Supplement

Research Abstracts Presented at the Annual Academic Sessions 2026

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OP 01

Postmortem Tooth Retention Patterns in a Sri Lankan Geriatric Cohort

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Introduction

Postmortem dental retention profiles serve as critical parameters in physical anthropology, forensic identification and odontology. Using global dental charts introduces bias since regional genetics, diets and socioeconomic factors heavily influence dental retention. Local reference data tracking dental retention at death remains sparse within Sri Lanka. This preliminary study characterized morphological dental retention patterns across age, sex and tooth locations in the jaw within a local sample using a systematic extraction protocol to establish a physical repository.

Methods

This cross-sectional pilot study evaluated 12 cadavers donated with prior written consent to a state medical faculty in Sri Lanka. Specimens, sex and age were accessed from records. To perform a 360-degree morphological assessment of root structures and populate a repository, all remaining teeth were systematically extracted using standard dental forceps. Out of 384 potential dental positions (32 per individual), true antemortem tooth loss was differentiated from postmortem handling loss by macroscopically verifying advanced alveolar bone resorption and socket remodeling. Data were analyzed using descriptive statistics to calculate frequency distributions and percentages.

Results

The cohort comprised 6 males (50%) and 6 females (50%) with a mean age of 84.3 ± 10.2 years (range: 64–100 years). From 384 potential sites, 90 isolated teeth were physically recovered, indicating a 23.4% retention rate (mean: 7.5 teeth per individual). Macroscopic analysis of specimens mounted on Rigi foam sheets revealed exceptional structural integrity, with crowns and root pathways completely free of gross caries or decay. Complete edentulism occurred in 33.3% of the sample (n = 4), correlating with advanced age (≥ 90 years). Male cadavers demonstrated a slightly higher retention rate (n = 46/192; 24.0%) compared to female cadavers (n = 44/192; 22.9%), accounting for 51.1% and 48.9% of total recovered teeth, respectively. Mandibular positions demonstrated higher retention (n = 47; 24.5%) than maxillary positions (n = 43; 22.4%). Single-rooted anterior teeth exhibited the highest resilience: incisors showed 35.4% retention (n = 34/96) and canines showed 31.3% (n = 15/48). Conversely, posterior teeth showed lower retention: premolars retained 26.0% (n = 25/96), while multi-rooted molars exhibited the lowest survival rate at 11.1% (n = 16/144). Notable variations emerged among individuals in their ninth decade of life (aged 80-89 years), where two specific cadavers counteracted the severe dental depletion trend by retaining 22 and 15 healthy teeth respectively.

Conclusions

In general, tooth loss occurs from cavities breaking down. Bone loss resulting from age was the most likely cause in this sample. Anatomically, the observed retention gradient aligns with structural root complexity and differential mechanical exposure across jaw regions.

OP 02

Evaluation of *Clitoria ternatea* (Butterfly Pea) Flower Extract as an Alternative Stain for Human Peripheral Blood Smears

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Introduction

Peripheral blood smear examination is a fundamental diagnostic tool in haematology, but conventional Romanowsky stains are synthetic, relatively expensive, and raise environmental and health concerns. *Clitoria ternatea* (butterfly pea) flower extract, rich in anthocyanins, has shown promise as a natural staining agent in animal blood films and cytological preparations, yet its efficacy on human peripheral blood smears remains uninvestigated, despite the plant being locally abundant and cost-effective in Sri Lanka. This study therefore aimed to evaluate the staining efficacy of *Clitoria ternatea* flower extract as a sustainable alternative to Leishman stain for human peripheral blood smears, by comparing the extraction efficiency of 70% ethanol and 70% acetone, identifying optimal staining parameters, and qualitatively comparing the resulting stain with conventional Leishman stain.

Methods

This laboratory-based experimental study used fresh *Clitoria ternatea* (BMPF variety) flowers collected from the intermediate zone of the Kurunegala District, Sri Lanka, which were shade-dried, powdered, and extracted by manual maceration in acidified 70% ethanol and 70% acetone (six replicates each, 1:10 w/v). Presence of anthocyanins in each replicate was confirmed by a pH-based colour change assay, and extraction yields were compared using Welch's independent t-test after Shapiro-Wilk testing confirmed normality. Fresh capillary blood smears from a healthy volunteer with normal haematological parameters were prepared by the wedge method and fixed with absolute methanol, then stained with *Clitoria ternatea* extract solutions under systematically varied dissolving vehicle, concentration, pH, mordant, and staining time to identify the optimal protocol. The optimized stain was qualitatively compared with conventional Leishman stain by two independent evaluators using standard morphological criteria across five predefined parameters.

Results

70% ethanol yielded significantly higher and more consistent crude extract (42.9±0.71%) than 70% acetone (35.0±1.93%; $p<0.001$; Cohen's $d=5.48$), establishing it as the superior extraction solvent. Qualitative pH-based colour change assays confirmed anthocyanin presence in all replicates of both groups. The optimized protocol-100 mg/dL ethanolic extract in 70% ethanol, pH 7, 1% anhydrous aluminium chloride mordant, 20-minute staining produced consistent, well-distributed blue-purple staining of erythrocytes with a clear background, performing comparably to Leishman stain for uniformity and background clarity. Erythrocyte visualization was achieved reliably, while white cell and platelet detail showed reduced resolution relative to Leishman stain, marking areas for further refinement.

Conclusion

Clitoria ternatea flower extract shows strong potential as a locally available, sustainable stain for human peripheral blood smears, particularly for erythrocyte visualization.

OP 03

Portal Vein Branching Patterns in a Sri Lankan Cohort

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Introduction

Portal vein (PV) plays a central role in hepatic circulation, formed by the confluence of the splenic and superior mesenteric veins. It subsequently divides into right and left branches (RPV and LPV), which further subdivide into segmental branches supplying different regions of the liver. Although the classical description of PV anatomy is well established, numerous variations have been documented. With the increasing use of radiological imaging and the growing complexity of hepatobiliary surgery, recognition of these variations has become clinically significant. As they may influence surgical planning and interventional radiology procedures, unawareness of such anomalies can lead to complications. This study was designed to evaluate anatomical variations of the PV system in a Sri Lankan population, using cadaveric dissections and contrast-enhanced computed tomography (CECT) imaging.

Methods

This descriptive study was conducted jointly at the Department of Anatomy, Faculty of Medicine, University of Peradeniya, and the Radiology Unit of the Teaching Hospital, Peradeniya. The sample comprised formalin-fixed cadavers used for undergraduate teaching and abdominal CECT scans performed for clinical purposes. Cadaveric specimens were carefully dissected to expose the portal venous system, while CECT images were analyzed using RadiAnt DICOM Viewer software. Variations in PV branching were classified according to the system proposed by Covey *et al.,* (2004), which categorizes PV anatomy into five major types: Type 1- standard PV anatomy, Type 2 - trifurcation pattern, Type 3 - right posterior PV as the first branch of the main PV, Type 4 - segment VII branch arising separately from RPV, and Type 5 - segment VI branch arising separately from RPV. All findings were recorded, and demographic data including age, sex, and ethnicity were noted. Statistical analysis was performed to assess associations between PV variations and sex.

Results

A total of 60 samples were studied, comprising 30 cadavers and 30 CECT scans. The cohort demonstrated a female predominance (58.33%) and Sinhalese majority (95%). The mean age was 66.3 years (±19.7), with a range of 21 to 98 years.

Standard PV anatomy (Type 1) was observed in 47 cases (78.33%). Variations were identified in 13 cases (21.67%). The most frequent variation was Type 2 (trifurcation), seen in 5 cases (8.33%), followed by Types 3 and 5 (n=2 each, 3.33%). Type 4 was observed once (1.67%). Additionally, complex branching patterns that did not fit into Covey's classification were identified in 3 cases (5%). No significant association was observed between PV variations and sex ($p = 0.764$).

Conclusions

While the majority of samples exhibited the standard branching pattern, a considerable proportion demonstrated deviations, most frequently trifurcation. Awareness of these variations is essential for clinicians, particularly surgeons and interventional radiologists, as it can directly influence procedural safety and outcomes.

OP 04

Radiological Morphometry of the Renal Parenchyma in Sri Lankan Adults: Comparison of Ultrasonographic Measurements with CT Volumetry

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Introduction and Objectives

Renal size is an important component of morphological assessment on imaging. On ultrasonography, renal size is routinely represented by bipolar length (BPL), although this one-dimensional measurement may not fully represent the three-dimensional volume and composition of the kidney. CT-based segmentation allows separate quantification of the renal parenchyma and sinus. This study aimed to determine the relationship between sonographic renal measurements and CT-derived renal parenchymal volume and to evaluate variations in renal morphometry with age, sex and kidney side.

Methods

A cross-sectional study was conducted among Sri Lankan adults aged ≥18 years undergoing clinically indicated contrast-enhanced CT abdomen/KUB. Participants with at least one radiologically normal kidney were recruited for ultrasonography within four weeks of CT. Ninety-six kidneys from 57 participants were evaluated. CT images were segmented using 3D Slicer to obtain total renal volume (TV), parenchymal volume (PV) and sinus volume (SV). Sonographic measurements included BPL and parenchymal thickness (PT) at the upper pole, interpolar region and lower pole. Mean PT was derived from the three regional measurements. Associations between sonographic measurements and CT-derived volumes and variations with age, sex and kidney side were evaluated.

Results

Mean TV and PV were 127.15±33.62 mL and 117.29±31.93 mL, respectively, with parenchyma comprising 92.15% of total renal volume. BPL showed a moderate positive correlation with PV (Spearman's $\rho=0.535$, $p<0.001$), while mean PT also correlated positively with PV ($\rho=0.336$, $p<0.001$). PT varied significantly between anatomical regions ($p<0.001$), increasing from the upper pole through the interpolar region to the lower pole; interpolar PT did not differ significantly from mean PT. Increasing age was associated with lower PV ($\rho=-0.266$, $p=0.009$) and PT ($\rho=-0.256$, $p=0.012$), and greater SV ($\rho=0.350$, $p<0.001$). Consequently, the PV:SV ratio decreased with age ($\rho=-0.462$, $p<0.001$). In contrast, BPL showed no significant relationship with age ($\rho=-0.047$, $p=0.651$). No significant kidney side-related differences were observed in the principal renal measurements.

Conclusions

Increasing age was associated with lower renal parenchymal volume and thickness and greater renal sinus volume, whereas bipolar renal length showed no significant association with age. This suggests that preserved renal length in an older adult may not necessarily reflect preservation of renal parenchymal volume. Regional variation in parenchymal thickness was also demonstrated, with interpolar thickness approximating mean parenchymal thickness.

OP 05

The Structure and Evolution of the SCImago Anatomy Journal Category, 2021–2025: A Bibliometric Panel Analysis

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Introduction

The SCImago Journal Rank (SJR) is widely used to benchmark research output. Despite its widespread use, no investigation has systematically examined the structural evolution of journals within the SCImago Anatomy category. The objectives of the study were to examine the structural stability of the journal landscape, evaluate trends in journal prestige and quartile transitions, assess geographic distribution, publisher characteristics, and demographic patterns; and analyse journal performance trajectories to identify elite, emerging, stable, and declining journals within the field through bibliometric panel analysis of all journals indexed in the SCImago Anatomy category from 2021 to 2025.

Methods

Journal-level metrics were systematically exported from the SCImago Journal & Country Rank platform for each year between 2021 and 2025 and compiled into a comprehensive long-format panel. Descriptive statistics were calculated for key performance indicators. Spearman rank correlation coefficients were computed to assess correlations.

Results

The SCImago Anatomy category comprised 255 journals across the period. The number of Q1 and Q2 journals increased from 10 (2021) to 13 (2024–2025), while Q3 and Q4 journals remained at 10–13 and 10–12, respectively. The mean SJR of the journals in the anatomy category declined steadily across the study period, from 0.535 (2021) to 0.477 (2025), with five-year mean SJR of 0.498. Mean H-index averaged 55.36, declining to 54.31 (2022), plateauing at 55.37 (2023–2025). Mean citations per document declined from 1.68 (2021) to 1.32 (2024), recovering to 1.46 (2025). Mean female authorship rose modestly and unevenly, from 41.38% (2021) to 44.00% (2024) before a slight retreat to 43.74% (2025). Interestingly, American Journal of Surgical Pathology remained in the top rank for all five years. Seven journals maintained consistent Q1 status throughout the entire period. The upgrading in SJR was observed in ten emerging journals. Spearman correlation analysis demonstrated strong positive associations between SJR and both citations per document ($\rho = 0.918$) and H-index ($\rho = 0.837$). SJR showed only a moderate positive correlation with annual document output ($\rho = 0.451$). Geographic concentration was starker. The United States of America and the United Kingdom alone held 42% of journals, and North American journals were 58.3% Q1 versus 0% for both the Asiatic region and Eastern Europe, which clustered in Q3–Q4 (56.1% and 47.8%, respectively).

Conclusions

This five-year panel analysis demonstrates that the SCImago Anatomy category is expanding and diversifying, evidenced by the expansion of Q1 and Q2 journals from 10 to 13 each. The strong positive correlations between SJR and citations per document and H-index suggest that prestige in the Anatomy category is fundamentally driven by citation impact and cumulative scholarly influence. The modest rise in median female authorship over the study period indicates gradual progress toward gender equity in the anatomical sciences. However, the persistent geographic disparities represent a fundamental inequity that demands attention from the anatomical sciences community.

OP 06

First-Year Medical Students' Perceptions of an Integrated Anatomy Quiz as an Interactive Learning Strategy at Wayamba University of Sri Lanka

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Introduction

Human anatomy is a foundational subject in the medical curriculum and students often find it demanding because it requires mastering a large volume of content in a limited period. Current educational trends emphasize the need for interactive learning strategies to increase student engagement and support effective knowledge retention. Incorporating quiz-based activities offers one such approach, encouraging active participation while providing means to evaluate students' understanding and recall. This study was undertaken to capture students' perceptions of this novel quiz format to inform the development of more interactive and effective anatomy teaching strategies within the faculty.

Methods

A cohort of 145 first-year medical students participated in the integrated anatomy quiz covering the respiratory, cardiovascular, and gastrointestinal and hepatobiliary system modules, which incorporated gross anatomy, histology, and embryology. Students were organized into 29 teams for the initial competition on the first day, and 10 teams progressed to the final competition rounds one week later. Following the second day of the quiz, students completed a previously validated 20-item questionnaire using a five-point Likert scale. Responses were analyzed using SPSS version 26.0, and perceptions of students who actively competed in the second day of the quiz were compared with those who participated as audience members.

Results

The questionnaire achieved a 99.31% response rate. Overall perceptions of the integrated quiz were highly favorable. Most students agreed that the activity enhanced knowledge of the selected systems, supported preparation for end-semester examinations and OSPEs, and promoted learning through teamwork. Also, they reported particularly strong perceived gains in skills such as clinical reasoning, self-learning, communication, fact retrieval, and peer discussion. Second day participants demonstrated significantly higher mean perception scores than audience members for end-semester examination preparation ($p=0.023$), OSPE preparation ($p=0.001$), stress reduction for the upcoming end semester examination ($p=0.001$), teamwork for future learning ($p=0.003$), knowledge enhancement ($p=0.003$), clinical reasoning ($p=0.008$), communication skills ($p<0.001$), group communication ($p<0.001$), peer discussion ($p=0.005$), and ability to face questions ($p<0.001$). No significant differences were observed between the groups regarding the overall value, enjoyment, or future applicability of the quiz.

Conclusions

The findings indicate that an integrated anatomy quiz was perceived as an engaging and educationally valuable learning strategy, with active participation associated with more favorable perceptions of academic preparation and skill development than passive observation. However, self-selection bias cannot be excluded, as students who progressed to the final rounds may have differed from passive observers in motivation, prior knowledge, confidence, or interest. The collaborative and interactive nature of the activity may provide an effective complement to conventional anatomy teaching.

OP 08

Resource Utilization and the Perceived Learning Outcomes in Anatomy Tutorials Among Medical Undergraduates

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Introduction

Tutorials are a key mode of delivery of knowledge in anatomy education. This study explores variations in resource use and perceived outcomes in anatomy tutorials to identify effective strategies for improving anatomy learning experiences.

Methods

A descriptive cross-sectional study was conducted using a pre-tested, validated, anonymous questionnaire among a batch of 250 medical undergraduates following completion of preclinical studies (convenience sampling). Different resource usage for preparation was assessed using a checklist and a total score was obtained. Perceived outcomes of anatomy tutorials were assessed using a Likert scale. Descriptive statistics, Spearman correlation and Kendall's tau-b (τ) were used for analysis. Correlation analysis included all the respondents. $p<0.05$ was considered as statistically significant.

Results

Response rate was 78% (n=195). Almost all students used multiple resources (n=194, 99.4%) and had a statistically significant positive correlation with perceived outcomes (Spearman's $\rho = 0.160$, $p = 0.026$). AI was the most frequently reported resource (n=193, 98.9%), followed by lecture notes (n=188, 96.4%), Google search (n=148, 75.9%), and textbooks (n=138, 70.8%). Only 91 (46.7%) had discussed with peers, and 35 (17.9%) had directly copied answers from peers. Discussion with peers was positively correlated with perceived benefits, including long-term retention of knowledge ($\tau = 0.183$, $p = 0.006$), improving problem-solving skills ($\tau = 0.145$, $p = 0.030$), identification of strengths and weaknesses ($\tau = 0.208$, $p = 0.002$) and adequacy of anatomy areas covered by the tutorial ($\tau = 0.153$, $p = 0.012$). In contrast, copying answers from peers was negatively correlated with several perceived learning outcomes, including improving answering exam questions ($\tau = -0.209$, $p = 0.002$), collaborative learning ($\tau = -0.167$, $p = 0.013$), communication skills ($\tau = -0.237$, $p < .001$), and self-directed learning ($\tau = -0.188$, $p = 0.005$), while showing a positive correlation with the time consumption ($\tau = 0.134$, $p = 0.040$) and disorganized knowledge acquisition ($\tau = 0.151$, $p = 0.022$). Textbook use was positively correlated only with improving problem-solving skills ($\tau = 0.207$, $p = 0.002$). Though the majority of students have used AI, lecture notes, and Google search, there is no significant correlation between any of these and the perceived outcomes.

Conclusion

Tutorials are an essential part of the Anatomy curriculum. The outcomes assessed here were student perceptions rather than objective measures of learning performance. Multiple resource usage had favourable perceived outcomes than using one. Significant AI usage followed by lecture notes indicates a shift toward blended and technology-enhanced learning while maintaining the relevance of conventional resources. Peer discussion had an important role towards perceived positive outcomes of a tutorial while copying answers from peers had a negative impact indicating passive engagement is less beneficial, emphasizing the importance of active participation of students.

OP 09

Secular Trends in Adult Stature Among Indigenous Vedda, Purana (ancient) Population at the Suburb of Sigiriya Boulder Garden Complex, and Contemporary Sri Lankans Living in same Geographical Region

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Introduction

Comparative analyses of stature provide valuable insights into biological affinity, population continuity, and secular trends in human growth. Although previous anthropological studies have investigated stature among the indigenous Vedda and the Purana population, the latter is known to be a long-established traditional population inhabiting ancient villages surrounding the Sigiriya Boulder Garden Complex, associated with the reign of King Kasyapa (473–495 CE). However, no previous study has comprehensively compared stature among these populations with that of geographically matched contemporary Sri Lankan populations. The objective was to compare adult standing stature among the indigenous Dambana Vedda, the Purana population Sigiriya, and present-day Sri Lankans residing in the corresponding geographical regions in order to evaluate biological affinity, population continuity, and secular variation in body size.

Methods

A community-based comparative cross-sectional anthropometric study was conducted among authentic Dambana Vedda adults (male 36, female 37), the Purana population of Sigiriya (n = 384), present-day non relative Vedda adults from the Uva province (n = 384), and present-day non relative Purana adults from the Central province (n = 384). Standing stature was measured using a calibrated stadiometer following standardized International Society for the Advancement of Kinanthropometry and World Health Organization protocols. Descriptive statistics were calculated, and differences between populations were analyzed using independent-samples *t*-tests and one-way analysis of variance with Tukey's post hoc test. Statistical significance was set at $p < 0.05$.

Results

Present-day Sri Lankan populations residing in respective geographical regions exhibited significantly greater mean stature than both the Vedda and Purana populations. Mean stature present-day male Sri Lankan (170.08 ± 5.88 cm) at Dambana suburbs was higher than that of Vedda male (161.94 ± 6.37 cm) whereas the mean stature of present-day Sri Lankan male at Sigiriya suburbs (168.77 ± 6.63 cm) is higher than that of the Purana male population 165.00 ± 7.34 cm. Corresponding females mean statures were (Present day Sigiriya -156.18 ± 5.33 cm, Purana -151.05 ± 6.07 cm, Present day Dambana-158.21 ± 6.94 cm, and Vedda -152.16 ± 6.09 cm) respectively. Present-day Sigiriya males and females were significantly taller than the Purana population by 3.77 cm ($p = 0.009$) and 5.13 cm ($p < 0.001$), respectively. Similarly, present-day Dambana males and females exceeded the Vedda population by 8.14 cm and 6.05 cm, respectively (both $p < 0.001$). One-way ANOVA demonstrated significant stature differences among the Vedda, Purana, and present-day Sri Lankan populations residing in respective geographical regions for both sexes ($p < 0.001$).

Conclusions

Present-day Sri Lankans consistently demonstrated higher mean stature than both the Purana and Vedda populations in both males and females, suggesting that stature differences among these populations may reflect the combined influence of genetic, nutritional, socioeconomic, and environmental factors.

OP 10

Morphometric Analysis of the Nutrient Foramen of the Human Humerus: An Osteological Study in a Sri Lankan sample

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Introduction

The nutrient artery is the principal source of endosteal blood supply to long bones and plays a crucial role in bone growth, remodeling, fracture healing, and vascularized bone grafting. Knowledge of the morphology and location of nutrient foramina is therefore important for orthopedic and reconstructive procedures. However, comprehensive data on humeral nutrient foramina in the Sri Lankan population remain limited. The objective was to investigate the morphometric characteristics and topographical distribution of nutrient foramina in adult human humeri from a Sri Lankan population.

Methods

A descriptive cross-sectional osteological study was conducted on 91 adult human humeri obtained from the Departments of Anatomy, Faculty of Medicine, University of Peradeniya, Faculty of Medicine, Wayamba University of Sri Lanka, and the Faculty of Indigenous Medicine, Gampaha Wickramarachchi University of Indigenous Medicine. Nutrient foramina were identified using a magnifying lens, and measurements of humeral length, distance from the proximal end to the nutrient foramen, shaft circumference, and foramen index were recorded. The longitudinal position, surface distribution, and size of nutrient foramina were also assessed. Data were analyzed using SPSS version 23.0, and bilateral comparisons were performed using the independent samples *t*-test.

Results

One right humerus lacked a nutrient foramen; therefore, detailed analyses were performed on 90 humeri (45 right and 45 left). The mean foramen index was 55.06 ± 6.66 for right humeri and 56.09 ± 6.72 for left humeri, with no significant bilateral difference ($p = 0.470$). Nutrient foramina were predominantly located in the middle one-third (95.6%) and on the anteromedial surface (77.8% of right and 86.7% of left humeri). The majority of nutrient foramina corresponded to the 26G needle (71.1%). Shaft circumference at the level of the nutrient foramen was significantly greater in right humeri than in left humeri ($p = 0.025$), while other morphometric parameters showed no significant side differences.

Conclusion

Nutrient foramina of the adult humerus exhibit a highly consistent anatomical pattern in the Sri Lankan population, being predominantly located on the anteromedial surface of the middle third of the shaft. These findings provide valuable anatomical reference data for orthopedic surgery, vascularized bone grafting, and forensic investigations.

OP 11

Preliminary study - Bilateral Handprint Dimensions for Sex-Specific Stature Estimation in Sri Lankan Adults

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Introduction

In forensic identification, establishing a biological profile specifically estimating stature is essential to narrowing down lists of missing persons when examining unidentified human remains. While long bones are traditionally used for stature reconstruction, alternative body parts like hands and crime scene handprints become critical when long bones are unavailable. Because body proportions differ significantly across ethnic groups, mathematical formulas derived from Western populations often yield inaccurate results for Sri Lankans. Consequently, this study aimed to assess bilateral differences and sex-related variation in handprint dimensions and develop population- specific regression equations for stature estimation.

Methods

A cross-sectional study was conducted among 296 healthy adults aged 19–39 years in the Colombo District, including 223 males and 73 females. Stature was measured using a stadiometer, while bilateral handprints were obtained on white paper using a cochineal-based coloring and glycerin mixture. The digitized prints were calibrated with a metric scale, and hand length, hand breadth, and palm length were measured using ImageJ and custom Python scripts. Data were analyzed in SPSS version 25 using paired and independent t-tests, Pearson correlation, and simple and multiple linear regression.

Results

The participants had a mean age of 25.64±3.12 years and a mean stature of 168.54±9.31 cm. Mean stature was 172.03±7.23 cm in males and 157.86±6.35 cm in females. Males were significantly taller and had larger measurements for all six handprint dimensions than females (all $p<0.001$). In the combined sample, left hand length exceeded right hand length by 0.109 cm, $t(295) = -2.418$, $p=0.016$. Hand breadth and palm length showed no significant bilateral differences, and no right-left differences were significant within either sex. All six measurements correlated positively with stature. Right hand length showed the strongest combined-sample correlation ($r=0.693$), followed by left hand length ($r=0.640$; both $p<0.001$). Among males, right hand length was the strongest correlate ($r=0.569$), whereas left hand length was strongest among females ($r=0.738$). The best simple equations were male stature=106.425+3.405(right hand length), $R^2=0.324$, SEE=5.96 cm, and female stature=89.898+3.784(left hand length), $R^2=0.545$, SEE=4.32 cm. The combined right-hand multiple models explained 49.2% of stature variance (SEE=6.67 cm), while the combined left-hand model explained 45.6% (SEE=6.90 cm). Variance inflation factors remained below 2, indicating no problematic multicollinearity.

Conclusions

Handprint dimensions, particularly hand length provide a useful secondary method for forensic stature estimation in Sri Lankans. Given marked sexual dimorphism, sex-specific formulas should be prioritized whenever possible.

OP 12

Morphometric Assessment of the Stylomastoid Foramen in Sri Lankan Skulls: Bilateral and Sex-Related Variations

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Introduction

The stylomastoid foramen is the principal bony exit of the facial nerve from the temporal bone and serves as an important anatomical landmark during otologic, skull-base and parotid surgery. Knowledge of its relationship with surrounding bony landmarks is clinically important, however population-specific morphometric data for Sri Lankans are limited. The objective was to determine the morphometric relationships of the stylomastoid foramen with selected adjacent bony landmarks in adult Sri Lankan skulls and to assess bilateral and sex-related variations.

Methods

A descriptive morphometric study was conducted on 37 adult human dry skulls specimens obtained from two anatomy departments in Sri Lanka. 22 male and 15 female skulls were included in the analysis. Four linear measurements were recorded bilaterally using a digital Vernier caliper: P1, distance from the centre of the SMF to the mastoid tip; P2, distance to the upper end of the anterior border of the mastoid process; P3, distance to the jugular foramen; and P4, distance to the root of the styloid process. Each measurement was repeated three times and the mean value was used for analysis. Descriptive statistics were calculated, and bilateral differences were assessed using paired-samples t-tests, while sex-related differences were assessed using independent-samples t-tests. Statistical significance was set at $p < 0.05$.

Results

A significant bilateral difference was observed for P3 among females, with the right-sided measurement greater than the left (17.52 ± 1.57 mm vs. 16.46 ± 1.95 mm; $p = 0.027$). Sex-related comparison demonstrated a significantly greater right P1 in males than females (18.87 ± 2.07 mm vs. 17.22 ± 2.46 mm; $p = 0.043$). The remaining bilateral and sex-related comparisons were not statistically significant. The greatest individual variation was observed for left P1 in males, ranging from 12.43 to 23.26 mm.

Conclusion

The SMF demonstrated predominantly bilateral symmetry in the Sri Lankan skull specimens examined, with significant bilateral asymmetry limited to the SMF–jugular foramen distance in females and a significant sex-related difference in the right SMF–mastoid tip distance. The considerable individual variation observed, particularly in P1, indicates that the SMF should not be localized using a single fixed distance. These population-specific morphometric data provide useful anatomical reference values for localization of the facial nerve and may assist surgical planning in otologic, neurotologic, parotid, and skull-base procedures involving Sri Lankan patients.

PP 02

Narrative Review: Significance of Anatomical Knowledge in Clinical Decision-Making in Nursing Practice

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Introduction

Clinical decision-making in nursing is an ongoing process involving recognition of patient cues, interpretation of their significance through an understanding of normal and altered body structure and function, selection of appropriate interventions, and evaluation of patient responses. Throughout this process, anatomy provides an essential reference point for interpreting clinical findings, anticipating potential complications, and delivering safe, informed, and effective patient care. Although the significance of anatomical knowledge in nursing competency is well recognized, few studies have examined how it influences decision-making across assessment, procedural safety, and communication. This narrative review aims to explore how anatomical knowledge contributes to clinical decision making in nursing practice.

Methods

Relevant literature was identified through keyword searches of PubMed, Google Scholar, Scopus, and Web of Science using combinations of “anatomical knowledge” or “anatomical understanding” with “clinical decision-making,” “procedure competence,” along with “nursing practice.” Publications from 2016 to 2026 were considered. Reference lists of retrieved articles were also hand-searched to identify additional relevant studies. Ten articles relevant to the scope of this review were included.

Results

Anatomical knowledge provides a framework through which nurses assess patients, interpret clinical findings, perform procedures, and communicate with other healthcare professionals. Systematic physical assessment, including inspection, palpation, percussion, and auscultation, relies on knowledge of normal anatomical structures and their relationships. Surface anatomical landmarks enable accurate bedside assessment and recognition of deviations from normal anatomy. This knowledge contributes to the detection of clinical deterioration by supporting accurate interpretation of patient status and recognition of early warning signs. Anatomical knowledge also promotes procedural safety by helping nurses identify vulnerable nerves and blood vessels, account for individual anatomical variation, and perform interventions with greater precision while minimizing the risk of injury. Beyond individual tasks, anatomy contributes to clinical reasoning by enabling nurses to integrate clinical information, understand disease processes, anticipate complications, and make informed decisions about patient care. Anatomical literacy also strengthens communication across the healthcare team by providing a shared professional language for documentation, handovers, and timely escalation of patient concerns. Collectively, the evidence suggests that anatomical knowledge is a continuous foundation for safe practice, sound clinical reasoning, effective communication, and high-quality patient care.

Conclusion

Despite its established importance, the literature highlights a disconnect between learning anatomy in the classroom and applying this knowledge confidently in clinical practice. Nursing students may acquire foundational anatomical knowledge but still experience challenges translating it into effective clinical practice.

PP 03

Iridocorneal Angle Parameters and Biometric Values in Specific Populations: Systematic Review and Meta-Analysis Protocol

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Introduction

The iridocorneal angle (ICA) is a critical anatomical landmark responsible for aqueous humour drainage and intraocular pressure regulation. Quantitative biometry of the ICA is essential for diagnosing primary angle-closure disease (PACD) and guiding surgical interventions. Although cross-sectional studies have reported ICA metrics across various cohorts, significant variations exist among populations. This study aims to explore normative reference values for specific populations.

Methods

A comprehensive literature search will be conducted utilising the PubMed, Scopus, Web of Science, EMBASE, and Ovid online databases to identify existing publications. A combination of Medical Subject Headings (MeSH) terms and keywords, including “Iridocorneal angle”, “Anterior segment” and “Biometry” will be used. Data screening and extraction will be done with Covidence software. Two independent reviewers will screen the literature against predefined inclusion and exclusion criteria at the abstract and full-text levels. A third reviewer will be consulted if consensus cannot be reached. The process will be reported in whole and presented in a PRISMA flow diagram. Study quality will be assessed by using the JBI critical appraisal tool. A meta-analysis will be conducted.

Conclusion

This review will present a comprehensive analysis of existing literature on the biometry of the iridocorneal angle across different ethnicities. This will further highlight both strengths and gaps in existing knowledge. The inclusion of high-quality data will facilitate a quantitative meta-analysis for the exploration of ethnic differences, ultimately laying the foundation for the development of population-specific reference standards.

PP 04

A Preliminary Study on Morphometry of the Abdominal Aorta: A Cadaveric Study.

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Introduction

Abdominal aorta is the continuation of thoracic aorta extending from the diaphragmatic hiatus (T12) to its bifurcation into left and right common iliac arteries (L4/L5). Morphometry of the abdominal aorta is important for surgical procedures such as endovascular graft placements, aneurysmal repair and aortic clamping. Most studies of aortic dimensions are imaging-based and focus on diameter. Population-specific cadaveric studies which give direct physical morphometry of abdominal aorta including the length and branching distances are lacking. Therefore, the objective of this study is to characterize the morphometry of abdominal aorta in cadavers.

Method

Sixteen formalin-preserved cadavers donated to the Faculty of Medical Sciences, University of Sri Jayewardenepura were used. Age and gender were noted. Abdominal aorta and its branches were exposed by dissection. Aortic length (hiatus to bifurcation) and distances from the upper margin of coeliac trunk, superior mesenteric artery (SMA), left and right renal arteries (RA) and inferior mesenteric artery (IMA) to bifurcation were measured. Centre-line length was measured and tortuosity index calculated. Two perpendicular external diameters of aorta at supracoeliac (SCD), infrarenal (IRD) and bifurcation (BD) levels, and of selected branches and common iliac were measured and averaged. Length measurements were with measuring tape and diameters were with vernier caliper. SPSS was used for data analysis.

Results

Eight male and eight female cadavers, aged 70 to 102 years were studied. Mean abdominal aortic length was 13.6 (range = 11.6 to 15.9) cm and tortuosity index ranged from 0.95 to 1.07. Mean SCD, IRD and BD were 19.9, 16.0 and 14.6 mm respectively. SCD was significantly greater than IRD and BD ($p<0.05$) while there was no significant difference between IRD and BD ($p>0.05$). The coeliac trunk, SMA, Left RA, Right RA, IMA were at mean distances of 14.8, 13.1, 11.5, 11.4 and 5.4 cm from the bifurcation with mean external diameters of 7.30, 7.48, 5.71, 5.63, 3.46 mm respectively. Left and right common iliac diameters were 10.8 and 10.9 mm respectively. Differences in diameters between sides were not significant for RAs and common iliac ($p>0.05$).

Conclusion

A study done locally using CT imaging reported a mean SCD and IRD of 19.1 and 14.9 mm in an age cohort of 30-50 years and 20.8 and 15.8 mm in 55-80 years. The mean SCD and IRD found in this study were 19.9 and 16.0 mm respectively in an age range of 70 - 102 years. The proximal diameter of the aorta was significantly larger, consistent with tapering of the abdominal aorta normally described. Differences between left and right arteries in the RA and common iliac artery were not observed here.

PP 06

Correlation between Forearm Length (Prapāṇi Pramāṇa) and Stature across Ayurvedic Constitutions (Prakṛtis): A Quantitative Anthropometric Analysis

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Introduction and Objectives

In Ayurveda, Pramāṇa Śarīra describes anthropometric measurements used to understand physical characteristics and to relate body proportions to health and longevity. Prakṛti, the individual's constitution, is described as an important determinant of physical characteristics. Although classical Ayurvedic literature discusses body proportions and measurements, quantitative evidence examining the relationship between Prapāṇi Pramāṇa and stature across different Prakṛtis remains limited. In the present study, Prapāṇi Pramāṇa was operationalized as forearm length, measured as the linear distance from the radiale to the stylion of the radius. This anatomical measurement was selected as the measurable contemporary equivalent of the forearm dimension referred to as Prapāṇi in the study framework. The study aimed to determine the correlation between Prapāṇi Pramāṇa and stature among Vāta, Pitta, and Kapha Prakṛtis and to develop constitution-specific linear regression models for estimating stature from forearm length.

Methods

A total of 400 healthy individuals aged 21–30 years were included using randomized sampling. The sex distribution was: male n = 283 female n = 117. Participants were classified into Vāta (n = 127, Pitta (n = 121), and Kapha (n = 152) Prakṛtis using which was Participants were classified as single/dual/mixed Prakṛti according to the study protocol. Stature was measured using a stadiometer. Prapāṇi Pramāṇa was measured as the linear distance from the radiale to the stylion of the radius. Pearson's correlation analysis was performed to assess the relationship between forearm length and stature, and linear regression analysis was used to derive constitution-specific prediction equations. Statistical significance was assessed at $p < 0.05$. Sex was considered as a potential confounding factor and was

Results

A total of 400 healthy individuals aged 21–30 years participated, comprising 283 males and 117 females. According to Prakṛti classification, 127 were Vāta, 121 Pitta, and 152 Kapha. A significant positive correlation was observed between Prapāṇi Pramāṇa and stature in all groups: Vāta ($r = 0.82$), Pitta ($r = 0.84$), and Kapha ($r = 0.80$), all $p < 0.001$. Regression equations were: Vāta, Height = 105.42 + 2.87 × Prapāṇi; Pitta, Height = 103.96 + 2.94 × Prapāṇi; and Kapha, Height = 107.15 + 2.81 × Prapāṇi. The corresponding R^2 values were 0.672, 0.706, and 0.640, respectively. Regression slopes did not differ significantly among Prakṛti groups ($p = 0.41$). After adjustment for sex and Prakṛti, Prapāṇi Pramāṇa remained significantly associated with stature (adjusted $\beta = 2.86$ cm/cm, $p < 0.001$).

Conclusions

These findings provide quantitative support for investigating Prapāṇi Pramāṇa within the framework of Pramāṇa Śarīra and demonstrate its potential as an anthropometric predictor of stature. Further studies in larger and independent populations are recommended to validate the derived regression equations.

PP 07

A Preliminary Anatomical Study of Prevalence and Morphological Variations of Pterygospinous and Pterygoalar Bars in a Sri Lankan Skull Sample

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Introduction

Pterygospinous and pterygoalar ligaments are anatomical structures in the infratemporal region of the sphenoid bone. Their partial or complete ossification produces pterygospinous and pterygoalar bars, forming the foramina of Civinini and Hyrtl, respectively. These may alter the morphology and accessibility of the foramen ovale, with clinical implications for procedures. Therefore, the objective was to determine the skull-level and side-level prevalence, laterality, completeness, attachment patterns, and anatomical relationships of pterygospinous and pterygoalar ossification in a Sri Lankan dry skull sample.

Methods

Thirty-six adult human dry skulls obtained from the Departments of Anatomy, Faculty of Medicine, University of Peradeniya and Faculty of Medicine, Wayamba University of Sri Lanka, were examined bilaterally. Distorted or damaged skulls, particularly those involving the cranial base, were excluded. Each side was examined for pterygospinous and pterygoalar ossification.

Results

Pterygospinous ossification was present in 5 of 36 skulls (13.9%), involving 5 of 72 examined sides (6.9%), whereas pterygoalar ossification was present in 11 of 36 skulls (30.6%), involving 11 of 72 sides (15.3%). All pterygospinous bars were unilateral and incomplete; 80% were right-sided and 20% left-sided, 40% originated from the sphenoid spine, 40% from the pterygoid region, and 20% from both sites. Sixty percent were positioned medial to the foramen ovale and 40% inferior to it. Foramen of Civinini was not identified. Pterygoalar ossification showed both unilateral and bilateral patterns, with incomplete forms predominating. One complete foramen of Hyrtl was identified. Most pterygoalar bars were positioned inferior to the foramen ovale, followed by medial and lateral positions. No significant association was observed between pterygospinous and pterygoalar ossification.

Conclusion

Within this Sri Lankan dry skull sample, pterygoalar ossification was more frequently observed than pterygospinous ossification, and incomplete forms predominated. The observed right-sided predominance of pterygospinous bars and the presence of a complete pterygoalar foramen highlight the morphological variability of the infratemporal region.

PP 08

Case report: Unilateral Three-headed Biceps Brachii and its Clinical Implications

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Introduction

Biceps brachii muscle is an essential muscle of the anterior (flexor) compartment of the arm, innervated by the musculocutaneous nerve. It has two heads and functions as a powerful supinator of the forearm and a flexor of the elbow. Its long and short heads originate from the supraglenoid tubercle and the coracoid process of the scapula, respectively. The two bellies arise from these heads combine distally to form a tendon that inserts into the posterior border of the radial tuberosity.

Case Report

During cadaveric dissection of the left upper limb of a female cadaver, a variant biceps brachii with three heads was found. Brachialis was present in its usual position, while the third head of the biceps brachii originated just above the mid-humerus from the anteromedial surface. It coursed beneath the other two muscle bellies, and blended with the tendon, which then inserted into the radial tuberosity. All heads of the biceps brachii were innervated by separate branches of the musculocutaneous nerve.

Conclusions

The third head of the biceps brachii may increase elbow flexion strength regardless of shoulder joint position. When the third head of the biceps brachii contracts during elbow movements, it may impinge on the median and musculocutaneous nerves, as well as the distal portion of the brachial artery, resulting in symptoms such as pronator syndrome. The third head of the biceps brachii may sometimes be mistaken for a soft-tissue tumour on preoperative radiography. Moreover, such accessory bellies/muscle flaps can be utilised to cover soft tissue defects or restore lost function in reconstructive surgery.
Therefore, comprehensive knowledge of the anatomical variations of the biceps brachii and related structures is important in guiding clinical management of upper-limb pathologies and reducing the risk of neurovascular complications.

PP 09

Case Report: Bilateral Absence of the Musculocutaneous Nerve

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Introduction

The musculocutaneous nerve is a terminal branch of the lateral cord of the brachial plexus, arising from the anterior divisions of the upper and middle trunks. It primarily supplies the flexor muscles of the arm and provides sensory innervation to the lateral aspect of the forearm. The nerve pierces the coracobrachialis muscle, then runs between the biceps brachii and brachialis muscles, supplying all three muscles before continuing as the lateral cutaneous nerve of the forearm

Case report

During routine cadaveric dissection at the Department of Anatomy, Faculty of Medical Sciences, University of Sri Jayewardenepura, a male cadaver, the musculocutaneous nerve was found to be absent in both arms. The lateral cord of the brachial plexus had become the lateral root of the median nerve without giving off a musculocutaneous nerve. The medial root of the median nerve, combined with the lateral root, continued as the median nerve, innervating the muscles of the anterior compartment of the arm. In the absence of the musculocutaneous nerve, the median nerve continued its usual course after giving off three separate branches from its lateral aspect to innervate the coracobrachialis, biceps brachii and brachialis muscles respectively. The branch to the brachialis emerged on the lateral aspect of the arm, between the brachialis and biceps to continue as the lateral cutaneous nerve of the forearm. No additional anatomical variations were observed.

Conclusion

According to some embryological studies, the musculocutaneous nerve derives from the median nerve. Thus, its absence could be due to a failure to separate from the median nerve. In such instances, the median nerve is most likely to act as the surrogate nerve due to its location, embryological link, and overlap in ventral rami contributions. If a median nerve served as a stand-in for a missing musculocutaneous nerve, a high median nerve injury would have an atypical clinical presentation. This may include loss of cutaneous sensation of the lateral forearm, loss of shoulder and elbow flexion, weakness of shoulder adduction and weakness in supination of the forearm, in addition to the loss of function in the normal median nerve distribution. Additionally, the absence of musculocutaneous nerve may cause surgical confusion during nerve transfer procedures and fracture fixations involving the humerus. Variations of musculocutaneous nerve anatomy include bilateral absence, and the anatomical alterations of nerve structures that occur in its absence are important to clinicians.

PP 10

Preliminary Study: Estimation of Stature from Selected Cadaveric Long Bones in Sri Lanka

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Introduction

The estimation of stature from skeletal remains is an essential component of forensic anthropology. Especially when fragmented, decomposed, or unidentified remains are involved, reconstruction of biological characteristics such as stature can narrow the search for personal identification. Therefore, establishing the relationship between stature and limb bone in a Sri Lankan population with population-specific regression equations are important for forensic and anthropological applications.

Methods

A preliminary cross-sectional morphometric study was conducted on 12 adult cadavers (6 males, 6 females) donated for research purposes in the Department of Anatomy, Faculty of Medical Sciences, University of Sri Jayewardenepura. Cadaveric stature was measured in the supine position from the most superior point of the vertex to the most inferior point of the heel using a measuring tape. Bilateral measurements of the humerus, radius, ulna, second and third metacarpals, second and third proximal phalanges, femur, tibia, fibula, and first metatarsal were obtained after disarticulation and removal of soft tissues and cartilage. Bone lengths were measured between standard anatomical landmarks using a measuring tape and, where required, a Vernier caliper. Repeated measurements were obtained independently by multiple observers.

Results

The cadavers had a mean age of **81.5 ± 10.8 years** (range: **64–99 years**), and a mean stature of **156.7 ± 10.1 cm (range: 138.6–174.1 cm).** No significant association was observed between age and stature ($r = 0.120$, $p = 0.710$). Bilateral comparison demonstrated no statistically significant differences between right and left measurements so, mean bilateral values were used for subsequent analyses. Significant positive correlations were identified between stature and most skeletal measurements. Among all bones examined, the femur demonstrated the strongest correlation with stature ($r = 0.923$, $R^2 = 0.852$, SEE = 4.09 cm, $p < 0.001$), followed by the tibia ($r = 0.905$, $R^2 = 0.819$, SEE = 4.53 cm) and fibula ($r = 0.869$, $R^2 = 0.755$, SEE = 5.26 cm). Among the upper limb bones, the ulna showed the highest predictive ability ($r = 0.822$, $R^2 = 0.676$, SEE = 6.06 cm), followed by the humerus ($r = 0.803$, $R^2 = 0.645$, SEE = 6.34 cm). The first metatarsal did not demonstrate a statistically significant association with stature ($p = 0.102$). Regression equations were derived for all significant skeletal measurements, with the femur equation providing the highest predictive accuracy: **Stature (cm) = 50.23 + 2.42 × Femur length (cm).**

Conclusions

Selected upper and lower-limb bones demonstrated significant relationships with stature in this Sri Lankan cadaveric sample. The femur and ulna provided the most accurate prediction of stature. The regression equations generated in this study may serve as population-specific tools for forensic and anthropological applications, although validation using larger samples is recommended.

PP 12

Left Temporoparietal Arteriovenous Malformation Presenting as Seizure Disorder, Behavioral Regression and Secondary Nocturnal Enuresis in a Nine-Year-Old Girl: A Case Report

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Introduction

Cerebral arteriovenous malformations (AVMs) are uncommon congenital vascular anomalies characterized by direct communication between arteries and veins without an intervening capillary bed. Brain AVMs occur in approximately 10–18 people per 100,000 population (0.01–0.018%) in worldwide. Approximately 50–60% of AVMs are unruptured at diagnosis. Although intracranial hemorrhage is the most common presentation, unruptured AVMs may present with seizures and other neurological manifestations. We report the case of a child with an unruptured AVM in the dominant left temporoparietal region who was initially managed as having a seizure disorder and later developed behavioral regression and secondary urinary incontinence. This case highlights the importance of correlating cerebral vascular anatomy with clinical features and maintaining a high index of suspicion for structural brain lesions in children with atypical epilepsy.

Case Report

A 9-year-old right-handed girl with family history of epilepsy in her father presented with a two-year history of generalized tonic–clonic seizures that had begun at the age of seven years. She had initially been managed as having a primary seizure disorder with sodium valproate. Over the following months, she developed progressive behavioral regression and secondary urinary incontinence despite medical treatment. Neurological examination was unremarkable, with no focal neurological deficits.

Because of persistent seizures associated with new neurobehavioral symptoms, she was referred for specialist neurological evaluation. Contrast-enhanced computed tomography of the brain, followed by digital subtraction angiography (DSA), demonstrated an unruptured AVM in the left temporoparietal region. The nidus measured 2.2 × 1.9 × 2.0 cm and was supplied predominantly by the inferior division of the left middle cerebral artery, with an additional feeder from a distal branch of the left posterior cerebral artery. Venous drainage was to the posterior superior sagittal sinus, left transverse sinus and straight sinus. The lesion was classified as a Spetzler–Martin grade II AVM.

The patient underwent successful endovascular embolization. At one-year follow-up, she showed marked improvement in seizure control, behavioral symptoms and urinary continence, with no new neurological deficits.

Conclusion

This case highlights an uncommon presentation of an unruptured dominant left temporoparietal AVM in a child. Careful assessment of the vascular anatomy was crucial for diagnosis and treatment planning. Early neuroimaging and timely endovascular embolization resulted in significant clinical improvement and should be considered in children with seizures accompanied by atypical neurological or behavioral features.

PP 14

Persistent Embryonic Vascular Plexuses in Ipsilateral Right Upper and Lower Limbs: A Case Report

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Introduction

The definitive pattern of limb vasculature is not present from the outset of development, but emerges through progressive remodelling of an initial capillary plexus into a small number of dominant trunks. In the upper limb, the seventh cervical inter-segmental artery becomes the axis artery from which the axillary and brachial arteries arise, while neighbouring inter-segmental vessels regress. More distally, the ulnar and radial arteries coalesce from the surrounding capillary plexus once the transient median artery involutes. In the lower limb, the earliest axial supply, the sciatic artery, is progressively superseded by the externally derived femoral artery, and the single embryonic axis vessel below the knee remodels from a transitional five-vessel plexus down to the three mature calf arteries. Venous development follows an analogous trajectory, with the primitive marginal venous plexus of the limb bud normally regressing into the definitive venous systems.

Case Report

An unusual plexiform vascular arrangement was observed in the right upper and lower limbs of an adult male human body specimen of unknown age, during routine dissection for undergraduate anatomy teaching. In the right upper limb, the third part of the axillary artery bifurcated into two trunks. The medial trunk continued as the conventional brachial artery, dividing normally at the cubital fossa into radial and ulnar arteries. The lateral trunk bifurcated 10 cm distal to the lower border of the pectoralis minor muscle. One branch descended parallel to the brachial artery without further division, while the other contributed to an extensive arterial plexus interconnecting with the medial trunk. A correspondingly extensive, interconnected venous system accompanied this arterial pattern. In the ipsilateral lower limb, the femoral artery showed an analogous variation, dividing into medial and lateral branches 2 cm below the mid-inguinal point. The medial branch continued as a typical femoral artery, while the lateral branch divided again within the femoral triangle, 5 cm distal to its origin, forming an interconnected arterial plexus extending down the thigh. The femoral vein was accompanied medially by an additional tributary that joined it within the femoral triangle, proximal to the saphenofemoral junction, with numerous accompanying venous plexuses noted.

Conclusions

This ipsilateral, dual-limb vascular network is best explained as regionalised persistence of a transient embryonic plexiform stage of vasculature. Retention of this early plexiform architecture plausibly accounts for the arterial networks observed in both limbs, with incomplete consolidation explaining the multiple proximal axillary and femoral branches reconverging distally in this human body specimen. The concurrent venous network, distributed along a comparable plexiform pattern, likewise supports persistence of the primitive marginal venous plexus, which normally resolves into the definitive venous system. Together, these findings point to a single, more generalised disruption of vascular remodelling affecting this human body specimen — expressed in parallel across both arterial and venous compartments of the ipsilateral limbs.