitation students on anatomy education and to observe the changes in their attitudes towards anatomy education with the vocational education process.
Materials and Methods: The study was conducted on Term I (n=63) and Term IV (n=58) students of Başkent University Physiotherapy and Rehabilitation Department. The opinions of the students about anatomy education were recorded with a questionnaire prepared on Google Forms.
Results: Our study showed that the majority of Term I (86.27%) and Term IV (79.31%) students voluntarily chose the department of physiotherapy and rehabilitation. Term I students were more likely to strongly agree with the statements “It is sufficient to have anatomy education only in the first year” and “The number of anatomy courses in the first year is more than necessary” than Term IV students ($p<0.001$ and $p<0.019$, respectively). However, Term IV students tended to strongly agree with the statement “Anatomy courses should continue in subsequent years to support clinical knowledge” more than Term I students ($p=0.010$).
Conclusion: This study suggests that the opinions of students who are introduced to branch courses during their undergraduate education may differ in terms of the anatomy education they receive over time and that anatomy education integrated with clinical training is considered more effective by students.

Keywords: physiotherapy and rehabilitation, anatomy, education

OP26

Prediction of foramen palatinum majus localization using hard palate morphometry: A pilot study

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Objective: Accurately determining the localization of the foramen palatinum majus (FPM) and its relationship with various parameters is crucial for the success of anesthetic, dental, and surgical procedures. This study aims to predict the localization of the FPM using hard palate morphometry through regression formulas for use in surgical interventions.
Materials And Methods: In this study, a total of eight dry skulls of unidentified age and sex, obtained from the Department of Anatomy, Faculty of Medicine, Bilecik Şeyh Edebali University, were utilized. A comprehensive evaluation was conducted involving ten linear and angular parameters, assessed separately for the right and left sides, using specific anatomical reference points: the foramen incisivum (FI), foramen palatina major (FPM), arcus dentalis superior (ADS), and spina nasalis posterior (SNP). Measurements were performed digitally using the Image J software, and statistical analysis of the data was conducted using SPSS 25.0.
Results: Descriptive statistical analysis showed no significant differences between the right and left sides for any of the parameters. According to the correlation analyses, a strong correlation coefficient was identified between the secondary dental arch length (ADSs), drawn parallel to the ADS and spanning the FI-FPM distance, and the FPM-FI distance itself. Based on the regression analysis, the formula derived for the left side is as follows: FPM-FI length = 0.473 + (0.397 × ADSs). For the right side, the corresponding formula is: FPM-FI length = 0.4 + (0.439 × ADSs).
Conclusion: Accurate prediction of the foramen palatinum majus (FPM) localization holds significant importance for surgeons and dental practitioners. The secondary dental arch length serves as a valuable parameter in this context and can be utilized as a reliable reference point for guiding invasive procedures.

Keywords: foramen palatinum majus, hard palate, formula

OP27

Mitral isthmus: morphological features and classification of vascular structures

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Objective: Mitral isthmus (MI) is an area located in the posteroinferior region of the left atrium. MI is located between the left inferior pulmonary vein ostium and mitral annulus. This region is a common target for interventional procedures aimed at restoring normal heart rhythm in some types of arrhythmias and atrial flutter. Therefore, this study aimed to examine in detail the characteristics of the topographic relationship of vascular structures in MI.
Materials and Methods: After the approval of the ethics committee (IRB:2023/2163), MI and surrounding vascular structures in 65 hearts were examined during routine autopsy at the Forensic Medicine Institute. MI was classified as Type-I if there was only great cardiac vein (GCV), Type-II if there was only left circumflex artery (LCx) in addition to GCV, Type-III if there was only vein of Marshall (MV) in addition to GCV, and Type-IV if there were all three vessels (GCV + LCx + MV). In addition, Type-II and Type-IV were subdivided into Types A, B, C1 and C2 for the position of the LCx relative to the GCV. The frequency of occurrence of the types and their distribution by gender were examined.
Results: 57 of the analyzed cases were male (87.7%) and 8 were female (12.3%). Of the total cases, 12 (18.5%) were Type-I, 12 (18.5%) were Type-II, 14 (21.5%) were Type-III and 27 (41.5%) were Type-IV. Type-IV was detected the most in males with 43.85% and Type-I was detected the most in females with 37.5%.
Conclusion: This study has shown that the morphological features of the MI region are not uniform. Because the presence of blood vessels may reduce the effectiveness of ablation, examination of the vascular structure prior to the procedure will ensure that the procedure is performed appropriately.

Keywords: mitral isthmus, vascular structures, classification

OP28

Evaluation of the morphological and morphometric characteristics of the uterine artery

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Objective: The uterine artery (UA) is the primary artery supplying the uterus and typically originates from the internal iliac artery. The anatomy of the UA is crucial for the success of clinical procedures such as embolization and ligation targeting this artery. This study aimed to examine the morphological and morphometric characteristics of the UA.
Materials and Methods: Ethical approval for the study was obtained from the Clinical Research Ethics Committee of Istanbul Faculty of Medicine (date: 28.01.2022, no: 2022/155). The study was conducted on 53 fresh adult female cadavers undergoing autopsy at the Council of Forensic Medicine of the Republic of Türkiye. Bilateral dissection of the UA was performed. The origin and number of arteries were determined. The lengths of the common iliac artery (LCIA) and internal iliac artery (LIIA) were measured, along with the distances from the UA origin to the IIA origin (U-II) and from the UA origin to the anterior trunk's starting point (U-TA).
Results: Among the 106 sides examined, a single UA was present in 101 cases, while a double UA was observed in 5 cases. Only the proximal branch of double UAs was included in the statistical analysis. The UA originated from the IIA (Type 1) in 77.35% of cases and from the umbilical artery (Type 2) in 22.65%. The mean U-TA distance was significantly greater on the left side ($p=0.002$).
Conclusion: Knowledge of the morphological features, including the origin and number of UAs, as well as morphometric distances to neighboring arteries, is essential for the success of embolization and ligation procedures targeting the UA.

Keywords: uterine artery (UA), morphological characteristics, origin

OP29

Comparative analysis of ChatGPT-4 and medical students' performance in distinguishing radiographic anatomical structures

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Objective: ChatGPT is one of the most widely used applications of artificial intelligence technology. GPT-4Vision, which has image analysis capability, was added to the ChatGPT-4 Turbo version in November 2023. Various studies have investigated the ability of this version to correctly identify anatomical structures in various radiological modalities. However, limited studies have compared the performance of ChatGPT-4 with humans. In this study, we compare ChatGPT-4 Turbo's ability to analyze and distinguish radiographic anatomical structures with 2nd-year medical school students.
Materials and Methods: We used the exam questions of the radiographic anatomy course to evaluate the performance of ChatGPT-4. This exam highlighted anatomical regions on radiological images with lines and arrows. Radiographic images in various projections of the cranium, thorax, and vertebral anatomy were asked of both Bursa Uludağ University Faculty of Medicine 2nd year students and ChatGPT-4. A total of 25 multiple choice (5 options) questions, each worth four points, were used to evaluate the performance of the two groups in analyzing radiographic anatomical regions. In addition, open-ended questions such as “define the region marked with an arrow” were directed to ChatGPT-4 in the same images.
Results: The mean score of the students of the Faculty of Medicine (n: 18) in the multiple-choice questions of the radiographic anatomy exam was 67.77 (minimum: 32; maximum: 96). ChatGPT-4 received 72 points with 18 correct answers in this exam. ChatGPT-4 received 68 points in the open-ended questions with 17 correct answers.
Conclusion: This study showed that ChatGPT-4 can distinguish radiographic anatomical structures as well as an average medical school student (2nd year). When using ChatGPT-4 in radiographic anatomy education, caution should be exercised regarding command and radiographic image quality. Further studies on ChatGPT-4 with radiographs of different anatomical regions are needed.

Keywords: ChatGPT-4, radiographic anatomy, medical education

OP30

Examination of the branching patterns of the vena portae hepatis using computed tomography images

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Objective: The aim was to examine the branching patterns in computed tomography (CT) images of the portal vein, one of the vascular structures of the liver, and to reveal the surgical and radiological significance of the variations.
Materials and Methods: A retrospective study was conducted with the approval of the Necmettin Erbakan University Non-Drug and Non-Medical Device Research Ethics Committee numbered 2024/4751. The study evaluated the portal vein variations according to the definitions in the study of Sureka et al. (2015). CT images of healthy livers of 996 patients (476 males, 520 females) aged between 20-59 were examined. The patients were examined in 4 age groups as 20-29,30-39,40-49,50-59. The main branch of the portal vein was divided into ramus (r.) dexter and r. sinister and the r. dexter then giving off the r. anterior and r. posterior branches was evaluated as Type I-a. Other main branch variations were named as Type II-a, Type III-a, Type IV-a and r. dexter variations were named as Type V-b, Type VI-b, Type VII-b and Type VIII-b. SPSS 21.0 program was used for statistical analysis of measurement data.
Results: In our study, Type I-a (73.1%) was observed most frequently in the entire sample group, while Type VI-b (0.1%) and Type VII-b (0.1%) were observed least frequently. Type II-a (10.6%), Type III-a (8.2%) and Type V-b (5.5%) were observed after Type I-a, respectively. No statistically significant difference was observed between genders and age groups in terms of the frequency of portal vein types ($p>0.05$).
Conclusion: We believe that accurate knowledge and definition of the anatomy of the portal vein will guide liver surgery and interventional radiology, which are the cornerstones of the treatment of liver diseases.

Keywords: vena portae hepatis, variations, braching patterns

OP31

Evaluation of anatomical variations of the musculus biceps brachii caput longum tendon with magnetic resonance ımaging

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Objective: Anatomical variations of the Musculus biceps brachii caput longum tendon can affect clinical diagnosis and surgical planning. The location of the tendon within the shoulder joint capsule and its encapsulation by a specialized synovial sheath highlight the importance of understanding its features. However, these anatomical variations may go unnoticed or lead to misdiagnoses. This study aims to determine the prevalence of bifid tendon and other variations of the Musculus biceps brachii caput longum tendon using magnetic resonance imaging (MRI).

Materials and Methods: MRI examinations of 524 shoulders from 478 patients who underwent shoulder MRI at Eskişehir Osmangazi University's Radiology Department between September 2024 and December 2024 were retrospectively analyzed. Patients with tendon rupture were excluded, resulting in a study cohort of 473 patients and 517 MRI scans. Images were evaluated by two radiologists, and a third radiologist was consulted in cases of uncertainty. Patient age, sex, and the presence of bifid tendons or other variations were recorded.

Results: The study population consisted of 38.27% male (181/473) and 61.73% female (292/473) patients, with a mean age of 53.52 ± 14.07 years (males: 49.52 ± 15.08; females: 56.03 ± 12.79). Variations were observed in 4.86% (23/473) of patients and 4.96% (26/517) of MRI scans. Among patients with bilateral shoulder imaging, variations were found in both shoulders in 6.82% (3/44) and in one shoulder in 6.82% (3/44), representing 10.23% (9/88) of total MRIs. Variations were observed in 6.08% (11/181) of males and 4.11% (12/292) of females ($p = 0.334$). Among the identified variations, 4.64% (24/517) were bifid tendons, 0.19% (1/517) were triple tendons, and 0.19% (1/517) involved both a bifid tendon and an insertional variation of one tendon attaching to the coracoid process.

Conclusion: Arthroscopic evaluations have classified variations of the Musculus biceps brachii caput longum tendon into four main categories: mesotenon, adhesive tendon, supernumerary tendon, and tendon absence. While the prevalence of bifid tendons in arthroscopy is reported to be approximately 15% in the literature, this study identified a lower prevalence (~5%) using MRI. Nevertheless, the findings underscore the clinical and surgical significance of identifying anatomical variations on shoulder MRI.

Keywords: variations, caput longum, magnetic resonance imaging

OP32

The reliable points for thyroidectomy in computer tomography images: Presence of pyramidal lobe and Zuckerkandl tubercle

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Objective: This study aimed to determine the frequency and types of the Pyramidal lobe (PL) and Zuckerkandl tubercle (ZT) and reveal the differences of these variations according to gender, which may be useful for the positive completion of the course and results of the operation in patients planned to undergo thyroidectomy.
Material and Methods: This study was conducted retrospectively on thorax and neck computerized tomography images of 204 patients who applied to Necmettin Erbakan University Medical Faculty Hospital for various reasons between 2023-2024. The frequency of the PL and ZT was determined in sagittal, axial, and coronal images. ZT was morphologically classified into 4 subtypes: Type 0 (no ZT), Type 1a (ZT≥5mm), Type 1b (ZT<5mm), and Type 2 (ZT>10mm). In the presence of ZT, morphometric measurements were performed. PL was classified into 7 subtypes as Type 0 (no PL), Type 1 (PL from left lobe origin), Type 2 (PL from right lobe origin), Type 3a (right deviated PL from isthmus origin), Type 3b (left deviated PL from isthmus origin), Type 3c (unilateral PL from isthmus origin) and Type 4 (bilateral PL from isthmus origin).
Results: It was determined that 175 (85.8%) of the individuals had ZT and 29 (14.2%) did not. ZT was determined as unilateral-right in 37 (18.1%) individuals, unilateral-left in 7 (3.4%) individuals, and bilateral in 131 (64.2%) individuals. Additionally, a statistically significant difference was found between the right-side ZT type and gender ($p=0.001$, $\chi 2=17.645$). While 45 (22.1%) individuals had PL, 159 (77.9%) did not. While ZT was frequently Type 1a (right: 39.7%, left: 33.3%), PL was Type 4 (11.3%).
Conclusion: Determining the location and protecting of the recurrent laryngeal nerve is of critical importance during thyroid surgery. The study data are important in terms of revealing anatomical variations to minimize possible complications in thyroidectomy and tracheostomy operations.

Keywords: zuckerkandl tubercle, thyroidectomy, classification

OP33

Determination of fracture presence and fracture type in spinal trauma patients in computed tomography examination using artificial intelligence method

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Objective: Spinal vertebral fractures can cause instability and spinal cord injury. This can cause serious morbidity and mortality in spinal trauma patients. Our aim in this study is to predict burst and wedge-shaped fractures in spinal vertebrae using deep learning method from artificial intelligence algorithms and compare this result with healthy individuals (without spinal fractures).
Materials and Methods: In this study, the image dataset used for the detection of spinal fractures between the ages of 18-65 consists of a total of 441 images. The images are divided into 6 different classes: axial_burst (102 images), axial_wedge (62 images), normal_axial (50 images), normal_sagittal (51 images), sagittal_burst (98 images) and sagittal_wedge (78 images). ResNet50, EfficientNet-B0, DenseNet121 and MobileNetV2 models were trained using the transfer learning method and their performances were evaluated with criteria such as accuracy, F1 score and complexity matrix.
Results: In the study, the EfficientNet-B0 model showed the best performance with 92.0% accuracy rate. The DenseNet121 model ranked second with 90.5% accuracy rate and 0.90 F1 score, while the ResNet50 model achieved 88.4% accuracy rate and 0.89 F1 score.
Conclusion: Artificial intelligence-based approaches in fracture detection can increase diagnostic accuracy and consistency. Human interpretation of radiographic images is inherently subjective and can be affected by factors such as fatigue and experience level. In contrast, artificial intelligence models can analyze images objectively and consistently, which can lead to more reliable diagnoses.

Keywords: spinal trauma, fracture, artificial intelligence

OP34

The use of bacterial cellulose grafts enhanced with glial cell line-derived neurotrophic factor and gold nanoparticles in peripheral nerve injury

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Objective: Peripheral nerve injuries, caused by trauma, strain, and injections, constitute a widespread health problem. Although autologous nerve grafts are considered the gold standard, there is a need for alternative treatment methods due to the limited availability of donor nerve sources. Bio-cellulose materials are suggested as an alternative graft material due to their high biocompatibility. Additionally, the application of Glial Cell-Derived Neurotrophic Factor (GDNF), a potent neurotrophic factor, to the graft site is known to significantly support peripheral nerve healing. The aim of this study is to investigate the effects of GDNF-loaded bio-cellulose grafts on sciatic nerve damage.

Materials and Methods: Gold nanoparticles (20-50 nm in size) were synthesized using sericin protein extracted from silkworm cocoons. Bacterial cellulose (BS) membranes produced by the Gluconacetobacter xylinus bacterium were functionalized with gold nanoparticles to prepare a nerve guidance conduit. GDNF protein was immobilized onto the grafts. In this study, approved by the ethical committee, 18 Wistar albino rats were divided into three groups: the autologous nerve graft group (n=6), the bio-cellulose group (n=6), and the GDNF-loaded bio-cellulose graft group (n=6). Functional evaluations were performed at the 4th and 8th weeks post-surgery, with walking analyses conducted and sciatic functional indices (SFI) measured. At the end of the 8th week, electromyography (EMG) measurements were taken, and compound muscle action potential (CMAP) values were recorded. Histological evaluations were conducted on semi-thin epoxy sections stained with toluidine blue and examined using light microscopy. GraphPad Prism software and the Kruskal-Wallis test (non-parametric ANOVA) were used to compare the data.

Results: According to the functional evaluation analyses, the SFI and %CMAP calculations showed that the GDNF graft group exhibited a recovery similar to the autologous graft group. In histological evaluations, the number of myelinated axons was significantly higher in the autograft group compared to the bio-cellulose graft group ($p<0.001$). In the GDNF graft group, the number of myelinated axons showed an increase compared to the bio-cellulose graft group ($p<0.05$), and the morphology was similar to the autograft group.

Conclusion: The functional and morphological analysis results of this study suggest that the application of GDNF on bio-cellulose grafts could be a potential alternative treatment for peripheral nerve damage. The findings are considered to be a guiding step for future research on treatment strategies for nerve repair. The ethical approval with the protocol number '36.2023mar' has been obtained from the Marmara University Local Ethics Committee for Animal Experiments

Keywords: nerve grafts, Glial Cell-Derived Neurotrophic Factor, bio-cellulose graft

OP35

A preliminary study of the effect of tethered cord syndrome and coexisting diastometamyelia on the anatomical levels and morphometry of related structures: a retrospective analysis by age and gender

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Objective: Tethered cord syndrome (TCS) is a complex disorder characterized by various neurological symptoms resulting from congenital or acquired abnormal attachment of the spinal cord (SC). Diastometamyelia, an embryological midline anomaly, is characterized by the division of the SC into two halves separated by a septum, may coexist with TCS. This study aimed to investigate the impact of the individual presence and coexistence of TCS and diastometamyelia on anatomical levels and morphometric measurements according to age and gender and to interpret these findings clinically.
Materials and Methods: Magnetic resonance imaging of three groups aged 0-61 years was analyzed: TCS (16 males, 30 females), diastometamyelia (3 males, 11 females), and diastometamyelia coexisting TCS (11 males, 21 females). The anatomical levels of the conus medullaris and SC, where adhered and separated, were determined, and morphometric measurements of the filum terminale and related vertebrae were obtained (Ethics approval protocol number: 2024/5372).
Results: Statistical analysis showed that TCS was most commonly associated with bone deformities and spina bifida, whereas bone deformities were most commonly associated with the other two groups and by gender in both males and females. Morphometric measurements showed that filum terminale thickness was significantly higher in the TCS group than in the diastometamyelia group. Additionally, the anteroposterior diameter of the vertebral canal nearest to the attachment site of SC was significantly larger in females than in males. The SC was most commonly attached at the level of the 4th lumbar vertebra in the TCS group, while in the diastometamyelia coexisting TCS group, it was mostly attached at the level of the 2nd lumbar vertebra.
Conclusion: The morphometric measurements and anatomical levels presented in this study for these rare patient groups can guide clinicians in surgical interventions such as laminectomy, tethered cord release, and spinal column shortening, as well as in lumbar puncture applications.

Keywords: tethered cord syndrome, diastometamyelia, spinal cord

OP36

Brain age estimation in children with epilepsy: A radiologic anatomy study

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Objective: This study aims to estimate brain age in children with epilepsy and evaluate the impact of these estimates on disease progression and utilization of pediatric healthcare services.
Materials and Methods: T1-weighted 3D cranial magnetic resonance images of 36 children with epilepsy and 36 healthy controls admitted to Biruni University Faculty of Medicine Hospital were converted to NIfTI format and uploaded to volBrain. Only subcortical structure data were used in the analyses. The data were analyzed for conformity to normal distribution using the Shapiro-Wilk test, independent sample T test was used for normally distributed data, and Mann-Whitney U test was used for non-normally distributed data. Statistical analyses were performed with SPSS 25.0 software and type I error rate was set as $p<0.05$.
Results: The mean age of the patient group was 9.44 years and 11.56 years in the control group. In the age estimation analysis for the nucleus accumbens, 13.46±4.5 and 10.61±3.25 values were obtained on the right side in the patient and control groups, respectively (p=0.0031). On the left side, values of 12.89 (5.45-29.67) and 11.05 (4.91-16.27) were reported, respectively (p=0.0236). In the age estimation for amygdala, 13.99±4.98 and 10.29±3.26 values were observed on the right side in the patient and control groups, respectively (p=0.0004). On the left side, 14.04 (5.57-26.67) and 9.8 (5-16.1) values were measured, respectively (p=0.0017). In the analyses for the hippocampus, the age estimates of the patient and control groups on the right side were 14.01±5 and 10.36±3.34, respectively (p=0.0006). On the left side, these values were 12.98±4.37 and 10.23±3.24, respectively (p=0.0035). Age estimation measurements for nucleus caudatus, globus pallidus, putamen and thalamus showed values of 13.65 (4.78-30.58), 13.51±4.61, 12.39 (4.77-26.85) and 13.31±4.73 for the patient group on the right side, respectively. In the control group, values of 10.49 (4.93-19.27), 10.55±3.41, 10.46 (5.16-16.05) and 10.43±3.62 were obtained for these structures, respectively (p values 0.0197, 0.0029, 0.0297 and 0.0051, respectively).
Conclusion: Brain age estimation in children with epilepsy is thought to play an important role in understanding cognitive problems and developmental delays that occur due to early onset of seizures, accompanying mental problems and structural changes due to recurrent seizures. Therefore, estimation of brain age stands out as a factor to be considered in clinical evaluations.

Keywords: epilepsy, brain age, anatomy

OP37

Does illustration facilitate learning neuroanatomy? Brainstem example

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Objective: The aim of the study was to investigate the contribution of the illustration experience to medical students' learning of neuroanatomy by comparing the illustration experience in the neuroanatomy laboratory with the cadaver experience through learning outcomes and students' opinions.

Materials and Methods: This study was conducted with volunteer Term II medical students after Ethics Committee approval (IRB: 2025/1470). The students were informed about the study and that there was no grade requirement. A pre-test on the 'Brain Stem,' not yet covered in their neuroanatomy lectures, was administered. Afterward, they received a 30-minute theoretical briefing. Students were then randomly divided into three groups: the 1st group studied only on cadaver (prosection, 30 minutes), the 2nd only by illustration (30 minutes), and the 3rd used both cadaver and illustration (30+30 minutes). Each student who made an illustration was expected to draw the brainstem structures using an atlas and to name the structures described. Finally, a 10-question post-test and feedback questionnaire were performed.

Results: In all, 15 students were randomly and equally divided into three groups. 77.78% of the students were female, and 22.22% were male. Before this study, 16.67% of the students were drawing while studying anatomy. There was a statistically significant difference between groups ($p=0.029$). It was found that the post-test scores of students in group 1 were lower than those of students in group 2 and group 3 ($p=0.039$ and $p=0.013$, respectively), while there was no difference between group 2 and group 3 ($p=0.668$). The feedback questionnaire's reliability was high (Cronbach's $\alpha=0.76$).

Conclusion: This study has shown that illustration is an effective learning method for neuroanatomy laboratories when used in combination with cadaveric training methods. This combination can complement neuroanatomy education as an elective course or as an extracurricular activity with volunteer students.

Keywords: illustration, neuroanatomy, learning method

OP38

Examining the knowledge levels of nursing students regarding the anatomical points used to determine the safe area in skill practices

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Objective: It is important for patient safety that nursing students define the correct and safe area during skill practices in the clinic. Knowing the anatomical structure of the area and determining the appropriate area prevents possible complications. This study was conducted as a descriptive study to determine the knowledge levels of nursing students regarding the anatomical structures they use during skill practices.
Materials and Methods: The study was conducted with 100 nursing students studying at Karadeniz Technical University, Faculty of Health Sciences, Department of Nursing and who agreed to participate in the study. Data were collected using the "Student Descriptive Characteristics Form", "Pictorial Knowledge Test on Anatomical Structures and Points" and "Feedback Form". These forms were prepared in Google Forms and sent to students via a link. The data were given in numbers, percentage, mean and standard deviation values. Permission and ethical approval were obtained from the institution where the study was conducted (03.06.2024, no: 2024/99).
Results: The mean age of the students was 19.69±2.30 and 86% were female. The students' mean score on the 'Pictorial Knowledge Test on Anatomical Structures and Points' was determined to be 33.18±7.44 (1-50). The students' mean fundamentals of nursing course grade was found to be 75.40±14.48 and the mean anatomy course grade was found to be 71.33±17.34. It was determined that most of the students answered correctly the questions about the arteries where the pulse was taken and the intramuscular injection site. The students' satisfaction with the visual anatomical structures was determined to be 4.13±0.91 (1-5).
Conclusion: It is important for nursing students to know the anatomical structure of the area in order to determine the safe area during skill practice in the clinic. Knowing the anatomy knowledge level of nursing students will eliminate deficiencies before clinical practice, transfer of knowledge to practice, and prevent possible errors.

Keywords: safe area**,** nursing students, anatomical structures

OP39

Defining the bone morphometric specifications of the orificium zygomaticum

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Objective: Orificium zygomaticum is a passage on the lateral aspect of the cranium, connecting the temporal fossa and the infratemporal fossa. In clinical settings, the area between the posterior face of the zygomatic arch and the infratemporal crest is used as a tunnel for temporal muscle flap slits and a passage for reduction instruments of zygomatic arch fractures. However, this region is underinvestigated, even though it is termed in only several anatomical and surgical sources. Our study aims to define basic bone morphometric specifications of this underrated anatomical term.
Materials and Methods: 30 adult craniums of unknown age and sex were enrolled in the study. Study data included three groups of parameters. Head parameters were head circumference, biparietal diameter, nasion-inion distance, and pterion-zygomatic arch distance. Zygomatic arch parameters were zygomatic arch type, zygomatic arch length, and zygomatic arch midpoint height. Orificium zygomaticum parameters were orificium zygomaticum type, anterior-posterior distance, and horizontal distance. Study data were recorded and analyzed using Microsoft Excel version2019.
Results: The craniums were observed to have parenthesis-type and bracket-type zygomatic arches in equal numbers(n=20). The mean length of the zygomatic arches was 53.54±3.41(47.63-58.40), and the mean mid-point height of the zygomatic arches was 6.92±0.94(4.65-8.92) mm. The craniums had three types of orificium zygomaticum: 20 elliptic type, 10 cylindric type, and 10 blade type. The mean anterior-posterior diameter of these gaps was 25.49±3.43(18.23-30.82) mm, and the mean horizontal diameter was 35.49±2.11(32.42-38.92) mm.
Conclusion: In the results of our study, similar to the literature, the most frequent rate was the elliptical zygomatic orifice. We assess that this interval reached different anterior-posterior and horizontal distances at the upper and lower levels of the zygomatic arch. We evaluate that three-dimensional measurements will yield more valuable results for surgical studies.

Keywords: zygomatic orifice, morphometry, zygomatic arch

OP40

The importance of the nonrecurrent laryngeal nerve for thyroid surgery

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Objectives: It is important to learn modern methods in thyroid surgery and to know the regional anatomical structures and their variations. Damage to the recurrent laryngeal nerve (RLN) is one of the important complications of thyroid surgery and this anatomical structure should be protected during the surgical procedure.
Materials and Methods: Three different approaches to the RLN are possible during thyroid surgery. Inferior approach: The RLN is sought in the Simon's triangle area. This area is usually preferred because it is a less bleeding area and the nerve is found here as a single main branch. Lateral approach: This approach requires careful study as the relationship between the inferior thyroid artery (ITA) and RLN may vary and the nerve may be branched. Superior approach: This approach is generally preferred for large goiters, relapse cases, and anatomical variations. It is a more challenging technique compared to other methods. The condition where the RLN enters the larynx directly without turning around the subclavian artery or aortic arch is called nonrecurrent laryngeal nerve (NRLN).
Results: The prevalence is 1.4% in anatomical series and 0.5-1% in surgical series. The prevalence is 0.4-1% on the right and 0.04% on the left, and situs inversus is present in cases on the left.
Conclusion: During thyroidectomy, anatomical variations should be taken into account, no anatomical structure should be cut without visualizing the nerve, no single reference point should be relied on, branching differences should not be ignored, electrocautery should be used in a limited manner, controlled traction should be applied to avoid nerve injury. Nerve injury may cause paralysis or paresis of the ipsilateral vocal cord, resulting in temporary or permanent loss of voice. If nerve injury occurs on both sides, movement disorder occurs in bilateral vocal cords, airway patency cannot be achieved and may lead to tracheostomy.

Keywords: recurrent laryngeal nerve, variation, thyroid surgery

OP41

Clinical significance of crista galli and olfactory fossa for skull base surgeries: A radiological evaluation with computed tomography

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Objective: Crista galli (CG) is clinically significant due to its location and neighboring structures. This study aimed to evaluate CG and adjacent olfactory fossa (OF) using previous classifications morphologically.
Materials and Methods: A retrospective analysis of 185 patients (96 women and 89 men) who underwent paranasal sinus computed tomography at Necmettin Erbakan University Faculty of Medicine Hospital from 2017 to 2024 was conducted. Measurements taken are CG width (CGW), CG length (CGL), CG height (CGH), FO depth, and interlamellar distance (ILD). CG location (Type 1: CG base at the same level as the lamina cribrosa (LC), Type 2: CG base below the LC, Type 3: midpoint of the CG below the LC), pneumatization (Type 1: pneumatization above the LC, Type 2: pneumatization at the LC, Type 3: pneumatization below the LC) and CGG/CCY classifications are conducted (>⅓: teardrop, < ⅓, and the cavity can be observed: tubular, < ⅓, and the cavity cannot be observed: ossified). Additionally, OF depth were classified according to the Keros classification (Type 1: 1-3 mm, Type 2: 4-7 mm and Type 3: 8-16 mm).
Results: According to the CG position classification, the CGW's ($p<0.001$) and ILD's ($p<0.001$) of the type 2 group were significantly greater than the type 1 group. Based on the Keros classification, the CGW on the left side ($p=0.005$) and ILD on both sides ($p=0.004$) were significantly lower in the type 1 group, compared to types 2 and 3. According to the CGW/CCH classification, the ILD's of the teardrop group were longer than those of the tubular group ($p = 0.006$). Cases with pneumatization had significantly greater CGWs ($p = 0.001$) and ILD's ($p = 0.033$) compared to those without.
Conclusion: Significant differences were identified in gender, age, CG dimensions, and ILD's among CG morphological classification groups and Keros classification.

Keywords: crista galli, olfactory fossa, classifications

OP42

Investigation of the effects of different occlusion types on masticatory muscles and neck muscles in adult male individuals

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Objective: Malocclusion may affect bones, muscles and joints in dento-maxillofacial system during growth and development periods, causing deviations in normal growth and development of these structures. Angle classification was based on anteroposterior first molar relationship in buccal region and classified occlusion in 4 groups (as Class I, Class II and Class III). In ideal posture, there is balance between anterior and posterior vertebral muscles, whole body posture and chewing muscles and they function as a whole. The aim of this study is to investigate clinical findings and patient posture by examining medial pterygoid, lateral pterygoid, masseter, temporal, sternocleidomastoideus, trapezius and latissimus dorsi muscles in male individuals over age of 18 with Class I, Class II and Class III types of occlusions.
Materials and Methods: Our research was conducted on 45 male volunteers aged 18 and over with different occlusions. 15 patients were evaluated for each occlusion types. Evaluation of chewing, neck and back muscles was scored between 0 and 3 by palpating specific areas of the muscles. Posture analysis was examined from front and side aspects while patient was in an upright position. This study was approved by Istanbul Medipol University Non-Interventional Clinical Research Ethics Committee (585 - 28/06/2022).
Results: In class I occlusion, difference between right trapezius muscle measurement and left a trapezius muscle measurement was significant ($t=2,449$; $p=0,028<0,05$). Considering patient groups, it was determined that Class III occlusion had more muscle sensitivity between left temporal muscle origin and intertio than Class II and Class I occlusion ($F(2, 42)=6,321$; $p=0,004<0.05$).
Conclusion: The most significant tenderness was found in temporalis muscle in Class III occlusions.

Keywords: occlusion types, Angle classification, trapezius muscle

OP43

The neurodevelopmental and neuroanatomical basis of crime: Forensic neuroscience and neurocriminology

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Objective: Forensic neuroscience (neuroscience and forensic neuropsychology) is an interdisciplinary field that integrates neuroscience with forensic concepts and methods and deals with forensic investigation, legal decision-making, and recidivism prevention through the application of neuroscientific techniques and knowledge. Neuroscience examines the complex relationship between brain activity and legal criminal behavior. It conducts research to provide insights into how neurological conditions influence criminal behavior, decision-making, and the determination of criminality.
Materials and Methods: Neurocriminology is an interdisciplinary field that combines neuroscience and criminology. It contributes to a better understanding of the neural mechanisms underlying criminal behavior and criminal orientation.
Results: Through tools such as functional magnetic resonance imaging (fMRI) and electroencephalography (EEG), researchers investigate why certain individuals may be predisposed to criminal activity and how neurobiological factors influence criminal behavior. According to research, the brain areas related to the tendency towards crime and aggression in humans are the amygdala, temporal lobe, and limbic system. The orbitomedial prefrontal cortex is involved in the control and inhibition of impulsive actions. Lesions in this area lead to aggressive and suicidal behavior. In serial killers and people involved in major crimes, the amygdala is smaller or much less active than normal. Problems in the amygdala region led to decreased activity in the “prefrontal cortex” region of the brain, which controls emotional and impulsive behavior and includes the cognitive part of the brain, leading to increased susceptibility to crime. In addition, it has been reported that neurodevelopmental disorders such as attention deficit hyperactivity disorder (ADHD), autism spectrum disorders (ASD), specific learning disorders, and momentary disability may have negative effects on empathy development and criminal tendency.
Conclusion: The tendency of individuals with neurodevelopmental disorders to commit or repeat crimes can be predicted by radiological and genetic methods. Crime can be prevented by treating these individuals with clinical psychopharmacotherapy methods.

Keywords: neurocriminology, forensic neuroscience, criminal behavior

OP44

Evaluation of the anthropometric measurements of the masseter muscle and mandibular bones of patients applying to the otorhinolaryngology outpatient clinic of a university hospital using MR images

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Objective: Bones are not static structures in the human body; they continue to change throughout a lifetime. The German anatomist and surgeon Julius Wolff developed a law that explains the nature of bone remodeling due to stress. Wolff's law states that bones will adapt to the degree of mechanical loading, so that an increase in loading will result in strengthening of the architecture of the internal cancellous bone and subsequent strengthening of the cortical layer. This law indicates that the internal structure and shape of bone is closely related to function and describes the relationship between bone shape and muscle function. The importance of masticatory muscle function on the basic mechanisms of craniofacial growth has been demonstrated in a variety of animal and human experimental studies. Clinical studies are mostly done by force, by measuring the electromyographic (EMG) activity of these muscles or by measuring their cross-sectional thickness by computed tomography, magnetic resonance imaging (MRI) and ultrasonography. Masseter muscle thickness enhances sagittal growth and limits vertical growth of the jaws. It tends to enlarge the face in a more horizontal arrangement. Age, gender and ethnicity also produce differences in mandibular structure. This thesis aims to understand the functional importance of these anatomical structures by examining the relationship between the thickness and volume of the masseter muscle and the mandibular bone and the morphological features of the mandible in detail.
Material and Methods: For this reason, head and neck MR images of 46 adults (23 females and 23 males) aged 18-65 years were obtained from KTU Radiology Department and examined restrospectively. The images were taken from the PACS system in DICOM format and transferred to the ITK-SNAP program for measurement. Here, both masseter thickness and volume were calculated separately and parameters such as "condyle angle", "condyle area", "condyle area", "intergonial distance", "distance between condyles" of the mandibular bone were measured.
Results: Statistical analyses revealed a positive, moderate and significant correlation between masseter thickness measurements and intergonial distance measurements ($p<.05$). A positive, moderate and significant relationship was obtained between masseter volume measurements and intergonial distance measurements ($p<.05$). In addition, a positive, low and significant relationship was obtained between the masseter volume measurements and condyle area measurements of the patients ($p<.05$). A significant difference was obtained between the condyle area, intergonial distance masseter thickness and volume measurements of the patients according to gender ($p<.05$).
Conclusion: Based on our results, we observed that masseter muscle thickness and volume are correlated with intergonial distance, one of the mandibular development parameters. There is also a positive correlation between masseter muscle volume and condyle area measurements. In addition, the mean values of all parameters were higher in males than females. We think that this study will contribute to the literature by shedding light on the factors affecting mandibular bone development and by evaluating masseter muscle volume in addition to masseter muscle thickness.

Keywords: eye dominance, grey matter, handedness, magnetic resonance, serebral dominance, white matter

OP45

Investigation of gender-related morphometric characteristics of sella turcica in autopsy cases: A preliminary study

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Objective: The sella turcica is clinically and forensically significant due to its role in housing the pituitary gland, its central location, and its relationship with the chiasma opticum. The morphometric relationship of the sella turcica with sex and height may contribute to the evaluation of pituitary pathologies, the diagnosis of craniofacial anomalies, and identification processes. In this study, the morphometry of the sella turcica was examined in autopsy cases, correlating it with sex and height for clinical and forensic assessments.
Materials and Methods: Our study was performed on a total of 21 autopsy cases (12 males, 9 females) between the ages of 20 and 89 years old who came to Tokat Forensic Medicine Institute. The sella turcica was exposed by a precise skull base dissection, and morphometric measurements were performed. Depth, anteroposterior diameter and mediolateral length were measured using high precision calibrated digital calipers. The same person repeated All measurements three times to minimize observer error, and the mean values were recorded.
Results: In 21 autopsy cases, the mediolateral diameter, depth, and anteroposterior diameter of the sella turcica were found to be statistically significantly larger in males than females ($p< 0.001$). In addition, a strong positive correlation was found between height and sella turcica measurements in both genders. As the height of the individuals increased, all morphometric measurements of the sella turcica increased ($p< 0.001$).
Conclusion: Morphometric measurements of the sella turcica showed significant differences according to gender and height. These findings were consistent with anatomical variations related to gender and height, which have been previously reported in the literature. We believe that information on the morphology of the sella turcica will provide important contributions to clinical evaluations and forensic medicine applications.

Keywords: sella turcica, autopsy, gender-related morphometry

OP46

Clinical correlation of the relationship between the infraorbital canal and the maxillary sinus from a surgical perspective: a preliminary report

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Objective: The course of the infraorbital canal is clinically significant, particularly in rhinology and maxillofacial surgery during interventions involving the maxillary sinus. Variations in the canal's trajectory may lead to damage to the infraorbital nerve. This study aims to classify the position of the infraorbital canal relative to the maxillary sinus on axial computerized tomography images in normal individuals and those with moderate septal deviation and evaluate associated anatomical variations.
Materials and Methods: This retrospective study analyzed axial computerized tomography images of 24 normal individuals and 25 individuals with moderate septal deviation. The infraorbital canal and adjacent anatomical variations were evaluated. Axial sections classified the canal's position relative to the maxillary sinus as follows: Type 1, the canal protrudes entirely into the sinus; Type 2, the canal lies on the sinus floor or partially protrudes; Type 3, the canal is embedded within the sinus wall or externally protrudes.
Results: Type 1 was significantly more common in normal individuals than in those with septal deviation (right p=0.033, left p=0.025), while Type 2 was observed significantly more in individuals with septal deviation compared to normals (right p=0.046, left p=0.003). A statistically significant correlation was found between concha bullosa and septal deviation. No significant differences in canal classification were observed between genders.
Conclusion: Differences in the position of the infraorbital canal relative to the maxillary sinus were observed between normal and septal deviation cases. Thus, clinicians should thoroughly evaluate the nasal septum via axial computerized tomography before performing surgeries involving the maxillary sinus and infraorbital canal. This approach may enhance surgical planning and help prevent infraorbital nerve injury.

Keywords: infraorbital canal, the maxillary sinus, anatomical variations

OP47

Assessment of 3D modeling methods on dry bone samples

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Objective: The 3D imaging methods requires the effective use of various techniques and software tools, such as photogrammetry, lidar, and hybrid methods. This study aims to analyze the advantages and disadvantages of several 3D modeling methods by applying them to dry bone samples.
Materials and Methods: Using an iPhone 15 Pro Max, 20 distinct applications were evaluated using established criteria, including technical characteristics, scanning details, image features, and clarity. Qlone and Magiscan were chosen for final model creation after a thorough study.
Results: Qlone, focused on photogrammetry, provided multiple output formats but lacked flash support duringscanning. Magiscan offered extensive options for hybrid approaches. Its cloud-based structure andinternet dependency were noted as both advantages and limitations. Among the tested methods, photogrammetry stood out for cost-effectiveness and accessibility. Image quality, the number of photos, and proper lighting were critical for detailed modeling. Models created via photogrammetry were found 90% suitable for educational purposes, with additional shots improving detail in specificareas. Lidar proved effective for large and flat surfaces but struggled with irregular or small objects. Artifacts emerged in moving objects due to lidar's detection algorithms. Combining lidar and photogrammetry data yielded hybrid methods; manual photos complemented missing areas in low-light environments but exhibited motion-induced errors.
Conclusion: The scanning method and software should be selected in accordance with the object's type, environmental conditions, and user goals. Light, stability, and optimal program choices are required for high-quality 3D modeling.

Keywords: 3D Modeling, dry bone, advantages

OP48

An investigation of limbic system related structures volumetrically in ındividuals with autism

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Objective: Autism is a neurodevelopmental disorder characterized by difficulties with social interaction and communication. This study aimed to compare brain volumes between individuals with autism spectrum disorder (ASD) and a control group using magnetic resonance imaging (MRI).
Materials and Methods: Our study was approved by Tekirdağ Namık Kemal University Non-Interventional Clinical Research Ethics Committee on 26.03.2024 with protocol number 2024.56.03.20. The study included 316 participants aged 6-18 years, whose limbic system structures were analysed volumetrically using 3-Tesla MRI and automatic segmentation. Volumes were statistically compared between controls (n=162) and individuals with autism (n=154).
Results: No age differences were found between groups (p=0.436). Overall, no significant differences were observed between autism and control groups in the analysed brain regions. However, in males, autism was associated with larger volumes in the right and total nucleus accumbens (NAcc, p=0.026 and p=0.039) and the left and total basal forebrain (p=0.007 and p=0.013). Age-based subgroup analysis revealed that individuals with autism aged 6-10 years had larger left NAcc and total NAcc (p=0.033 and p=0.046) and right and total basal forebrain (p=0.009 and p=0.023) volumes compared to controls. No differences were found in the 11-18 age group. In the 6-10 age group, basal forebrain differences were observed in both sexes, but only males showed increased NAcc volumes. A non-significant increase in the right and total anterior cingulate gyrus (ACgG) volumes in females was noted, likely due to limited female participant numbers in this age group.
Conclusion: While no overarching differences in limbic system volumes were identified, observed increases in specific regions suggest inter-sex differences in brain development in autism. These findings deepen our understanding of the neuroanatomical basis of autism and may contribute to the development of tailored treatment approaches and clinical strategies.

Keywords: limbic system, autism, brain volumes

OP49

The effect of mobile game-supported foot exercise apparatus on dynamic supination deformity in pes equinovarus patients

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Objective: This study was conducted by the Ethics Committee of Istanbul Medipol University Non-Interventional Clinical Research dated 26/01/2023 and E-10840098-772.02-832 he received the approval of the ethics committee with the decision No. 135. In this study, it was aimed to determine whether there is an increase in ankle muscle strength and joint range of motion in children diagnosed with idiopathic pes equinovarus, a dynamic supination deformity, using a mobile game-assisted foot evertor and inverter muscle strengthening exercise device developed by the TUBITAK project, and whether there is an improvement in the distribution of foot sole pressure with dynamic supination deformity.

Materials and Methods: 10 patients (15 PEV, 5 unilateral and 5 bilateral) with dynamic supination deformity diagnosed with Congenital Idiopathic Pes Echinovarus between the ages of 4-18 December were included in the study. the exercise device was applied 2 days a week for 8 weeks. Ankle muscle strength was evaluated by manual measurements, joint range of motion by goniometer, dynamic supination and varus angle via video recording images, plantar pressure distribution of the foot was evaluated by pedob November analysis.

Results: After treatment, no statistically significant difference was found in ankle dorsiflexion, plantar flexion, inversion, eversion, hip external rotation, anterior-posterior foot angle and thigh-foot angles ($p>0.05$). Statistically significant improvements were obtained in hip internal rotation, femoral anteversion angle and November muscle strength measurement values ($p<0.001$). There was a decrease in the dynamic supination angle, but no statistically significant difference could be detected ($p>0.05$). In the pedobarographic evaluation, significant improvements were obtained in the parameters of the area of the front foot ($p=0.005$), weight ($p=0.041$), load riding on the back part of the foot ($p=0.040$) and maximum pressure ($p=0.004$).

Conclusion: This study showed that the mobile game-supported foot exercise device is effective in the treatment of idiopathic pes equinovarus.

Keywords: pes equinovarus, exercise, mobile game-supported

OP50

Comparison of neuroanatomy questions prepared with ChatGPT with medical school board questions

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Objective: The increasing interest in the use of artificial intelligence (AI) in anatomy education creates a need for more knowledge and experience about the potential and limitations of AI, especially when it comes to assessment and evaluation in anatomy education. The aim of this study is to analyze the capabilities and limitations of ChatGPT (version 4o) in preparing multiple choice questions in the field of anatomy.

Materials and Methods: For this purpose, a formative assessment consisting of 15 questions obtained with ChatGPT was applied to a group of 98 second-year students studying at Sanko University Faculty of Medicine in the nervous system board. Then, the same number of questions were asked in the board exam and the results were compared.

Result: The validity of both exams was found to be very high. According to Pearson correlation (46%) and Intraclass correlation (62 %) analyses, the results were found to be compatible.

Conclusion: It has been concluded that ChatGPT has the potential to play an important role in preparing questions in the field of neuroanatomy and can provide significant assistance to anatomy educators. However, we think that more care should be taken in determining questions as distractors.

Keywords: ChatGPT**,** artificial intelligence, preparing questions

OP51

Evaluation of the ımpact of septal deviation on anatomical structures associated with the sphenoid sinus in the perspective of endoscopic endonasal transsphenoidal approach: A preliminary report

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Objective: The endoscopic endonasal transsphenoidal approach is a widely used minimally invasive technique for removing sellar and parasellar lesions, particularly pituitary adenomas. Preoperative evaluation using paranasal sinus computed tomography (CT) is essential to assess nasal cavity conditions and identify potential anatomical issues, such as sphenoid sinus structure, which could impact surgical outcomes. Factors like intercarotid distance, septal deviation, and visibility of the sphenoid sinus ostium play a crucial role in the surgical approach. This study aims to investigate how septal deviation affects sphenoid sinus structures in the context of the endoscopic endonasal transsphenoidal approach.

Materials and Methods: We analyzed CT images from 40 patients (21 females, 19 males) who visited the Otorhinolaryngology clinic at Bayındır Hospital in Ankara. The patients were classified into three groups based on septal deviation: Group 1 (0-9 degrees, 15 patients), Group 2 (9-15 degrees, 15 patients), and Group 3 (>15 degrees, 10 patients). Key morphological characteristics of the sphenoid sinus and related structures, including intercarotid distance, vomer-clivus distance, sphenoid sinus diameter, and the angle between the sphenoid sinus ostium and the sphenoethmoidal recess, were measured.

Results: The deviation was leftward in 21 patients and rightward in 19. A significant difference in septal deviation angles was found between groups. As deviation increased, the intercarotid distance notably decreased ($p<0.05$). Additionally, a significant difference was observed in the angle between the left ostium of the sphenoid sinus and the sphenoethmoidal recess between Group 2 and Group 3 ($p<0.05$).

Conclusion: Septal deviation significantly affects the intercarotid distance, which is crucial for the surgical field in endoscopic endonasal procedures. Our findings suggest that evaluating septal deviation before surgery is essential for optimal surgical planning.

Keywords: septal deviation, sphenoid sinus, endoscopic endonasal transsphenoidal approach

OP52

Investigation of hippocampus, subiculum and thalamus subnucleus volumes in parkinson's patients, pilot study

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Objective: Parkinson's disease (PD) is a slowly progressive neurodegenerative brain disease. PD spreads from these regions to the upper parts of the brain (substantia nigra and cortex cerebri). Our study aimed to compare certain brain structures of individuals with PD with those of individuals without PD using the Volbrain method.

Materials and Methods: Fifteen patients who applied to the Neurology Polyclinic of Alanya Alaaddin Keykubat University Hospital and were diagnosed with PD and 11 people without a neurological diagnosis were evaluated as the control group. The MR images of the patients taken during the routine diagnosis process were processed and evaluated with the Volbrain volume imaging program. White matter, gray matter, cerebrospinal fluid, intracranial volume, hippocampus, subiculum, thalamus and thalamus subnuclei were measured and recorded. All volume data were compared to the individual's own intracranial volume. The significance level was taken as 0.05 in the analyses.

Results: The average age of the 15-person group with PD was determined as 71 and the average age of the 11-person control group was determined as 64. Brain volume ratio values which were significantly different between the two groups ($p<0.05$) were determined as follows in the PD and control groups, respectively: Right hippocampus 0.226±0.006% and 0.247±0.007%. Total white matter volume was 31.4±0.681% and 27.087±0.8%, right white matter volume was 15.62±0.355% and 13.52±0.417%, left white matter volume was 15.78±0.334% and 13.59±0.392%. Apart from these data, all volume ratios were statistically similar in the PD group, although lower than the control group ($p>0.05$).

Conclusion: The ratios of gray and white matter are the basic structures examined in understanding brain atrophy. We believe that our findings will contribute to the literature in the early diagnosis of PD, which is still under study in its diagnosis and treatment, by studying it in a larger sample.

Keywords: Parkinson's disease, brain volume, volBrain

OP53

Ultrasonographic evaluation of the locomotor system structures in the lower extremity of a cadaver fixed with a formaldehyde-based solution

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Objective: Use of cadavers in education has traditionally been associated with anatomy. However, in recent years, cadaver-based training has increasingly become an integral part of both pregraduate and postgraduate education in many fields of medical education, particularly surgical disciplines. Present study, the locomotor system structures of the lower extremity were evaluated using ultrasonography on a fixed cadaver.
Materials and Methods: The study was conducted on a cadaver preserved with a formaldehyde-based solution ESOGU Medical Faculty. The sartorius, gracilis, biceps femoris muscles, and sciatic nerve evaluated in anterior and posterior aspect of thigh. The lateral and medial menisci of the knee, as well as the relationship between the fibular head and the common peroneal nerve were examined. Additionally, the images of the gastrocnemius and soleus muscles were evaluated.
Results: The obtained images showed the same characteristics as live human images in terms of bone, ligament, muscle, and nerve structures. All participants in the training had the opportunity to identify significant anatomical structures on the cadaver. But then, among the bursae, only the bursa anserina could be identified, and smaller bursae could not be visualized. The menisci were observed in a manner consistent with those in living humans. Arteries were structurally identical, but the absence of pulsation was noted as a challenging factor for both detection and evaluation of adjacent structures. Regarding the cadaver's position, the accumulation of the fixation solution in the lower regions posed a disadvantage for imaging. This situation made it difficult to identify certain anatomical structures in the depressed areas.
Conclusion: Courses conducted on cadavers can offer training not only in surgical procedures but also in minimally invasive or non-invasive diagnostic and treatment methods.

Keywords: ultrasonography, cadaver, lower extremity

OP54

Investigation of the relationship between cognitive impairment levels and subcortical basal ganglia volumes and cortical thickness in Parkinson's disease patients

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Objective: Parkinson's disease is a neurodegenerative disorder causing motor and cognitive impairments due to dopaminergic dysfunctions in the basal ganglia. This study aims to compare subcortical basal ganglion (BG) volumes and cortical thickness based on cognitive impairment levels, and to evaluate their relationships with neuropsychometric tests.
Materials and Methods: The study included 24 healthy controls (HC), 22 Parkinson's patients without cognitive impairment (PH-NB), 20 with mild cognitive impairment (PH-MCI), and 14 with dementia (PH-D). Brain magnetic resonance images were analyzed using FreeSurfer software to calculate cortical thickness and BG volumes. Clinical assessments included the Clinical Dementia Rating, Mini-Mental State Examination (MMSE), Clock Drawing Test (CDT), Wechsler Memory Scale, and Geriatric Depression Scale (GDS). Cortical thickness analysis was performed using the QDECR package in R; One-Way ANOVA and Kruskal-Wallis tests were used for volume comparisons, and Spearman's correlation test evaluated clinical relationships. Izmir Bakırçay University, Non-Invasive Ethics Committee No: 1135.
Results: Putamen volumes were 4485.71 mm^3, 4595.00 mm^3, 4439.11 mm^3, and 4046.54 mm^3 in HC, PD-NC, PD-MCI, and PD-D groups, respectively, while globus pallidus volumes were 1825.31 mm^3, 1910.76 mm^3, 1903.20 mm^3, and 1759.85 mm^3. Significant differences were observed in putamen and globus pallidus volumes among the groups ($p<0.05$). Average cortical thickness was 2.36 mm, 2.31 mm, 2.31 mm, and 2.21 mm in HC, PD-NC, PD-MCI, and PD-D groups, respectively, with the PD-D group showing significantly thinner cortices ($p=0.000$). Globus pallidus volume in HC was positively correlated with CDT ($r=0.331$), globus pallidus volume in PD-NC was positively correlated with MMSE ($r=0.388$). In PD-MCI, nucleus caudatus volume correlated positively with MMSE ($r=0.438$) and negatively with CDT ($r=-0.346$). In PD-D, putamen volume showed positive correlation with CDT ($r=0.390$) and negative correlation with GDS ($r=-0.421$).
Conclusion: As cognitive impairment progresses in Parkinson's disease, putamen and globus pallidus volumes decrease, and cortical thickness thins. These changes may be biomarkers of the neurodegenerative processes associated with cognitive decline

Keywords: Parkinson's disease, basal ganglia, cortical thickness

OP55

'Google Forms' and 'Kahoot' in anatomy education

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Objective: Anatomy education is a discipline with difficulties in the learning and recall process that requires extensive knowledge, especially in health sciences. Kahoot and Google Forms are some of the digital tools that aim to increase the participation of the students in the classroom by creating interactive learning environments, making the learning process more efficient and evaluating this process. This study aimed to compare the effectiveness of Kahoot and Google Forms in teaching Anatomy, and to evaluate how students perceived these tools to be.

Materials and Methods: 178 students who were first time anatomy students at Ankara Medipol University Vocational School of Health Services were part of the study. The use of Kahoot and Google Forms applications was part of the anatomy course at the end of the course. At the end of the eight-week course, feedback was obtained from the students with a questionnaire.

Results: 98.3% of participants reported that Kahoot was easier to use. It was rated more enjoyable than Google Forms (91.01%), more effective at increasing course interest (89.89%), more helpful for learning anatomy (91.57%), and better for information retention (85.95%). Although 73% stated that traditional methods worked better for the anatomy course, preferences showed that 48.3% favored Kahoot alone, 45.5% preferred using both applications, and only 1.7% chose Google Forms.

Conclusion: Digital tools like Kahoot can enhance motivation and engagement in complex courses like anatomy. While traditional methods remain significant, Kahoot stood out in application preferences, offering a fun and effective approach that supports information recall. These findings highlight the potential benefits of integrating engaging digital tools like Kahoot into anatomy education to improve learning outcomes and student interest.

Keywords: Kahoot, Google Forms, anatomy education

OP56

Effects of stem cells on rat embryo development in hypoxy embryo culture

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Objective: This study aimed to compare the in vitro effects of bone marrow mesenchymal stem cells (BM-MSCs) and adipose tissue mesenchymal stem cells (AT-MSCs) in mitigating intrauterine growth retardation caused by oxidative stress.

Materials and Methods: The ethical approval for this study was obtained by the Animal Care and Use Committee (Ethics Committee) of Erciyes University (Date:19.06.2019, Decision No:19/119). 9.5-day-old embryos from Wistar albino pregnant rats were exposed to in vitro hypoxia and treated with BM-MSCs or AT-MSCs in embryo culture. The research design consisted of 6 groups with 10 embryos per group. At 11.5 days, embryos and yolk sacs were evaluated morphologically and histologically to assess developmental differences between groups.

Results: Hypoxia induced angiogenesis- and neurogenesis-related anomalies. Stem cell treatments (H+BM-MSC, H+AT-MSC) significantly improved embryonic development compared to the hypoxia group ($p<0.05$). Although stem cell-treated embryos lagged slightly behind controls under normoxia ($p>0.05$), both BM-MSC and AT-MSC applications mitigated hypoxia-related growth defects. Notably, the H+AT-MSC group showed superior development compared to the H+BM-MSC group ($p<0.05$), with results closer to the normoxic control group.

Conclusion: AT-MSCs demonstrated a more effective improvement in embryonic and yolk sac development compared to BM-MSCs under hypoxic conditions. These findings suggest that AT-MSC therapy could offer a promising approach to treat angiogenetic and neurogenetic disorders caused by oxidative stress.

Keywords: hypoxy, stem cells, embryo culture

OP57

Investigation of lingual foramen morphometry

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Objective: The aim of this study was to investigate the prevalence, location and anatomical features of lingual foramen and to assist in the planning of dental implant placement.
Materials and Methods: In the study, 24 dry mandibles in the inventory of the anatomy dissection laboratory of Gülhane Medical Faculty, University of Health Sciences were used. A flexible wire was used to to identify the lingual foramen on the inside of the mandibular body. Inside of the mandibular body was divided into transverse regions by the alveolar part, the line passing over the superior mental spine and the line passing under the inferior mental spine. These regions were then divided into sagittal regions, medial and lateral, according to the alignment of the central incisors, and the locations of the lingual foramen were recorded. The diameter of the lingual foramen and their distances to the base of mandible, upper margin and midline were measured. Measurements were made with a digital caliper.
Results: Lingual foramen was detected in all mandibles examined. The medial lingual foramen was found in 95% of mandibles, while the lateral lingual foramen was found in 71%. Medial and lateral lingual foramen were present together in 67% of them. The lateral lingual foramen was smaller in size than the medial lingual foramen, measuring 0.86 ± 0.35 mm and 0.71 ± 0.24 mm in diameter, respectively. 83% of the medial lingual foramen were located above the mental spine. Lingual foramen was detected in 25% at alveolar part.
Conclusion: The lingual foramen is of great importance for dentists and maxillofacial surgeons given its frequency of occurrence and the risk of injury during placement of dental implants. In conclusion, the anatomical features of the lingual foramen should be considered in treatment planning during implant placement in the midline of the mandible.

Keywords: lingual foramen, mandibula, prevalence

OP58

Examination of the thickness and volume of frontal and temporal cortex in Alzheimer patients diagnosed with mild cognitive ımpairment: A pilot study

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Objectives: Alzheimer's disease (AD) is a neurodegenerative disease of the central nervous system (CNS) that begins with forgetfulness and has a prevalence of approximately 10% in the elderly population. In AD, degeneration primarily occurs in regions related to memory. As the disease progresses, volumetric loss and degeneration are observed in other regions of the brain. Volumetric changes can be monitored using Magnetic Resonance (MR) imaging, which provides high-resolution images of brain tissues. Volume loss and structural abnormalities are the most commonly observed findings in AD neuroimaging studies. It is important to compare the volume variations seen in cognitive impairments between individuals with and without AD. This study aims to identify regional volume differences in brain images of individuals diagnosed with AD and those without any neurological diagnosis.

Materials and Methods: Eleven patients diagnosed with AD and 13 individuals without any neurological diagnosis, who applied to the Neurology clinic of Alanya Alaaddin Keykubat University Training and Research Hospital, were included as the study group and control group, respectively. All volume data were normalized to each individual's intracranial volume. The data were analyzed using IBM SPSS 25 software. Prior to analysis, ANCOVA assumptions were checked. Age was included as a covariate. Data were corrected based on the selected covariate age value (64.75). The normality assumption for the dependent variable in each group was verified using the Shapiro-Wilk test ($p > 0.05$). The significance level was set at 0.05 for the analysis.

Results: The mean age of the patient group (1 male, 10 female) and the control group (7 female, 6 male) were 63.54 and 65.76, respectively. There were significant differences in brain volume ratios ($p < 0.05$) between the AD and control groups. The orbital inferior frontal gyrus total volume ratio was 0.154 ± 0.011 in AD patients and 0.190 ± 0.010 in controls. On the left side, it was 0.074 ± 0.007 in AD patients and 0.095 ± 0.006 in controls. The superior frontal gyrus medial segment on the right side was 0.399 ± 0.02 in AD patients and 0.467 ± 0.019 in controls. The total volume of the temporal fusiform gyrus was 1.109 ± 0.031 in AD patients and 1.214 ± 0.029 in controls. On the right side, the temporal fusiform gyrus volume was 0.543 ± 0.018 in AD patients and 0.615 ± 0.016 in controls. Apart from these, all other volume ratios were lower in the AD group compared to the control group, but were statistically similar ($p > 0.05$).

Conclusion: Literature reviews indicate that many volume measurement studies using MR imaging techniques have been conducted in individuals with neurodegenerative disorders, including mild cognitive impairment. The results obtained in this study show that patients diagnosed with AD have areas of brain atrophy compared to normal individuals, and these findings are consistent with the literature. We believe that this method can be applied in many neurological diseases and could assist in diagnosis and treatment progression.

Keywords: cortex, Alzheimer's disease, volume

OP59

Analysis of anatomy education in preclinical and clinical process: A national and ınternational comparison

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Objective: This study aims to examine the anatomy education curricula in medical schools listed in the QS World University Rankings and Türkiye's URAP rankings, assessing the presence of anatomy education in preclinical and clinical stages.
Materials and Methods: The study analyzed the course catalogs of medical schools ranked in the top 30 in the QS World University Rankings and Türkiye's URAP rankings. Medical schools without publicly accessible course catalogs were excluded. The analysis was conducted independently by three anatomists using the keywords "anatomy," "dissection," and "foundation." The course contents were evaluated through thematic analysis and classified based on academic years (preclinical and clinical) and materials used (cadavers, digital simulations, laboratory materials). The CARDA checklist was utilized to ensure a systematic approach during the document analysis process.
Results: Out of the top 30 universities in the QS rankings, 24 were included in the study, alongside the top 30 universities in Türkiye. It was found that all international medical schools provided anatomy education during the preclinical period, but only 25% included anatomy courses during the clinical period. Of these clinical courses, 91.7% were conducted in the fourth year, with the most commonly used materials being cadavers (58.3%) and laboratory materials (25%). In contrast, no anatomy laboratory training was identified in the clinical stages of medical schools in Türkiye.
Conclusion: On an international level, clinical anatomy education is limited, although a multidisciplinary approach is emphasized. In Türkiye, there is a need to increase anatomy education during the clinical phase. This study highlights the importance of addressing deficiencies in anatomy education at both national and international levels.

Keywords: anatomy education, clinical phase, multidisciplinary approach

OP60

Bursa Uludağ University cadaver donation data and problems in the delivery of donated cadavers to the institution

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Objective: The human body is an indispensable educational material in the education of medical students and medical specialty students. Despite the changing and developing health system, no matter how diversified the modalities used in anatomy education, the place of the cadaver remains unquestionably important. Although the possibility of obtaining cadavers from abroad has been made available in Türkiye, the ability of faculties to have access to a sufficient number of cadavers depends to a large extent on increasing the number of cadavers obtained through donations.
Materials and Methods: The donation forms of people who donated their bodies to Bursa Uludağ University in the last 32 years were examined and their demographic information was recorded. The death status of the donors was investigated and it was evaluated whether the bodies of the deceased were delivered to the university.
Results: Our total number of donors is 180 and 80% of our donors are male and 20% are female. The impact of information and media campaigns in our region is clearly seen in the increase in donations over the years. As a result of our investigations, 15 donors registered on the donor forms and identified as deceased have not donated for unknown reasons.
Conclusion: After the death of a donor, the delivery of the body to educational institutions depends to a large extent on the commitment of the donor's relatives. To overcome the negative aspects of transporting donated death bodies to the institution, a mechanism should be established to ensure that institutions are aware of the death status of donors. As in the case of organ donation, contacting the donor's relatives can help to manage this process more effectively. In this way, communication can help to overcome some of the barriers to the delivery of donor bodies to institutions.

Keywords: cadaver, body donation, medical education

POSTER PRESENTATIONS

P1

Time course of corpus callosum atrophy in multiple sclerosis

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Objective: Multiple sclerosis (MS) is a central nervous system disease characterized by inflammation, demyelination, and neurodegeneration, primarily affecting individuals aged 20-40 years. Corpus callosum (CC) atrophies in MS and is linked to cognitive and physical dysfunction. This study examines time-dependent changes in CC in RRMS patients compared to healthy controls.
Materials and Methods: The study included 50 RRMS patients and 50 healthy controls matched for age (RRMS: median 33.50 years; control: median 38.00 years) and gender (RRMS: 32% male, 68% female; control: 36% male, 64% female). The genu, truncus, splenium thickness, CC length, and CC index were manually measured from T1 brain MR images from 2017, 2019, and 2022. Manual measurement was preferred for its ability to capture high-resolution anatomical details and reduce automated error rates, though it carries risks of user-related errors. Statistical analyses were performed using IBM SPSS 20.0. Normality was assessed using Kolmogorov-Smirnov and Shapiro-Wilk tests. Mann-Whitney U test was applied for group comparisons, Friedman two-way variance analysis for dependent groups, and Dunn test for multiple comparisons ($p<0.05$).
Results: RRMS patients showed lower thickness and index values in all CC sections compared to controls. Significant differences were found in genu and splenium thickness and CC index ($p<0.05$). Truncus thickness decreased by 4.17%, splenium thickness by 4.83%, and index values by 3.33% between 1st-3rd MR measurements. These changes underscore disease progression. Significant differences were also observed in truncus thickness between 1st-3rd and 2nd-3rd MR measurements ($p<0.05$).
Conclusion: CC measurements may be valuable biomarkers for clinical prognosis in MS patients. Changes in truncus and splenium regions are particularly critical for evaluating disease progression. CC measurements can clinically assist in early diagnosis and treatment planning. Further studies should include diverse age groups and disease stages.

Keywords: corpus callosum, multiple sclerosis, atrophy

P2

Measurement of anxiety values of cadaver and simulation student groups in medical school anatomy education

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Objective: Different materials are used in anatomy education given to students in medical faculties. Among these, cadaveric training is frightening for some students and causes anxiety. Our aim in this study was to investigate whether there is a difference between the anxiety levels of medical school students in two training groups, one cadaveric and one simulation (Cyber Anatomy 3D).
Materials and methods: The study was conducted with a total of 247 medical students. The State-Trait Inventory Index (STAI FORM) scale, which includes state and trait anxiety scores, was used to assess the anxiety status of the students. Students completed the questionnaire before participating in the training. The questionnaire scores ranged from 20-80, with a high score indicating a high level of anxiety.
Results: Female students had statistically significantly higher anxiety scores than male students in both cadaver and simulation groups ($p=0,004$, $p<0,001$, respectively). The state anxiety score for the cadaver group was statistically significantly higher than the simulation group ($p=0,002$), whereas there was no difference between the trait anxiety scores. When the scores of female and male students were analyzed separately according to their gender, it was found that only female students in the cadaver group had statistically significantly higher state anxiety scores ($p=0,001$).
Conclusion: The cadaver, which is the main material of anatomy education, increases the state anxiety scores of all students, especially in female students. Anxiety scores were lower in simulation training. Today, new anatomy education methods are being developed thanks to the developing technology. Before the anatomy education to be given to the students, the benefit-harm effect of these methods can be considered and their education can be planned by dividing them into elective groups.

Keywords: anxiety, anatomy education, cadaver

P3

A rare tendon variation of the fibularis tertius muscle in an adult cadaver

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Objective: The fibularis tertius muscle (FT), also known as the peroneus tertius muscle, is a relatively small muscle in the anterior compartment of the leg. It is also described as the fifth tendon of the extensor digitorum longus muscle and terminates on the dorsal surface of the base of the fifth metatarsal bone. The morphology of this muscle, which plays a role in dorsiflexion and eversion of the foot, is highly variable. In this case report, a rare tendon variation related to the distal attachment site of the muscle is reported.
Case: In the right lower extremity of a 65-year-old male cadaver dissected for educational purposes, a tendon variation of the FT was noted. In this case, the resultant tendon of the FT was found to split in two just before the insertion point. In this case, the proximal tendon was seen to attach to the base of the fifth metatarsal. The distal tendon was inserted into the fifth metatarsal 12 mm from the attachment point of the proximal tendon fragment. No structural variation was found in the initial tendon and muscle body of the FT with tendon variation. No anatomical variation of the FT was found in the left lower extremity of the same cadaver.
Conclusion: The frequency of the variation reported in this case report varies between 1.52% and 7.2% in the literature. FT is widely used as a free muscle flap to treat soft tissue defects and osteomyelitis in the lower extremity. This muscle, which can be used as a graft tissue in reconstructive surgery, is also used in surgical procedures requiring tendon transfer such as pes planus and tenoplasty. We believe that knowledge of the tendon variations of the FT will reduce the complication rate of surgical procedures performed in this region and increase the chances of success.

Keywords: the fibularis tertius muscle, cadaver, variation

P4

Dissection of the medulla spinalis by creating a thoracolumbar window and laminectomy on the columna vertebralis

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Objective: This study was conducted at the Kocaeli University, Faculty of Medicine, Department of Anatomy, to dissect the spinal cord of a female cadaver preserved in 10% formalin. A practical approach involved creating a thoracolumbar window and performing a laminectomy to detail distal structures.
Case: In the prone-positioned cadaver, the T12-L4 levels were identified as the dissection line. After performing the dissection of the skin and subcutaneous fat tissue, the superficial back muscles, including musculus (m.) latissimus dorsi and m. serratus posterior inferior, were removed to access the m. erector spinae. Using bilateral paraspinal incisions, the mm. erector spinae were entirely lifted from medial to lateral. This approach exposed the mm. transversospinales, mm. interspinales, and mm. intertransversarii. Removing these muscles revealed the arcus vertebrae. The laminae of the vertebrae within the opened window (T12-L4) were bilaterally cut using a bone saw, and a laminectomy was performed. The ligamentum (lig.) flavum structure was observed internally. After the bone fragments were removed, the dura mater spinalis and spinal nerve roots were exposed. A median incision was made in the dura mater spinalis, and its layers were separated to reveal the arachnoid mater. After stripping the arachnoid mater, the medulla spinalis covered by the pia mater was accessed, and the nerve roots forming the conus medullaris and cauda equina were observed.
Conclusion: In this study, instead of opening the entire columna vertebralis, a thoracolumbar window technique and laminectomy were employed to observe the medulla spinalis. This approach facilitated the demonstration of structures such as the conus medullaris, cauda equina, and filum terminale, which are significant in clinical and medical education. It is thought that this method will save time for researchers and educators in their work.

Keywords: thoracolumbar window, dissection, medulla spinalis

P5

Double right renal artery clinic: A case report

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Objective: In our study, we observed a double right renal arter separated from the aorta abdominalis during a dissection and aimed to define its clinical significance.
Materials and Methods: Our study was performed in Inonu University Anatomy Cadaver Dissection Laboratory. During routine dissection, a right-sided variation was detected in a 65-year-old, 175 cm, 54 kg male cadaver. Length and diameter measurements of this variation were made with a digital caliper and recorded in mm.
Results: The aorta abdominalis is generally separated from the right and sinistra renal arter. During dissection, two renal arter were observed on the right side and one on the left side. According to the classification of Cases C. et al. our case was closer to type d and model 3. Unlike this classification, all arteries were observed to enter the kidney from the hilum. There is no polar artery. The length and diameter of the right and sinistra renalis were 66 mm and 72.4 mm, 2.8 mm and 5.3 mm, and 32.8 mm, respectively. It was also recorded that the 72.4 mm right renal arter was divided into two branches at the hilum renale and their diameters were 3 mm and 1.8 mm. There is a distance of 2.8 mm between these two small branches. The distance of the thicker terminal branch to the other right renal arter was 18.4 mm, while the distance of the thinner branch was 8.8 mm. The distance from the origin of the right renal arter to the truncus coeliacus was 17.4 mm and to the superior mesenteric arter was 4.1 mm.
Conclusion: For the increasing number of radiologic interventional procedures, transplantation and other surgical applications, knowing the presence of these variations and not ignoring their proximity to other important structures will reduce the margin of error in surgical procedures.

Keywords: variation, renal artery, double

P6

Bilateral trifurcation of the sciatic nerve; A rare case report

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Objective: The sciatic nerve is the thickest nerve of the body and is a continuation of the sacral plexus. It leaves the pelvis through the lesser sciatic foramen and extends from the lower edge of the piriformis muscle to the lower 1/3 of the thigh. Here it gives its terminal branches as tibial nerve and common peroneal nerve. Trifurcation of the sciatic nerve is a rare variation. The aim of this case report is to demonstrate bilateral trifurcation, a rare variation of the sciatic nerve.
Case: The case was found during routine dissection of the gluteal region, posterior thigh and fossa poplitea of a 77-year-old male cadaver in Karabük University Faculty of Medicine, Department of Anatomy. The cadaver died of perforated peptic ulcer and had chronic heart disease and chronic obstructive pulmonary disease. It was observed that the sciatic nerve arises bilaterally from the lower edge of the piriformis muscle as a trifucation and continues to the posterior thigh region. It was seen that the thin branch went to the adductor magnus muscle bilaterally, one of the thick branches was tibial nerve and the other was common peroneal nerve.
Conclusion: We believe that this rare (<1%) anatomical variation will contribute to invasive procedures and anatomy science in this region.

Keywords: sciatic nerve, bilateral trifurcation, variation

P7

Evaluation of pes planus prevalence in Turkish and immigrant children at primary school age

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Objective: The foot is a complex anatomical structure composed of numerous bones, joints, muscles, and connective tissues. It supports the body's weight during daily activities, plays a crucial role in movement, and is subjected to constant physical stress. To counteract the wear and tear caused by these forces, arches develop in the foot. Pes planus occurs when the height of the medial longitudinal arch decreases or collapses entirely. The natural course of pes planus is not well understood, and it is believed that various structural and environmental factors contribute to its development. Studies in the literature suggest that pes planus may develop due to genetic and environmental factors. However, the association between pes planus and the socio-economic characteristics of families remains a subject of debate. This study aims to investigate how ethnic background and socio-economic characteristics influence the prevalence of pes planus in children.
Materials and Methods: The study included 384 boys and 338 girls aged 6-9 years, attending grades 1 to 4 of primary school. The participants consisted of Turkish students attending private schools (80) and public schools (456), as well as Syrian students (186). Socio-economic status was classified based on criteria such as income level, parental education and employment status, type of housing, living environment, and health insurance. Footprints were obtained by having the children step onto plain paper after their feet were briefly immersed in a container of water. The footprints were evaluated using the Staheli index. Statistical analyses were performed using IBM SPSS Statistics version 20, and categorical variables were compared using the chi-square test or Fisher's exact chi-square test, as appropriate. A p-value of <0.05 was considered statistically significant.
Results: Significant statistical differences were observed between Turkish and immigrant children. However, no statistically significant differences were found in terms of socio-economic characteristics.
Conclusion: The result of this study clearly shows that pes planus differs between nations. In addition to the differences between societies, the examination of socio-economic factors is important to uncover how pes planus develops and the challenges it creates in our lives. Based on our study findings, families can be informed through awareness campaigns. Education provided at public health centers can particularly help increase awareness among immigrant communities. We believe that educational and awareness initiatives shaped by the data obtained from this study have the potential to reduce the prevalence of pes planus in childhood.

Keywords: pes planus, immigrant children, socio-economic

P8

Examination of the double collecting system, a congenital renal anomaly, using radiological imaging methods: A case report

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Objective: Double collecting system (DCS) is one of the most common congenital anomalies of the urinary system. According to the anatomical structure of the anomaly, definitions such as duplication, duplex kidney, bifid system and double ureter are used. Our aim is to examine the variational anatomy of the urinary system radiologically.
Case: Our patient was admitted to the clinic at the age of 2 years and 10 months due to chronic urinary tract infection. It was noted that kidney morphometry was normal in the first ultrasound (US). However, in this evaluation, the right renal pelvis was measured as 10 mm. In the repeated US, a grade 2-3 upper pelvicaliectatic area was detected in the right kidney and thinning of the parenchyma adjacent to this area. In addition, a second dilated ureter with a diameter of 10 mm was shown to enter the pelvis from the posterior wall of the right kidney. DCS was diagnosed and further imaging tests were requested. In the voiding cystourethrography, vesicoureteral reflux (VUR) was seen in the right kidney. In the scintigraphy, the relative uptake values were recorded as 69% on the left and 31% on the right. According to the MRI, it was observed that there was a dilated DCS draining the upper segment of the kidney, and the accessory ureter was a ureterocele towards the bladder base. It was recorded that the parenchymal tissue was in the form of a line at its narrowest point and 5 mm at its thickest point. The patient was taken to surgery after planning his treatment.
Conclusion: The system where congenital structural anomalies and variations are most frequently seen is the urinary system. Anatomical evaluation of the urinary system is very important in the preoperative preparation of conditions such as DCS.

Keywords: double collecting system, anomaly, renal

P9

Morphological and morphometric evaluation of extensor hallucis longus: A fetal cadaveric study

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Objective: Extensor hallucis longus (EHL) is a thin muscle located in the extensor compartment of the leg and provides extension to the big toe and ankle. All anatomical components located in the extensor compartment are susceptible to trauma. In extensor tendon traumas, the presence of the EHL auxiliary band provides a functional advantage to the muscle. The aim of this study was to evaluate the morphologic and morphometric aspects of the EHL in fetal cadavers and to identify possible variations.
Materials and Methods: The study was performed on 54 lower extremities of fetal cadavers in the Department of Anatomy, Necmettin Erbakan University, Faculty of Medicine. This study conformed to the Helsinki Declaration. The distal parts of the lower extremities of the fetal cadavers were dissected according to the specified dissection protocol. Leg (LU) and foot length (FU), foot width (FG), EHL body length (EHLBL), width (EHLBW) and thickness (EHLBT), EHL tendon length (EHLTL), width (EHLTW) and thickness (EHLTT) were measured using electronic digital calipers. Possible variations of the EHL were analyzed.
Results: In our study, EHLGBL, EHLBW, EHLBT, EHLTL, EHLTW and EHLTT were determined as 38.91±8.29, 3.98±0.95, 2.14±0.67, 25.01±6.97, 1.90±0.57 and 1.41±0.58 mm on average. The difference between EHLBW and EHLBT was statistically significant between genders ($p<0.005$). In both male and female fetal cadavers, the most common type of EHL was Type 1 (male: 23%, female: 17%), while Type 2a (male: 2%, female: 9%), Type 2b (1%) and 2d (2%) were seen only in female fetal cadavers.
Conclusion: In the study, the presence of auxiliary bands of the EHL and the locations of these bands were determined as a percentage. The data obtained may provide a basis for providing functional advantages in possible ankle extensor compartment traumas.

Keywords: extensor hallucis longus, cadaver, fetal

P10

Creating plastic models of vertebral column bones

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Objectives: Plastic models are used for anatomy education, in addition to cadavers and real bones in Medical faculties, dentistry faculties and Health Sciences departments. These models used as course materials are provided from abroad. With this study, it was considered that plastic bones, models and materials should be created with local facilities and used in the education of students at affordable costs.
Materials and Methods: Bones formed from plastic material are more practical in terms of hygiene, transportation, cost and transportation. Considering the difficulty of accessing bone materials, it has been ensured that students and physicians working in surgical branches can reach the bones. The bones belonging to the human body were obtained from the student laboratory of our department.
Results: Complete bones are selected and prepared for mold removal. First of all, silicone molds were obtained from the bones, and plastic models were obtained with plastic material poured into the molds. Correction, polishing, leveling and assembly processes were performed on the bone models created and the products were given their final form.
Conclusion: The bones of the vertebrae column and the intervertebral discs obtained were used in our laboratory for educational purposes.

Keywords: plastic models, anatomy education, columna vertebralis

P11

Williams syndrome with cardiovascular and endocrine system symptoms – Case report

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Objective: Williams syndrome (WS) is a rare genetic microdeletion disorder that leads to a variety of lifelong challenges. This paper examines the genetic basis of WS, focusing on its cardiovascular, cognitive, and behavioral effects. The loss of the elastin gene and other genetic factors causes a range of symptoms, including facial features and cardiovascular anomalies. Early diagnosis, genetic testing, and a multidisciplinary approach are crucial for effective management. Treatment of sleep disorders, social isolation, and sensory dysregulation in WS patients is also discussed.
Case: Our patient, a 12-year-old girl,. She is 128 cm tall, weighs 36 kg, and has a body mass index (BMI) of 21.97. She has an umbilical hernia and experiences frequent urination and urinary incontinence. While her urinary ultrasound results are normal, mild grade 1 hydronephrosis is observed in the right kidney. Cranial MRI is normal, and echocardiography shows mild supravalvular aortic stenosis. She also has hypothyroidism and abnormal breast development. Radiographic growth monitoring is normal, and there is a curvature in the intergluteal lines. Unlike typical WS cases, she does not have short stature.
Conclusion: This case highlights the common features of WS, including heart disease, growth delays, and social challenges, as well as rare issues such as gastrointestinal (umbilical hernia) and genitourinary (frequent urination, incontinence) problems. The normal suprapubic ultrasound and kidney size provide new insights into WS's effect on kidney health. Early diagnosis, made at 1.5 years, is critical for optimizing cognitive, social, and physical development. This case underscores the importance of early intervention and may inform the development of early diagnosis guidelines for WS.

Keywords: Williams syndrome, symptoms, cardiovascular and endocrine system

P12

Os peroneum: Case Report

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Objective: Os peroneum is a sesamoid bone located in the tendon of the musculus peroneus longus (PLT) near the cuboid. In cases where it has ossified, it can be seen in 4.7-31.7% of foot radiographs. Os peroneum fractures may also accompany PLT tears due to ankle trauma. Detection of the fracture and its relationship with PLT is important regarding peroneal compartment syndrome and ankle instability.
Case: A 53-year-old male patient applied to the orthopedic clinic of Necmettin Erbakan University Medical Faculty Hospital complaining of pain and swelling in the lateral part of his left foot. Anamnesis revealed that the patient had been experiencing complaints for approximately 1 year. The pain improved with rest but worsened with walking. In the patient's initial physical examination, tenderness and mild edema were observed along the bone trace of the metatarsal V and cuboid in the lateral part of the patient's left foot. Initially, assuming a fracture, anteroposterior direct radiograph of the foot was taken, but since no fracture could be detected, a computerized tomography (CT) was requested as further examination. In the patient's CT images, bilateral os peroneum was identified, with a bipartite structure in the right foot and a single structure in the left foot. The length, height and, width measurements of the larger part of the os peroneum on the right foot were determined as 21.4-11.88 and 11.05 mm, and the smaller part as 6.01-6.29 and 6.33 mm, respectively. The measurements of the os peroneum on the left foot were determined as 28.9-10.48 and 13.98 mm.
Conclusion: The presence and fragmentation of os peroneum is clinically important because it complicates the differential diagnosis between the presence of bone and cortical avulsion or soft tissue calcification in patients.

Keywords: os peroneum, sesamoid, musculus peroneus longus

P13

Arborization of the superficial radial nerve at wrist: implication for the safety of the dorsoradial wrist surgeries

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Objectives: Superficial radial nerve (SRN) is vulnerable to iatrogenic injury in arthroscopic and open surgeries performed in the dorsoradial wrist including scaphoid fracture fixation, thumb carpometacarpal (CMC) joint arthrodesis, percutaneous fixation of distal radius fracture. In this study, our aim was to define the SRN branches which can minimize the SRN injuries in dorsoradial wrist surgeries.
Materials and Methods: Three hands included in this study. Brachial artery was injected with red-dyed latex to reveal radial artery and its branches, then, meticulous dissection was performed on dorsoradial wrist to note the locations of medial, lateral and dorsal digital branches of SRN in accordance with carpal bones. Radial styloid (RS) and Lister's tubercle were used as landmarks to measure the distances to the portals at dorsoradial wrist and to the points where the dorsal digital branches cross the extensor pollicis longus (EPL).
Results: The average distance between the medial and lateral branches of SRN was 9.3 mm at the RS and 18.3 mm at the first CMC. The medial branch was coursing over the EPL at the first intermetacarpal joint. At the first CMC level, a variative SRN branch was located between medial and lateral branches.
Conclusion: There was not any nerve between the medial and lateral branches of SRN in the snuffbox which can serve a safe area to access scaphoid fractures. Incisions of the skin over this area can minimize the risk of nerve injuries.

Keywords: superficial radial nerve, dorsoradial wrist surgeries, nerve injury prevention

P14

Evaluation of biomechanical properties of spasticity formation process of some superficial muscles of head neck and upper extremity in stroke patients

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Objective: Spasticity after stroke is a common condition. It is characterised by abnormal muscle activity. Increased muscle tone is observed as a result of spasticity. Spasticity measurements are evaluated by subjective assessment methods that are frequently applied clinically. MyotonPRO is a fast, non-invasive, handheld myotonometer that can measure skeletal muscle stiffness. It was aimed to evaluate the measurability of viscoelastic properties with MyotonPRO by comparing the results obtained by measuring the regions with and without spasticity in the same individuals with MyotonPRO.
Materials and Methods: Approval was obtained from Gaziantep University Clinical Research Ethics Committee (2024/180). Measurements were performed in 17 individuals admitted to Gaziantep University Faculty of Medicine, Department of Neurology due to stroke. MyotonPRO was used to measure tonus (F), stiffness (S), elasticity (D) of masseter, biceps brachii, triceps brachii, brachioradialis, extensor carpi radialis longus, palmaris longus, flexor carpi radialis, trapezius, sternocleidomastoideus, deltoideus, temporalis muscles. MyotonPRO was used to measure tonus (F), stiffness (S), elasticity (D) of masseter, biceps brachii, triceps brachii, brachioradialis, extensor carpi radialis longus, palmaris longus, flexor carpi radialis, trapezius, sternocleidomastoideus, deltoideus, temporalis muscles. Statistical analyses were performed with SPSS 22.0 package programme and $p<0.05$ was considered statistically significant.
Results: Statistically significant ($p>0.05$) values were found in temporalis (D) (0.044) and extensor carpi radialis brevis (D) (0.020) values of 17 stroke survivors. After 3 months, a statistically significant difference was found in palmaris longus (S) (0.010).
Conclusions: No significant difference was observed except for the elasticity (D) of the m. extensor carpi radialis brevis and m. temporalis, since muscle tone varies depending on multiple factors. In the repeat measurements performed three months later, the rate of participation in patient follow-up was low and it is thought that more different results can be obtained with an increase in sample size.

Keywords: stroke, spasticity, MyotonPRO

P15

N. intermedius or cranial nerve XIV

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Objective: Cranial nerve XIV was first described in 1563 but did not appear in textbooks until 1777. This study aims to compile literature data by reviewing the history of the 14th cranial nerve.
Materials and Methods: The 'cranial nerve' sections of anatomy, histology, embryology and neurology books used in classical medical education were examined. The keywords 'cranial nerve 14', 'Nervus intermedius', 'portio intermedia', 'Wrisberg nerve', 'Sapolini nerve' were searched in the Pubmed database.
Results: The 14th cranial nerve is called nervus intermedius due to its location between facial and vestibulocochlear nerves. Usually, it is defined as a branch of the facial nerve that contains sensory and parasympathetic fibers. Nervus intermedius has various orientations, tortuous orbits and flexible anastomoses that differs it from the motor branches of facial nerve. In case of injury, it causes dysfunction of the structures innervated autonomically and sensorily by nervus intermedius.
Conclusion: The nervus intermedius has been an important area of study since it was first described in the 17th century. Electrophysiological, anatomical and embryological data indicate that it is not correct to define the nervus intermedius only as the sensory root of facial nerve. Furthermore, the origin, pathway, structure, and function of the nervus intermedius differ from other cranial nerves, suggesting that this nerve is truly an independent cranial nerve. Therefore, its acceptance as a branch of facialis should be re-evaluated. Our study, which aims to review the history of the nerve intermedius and compile literature data, may contribute to researchers and clinicians.

Keywords: n. intermedius, 14th cranial nerve, literature

P16
A cadaver case: Dolichosigma

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Objective: Dolichocolon refers to an abnormally elongated colon. This colonic elongation in the dolichocolon can affect all segments of the colon, but is usually limited to a single segment, with the most affected segment being the colon sigmoideum. This elongation of the colon sigmoideum is called dolichosigma. The aim of this study is to present a cadaveric case example demonstrating dolichosigma, a variation that changes the routine approach to surgical, interventional and diagnostic procedures.
Case: During routine dissection of a formalin-fixed male cadaver in Bursa Uludağ University Faculty of Medicine, Department of Anatomy, it was observed that the liver suffered hepatomegaly to the extent that it covered a large part of the regio lumbalis dextra and regio umbilicalis. When the caecum, colon ascendens and colon transversum are in their normal course, the colon descendes goes around the back of the colon transversum and reaches the back of the caecum; It was observed that the colon sigmoidum showed different curves than its normal course and that it wound around the regio inguinalis dextra in a longer course and merged with the rectum. It was examined in detail whether the cadaver had undergone a surgical procedure.
Conclusion: Although dolichosigma is mostly asymptomatic, it causes gastrointestinal symptoms such as constipation, abdominal pain and sigmoid volvulus in some patients. The diagnosis is made mostly incidentally during colonoscopy or computed tomography. However, in undiagnosed cases, encountering this variation during interventional and surgical procedures may change the surgical and interventional procedures, or not knowing the variation may cause injury to this area in routine practices.

Keywords: dolichosigma, cadaver, varition

P17

Variant insertion site of pes anserinus tendons: A case report

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Objective: The pes anserinus tendons consist of the semitendinosus, gracilis, and sartorius muscles' tendons. These tendons terminate at the proximal medial surface of the tibia. In this study, we aimed to describe the insertion of the pes anserinus tendons based on bony landmarks, emphasizing their differences from those observed in anatomical atlases.
Case: During standard lower extremity dissection in the anatomy laboratory, it was observed that the pes anserinus tendons terminated distal to the tibial tuberosity in a formalin-fixed-52-year-old male cadaver. The insertion of the pes anserinus tendons were documented and measured relative to bony landmarks (the patella and tibial tuberosity). The anatomical origins and courses of the pes anserinus muscles were normal. However, the tendons of the pes anserinus terminated bilaterally medial and distal to the tibial tuberosity. The pes anserinus insertion was located 58.87 mm distal to the tibial tuberosity on the right side and 33.40 mm on the left. Additionally, the distance between the patella and the tibial tuberosity was measured as 52.12 mm on the right and 78.73 mm on the left.
Conclusion: In classical anatomical textbooks, the insertion site of the pes anserinus is described as the medial surface of the tibial tuberosity, inferior to the medial condyle, or the proximal medial surface of the tibia. Additionally, anatomical atlases demonstrate different termination site of the pes anserinus tendons. In our case, while the distance between the tibial tuberosity and the insertion site of the pes anserinus tendons differed between sides, the distance between the patella and the insertion site showed similarity. Clinically, the length of the pes anserinus tendons should be considered, particularly in knee surgeries, tendon grafts, and orthopedic procedures.

Keywords: pes anserinus, tendon, insertion

P18

A case of megarectum in a cadaver and multidisciplinary evaluation

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Objective: An abnormally large rectum extending from the pelvis to the diaphragm was identified during routine cadaver dissection. This study aims to evaluate this rare finding in light of the literature and present the results of consultations with specialists from various disciplines.
Case: During the dissection of an 82-year-old male cadaver, the rectum, typically described as originating below the S3 level, was found to extend to the diaphragm. The dissection began with the removal of the small intestines. A circular incision was then made around the anus, and the large intestines were detached from all attachment points and removed completely. Measurements revealed a total length of 51.2 cm for the rectum and anal canal (from the anus to the colon sigmoideum). The anal canal's widest point measured 11.6 cm laterally, 9.9 cm anteroposteriorly, and had a circumference of 31.2 cm. The distance between the plica transversa recti superior and medius was 19.5 cm, while the distance between medius and inferior folds was 7.5 cm. A literature review was conducted, and the findings were evaluated from a multidisciplinary perspective involving specialists in general surgery, intensive care, forensic medicine, and anatomy.
Conclusion: No similar rectum enlargement was found in the literature. Forensic experts suggested that such enlargement could be related to trauma or abuse, while intensive care specialists hypothesized chronic enema use in long-term palliative care as a possible cause. The general surgery specialist did not consider the finding pathological. This rare anatomical observation may contribute to the literature as a reference and aid in differential diagnosis in clinical settings

Keywords: dissection, cadaver, rectum, megarectum