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Histogenesis of human fetal testis

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Aims and objectives: The testes are paired male organ comprises unique functions in the body. It is important to know the development and histogenesis of human fetal testis.

The aim was to study the occurrence of various cell populations like germs cells, leydig cells, sertoli cells and peritubular myoid cells. The measurement of thickness of tunica albuginea was also noted.

Material and methods: The study was conducted on 50 male fetuses of varying gestational age (12–28 weeks). All fetuses were dissected and testes were collected fresh, preserved in 10% formal saline. Testes were sectioned and stained for light microscopy by Haematoxylin and Eosin, Periodic Acid Schiff's and Masson's trichrome. Four groups were made according to the gestational age.

Results: Group A (12–16) showed very thin layer of tunica albuginea, testicular cords mainly at periphery and mesenchymal tissue centrally. Group B (16–20) showed considerably increased in thickness of tunica albuginea and prominent leydig cells. Group C (20–24) showed thickened tunica albuginea and lobulation in between the seminiferous tubules. Group D (24–28) showed prominent seminiferous tubules than leydig cells.

Conclusion: The testes showed prominent seminiferous tubules in Group D. whereas prominent leydig cells in Group B as well as Group C.

Conflicts of interest

The authors have none to declare.

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A study on lip prints

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Aims and objectives: Identification plays a major role in any crime investigation. The pattern of wrinkles on the lips has individual characteristics like finger prints. Cheiloscopy is a forensic investigation technique that deals with identification of an individual based on lip traces. In the past decade lip print studies attracted the attention of many scientists as a new tool for human identification. The aim was to study the uniqueness of the lip print patterns.

Material and methods: The study was conducted on 100 randomly selected undergraduate students. The lip print of each subject was obtained and pattern was analyzed according to Suzuki and Tsuchihashi classification.

Results: The study showed that Type II (branched) lip pattern to be most prominent.

Conclusion: The study confirmed the distinctiveness of cheiloscopy. It can be used as an additional tool for identification and sex determination. Research studies and information regarding the use of lip prints as evidence in personal identification and criminal investigation in forensic dentistry are very scanty. Studying in depth and establishing further facts in lip prints will certainly help as useful evidence in forensic dentistry.

Conflicts of interest

The author has none to declare.

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A study on hard palate and high arched palate: A morphometric study with associated traits

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Aims and objectives: The integrity of the hard palate is crucial in the acquisition of spoken language and healthy development of facial structures and is hypothesized that the hard palate passively influences tongue kinematics. Howell et al (2002) has assessed the palatal height in children. Gopalanbhagyalakshmi et al (2007) worked on metric analysis of the hard palate in children with Down's syndrome.

Material and methods: The patients attending Government Dental Collge Hospital, Vijayawada hard palate was examined. 60 cases were studied in the age group of 15–18 years i.e. 30 patients with normal hard palate and 30 patients with high arched palate were compared and evaluated using specific indices. Impressions of hard palate were taken through the prepared cast. From the prepared cast morphometry was undertaken on various parameters and also observed the associated traits.

Results: As per study in high arched palate cases, hard palate was narrow, constricted and relatively higher. Crowding of incisors and canines was present in 7 cases. Malocclusion and malalignment was noted in 4 cases. 2nd premolar was absent in 2 cases. Spacing of teeth was seen in 2 cases. Microdontia was found to be present in 2 cases. Other parameters like forehead, ears, nasal bridge, neck, growth of mandible, muscle tone were observed normally. Cephalic index was studied and found low in high arched palate cases.

Conclusion: Average linear width, average antero-posterior length, average palatal arch length was decreased but average palatal height, average curvilinear width, palatal index and palatal height index were increased when compared to normal morphometric analysis of similar aged candidates and the results were found to be statistically significant.

Conflicts of interest

The authors have none to declare.

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Quantitative analysis of posterior cranial fossa and foramen magnum in north Indian population

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Aims and objectives: The range of quantitative variations in the dimensions of posterior cranial fossa (PCF) and foramen *magnum* (FM) in dry skulls and CT scans of North Indian population is important for neurosurgeons, forensic experts and anthropologists because according to earlier studies, there exists difference in the crania of various racial, geographic and ethnic populations. Hence,

the aim of the present study was to note values of quantitative linear and angular craniometrical measurements.

Material and methods: Parameters for posterior cranial fossa, base of skull and foramen magnum were measured in fifty random intact adult dry skulls using vernier calipers and seventy adult normal CT head scans (128 slice).

Results: A comprehensive range of parameters of PCF and FM were obtained from dry skulls and CT scans. The values of FM, supraocciput, posterior fossa height and volume were similar in that of skull and CT scans. Posterior fossa diameters (anteroposterior, transverse) and clivus length were significantly lower in dry skulls ($p < 0.05$).

Conclusion: Majority of the measurements on CT scan analysis were comparable with that of manual measurements taken on dry skulls. Rest of the parameters had lower values. One of the reasons for the difference in results of these parameters in two modalities may be because the skulls and CTs were of different individuals.

Conflicts of interest

The authors have none to declare.

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Variations of fissures and lobes in human lung – A cadaveric study



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Aims and objectives: To study the variations in presence and completeness of fissures and lobes of the lungs in human cadavers. The lungs or pulmones are the principal organs of respiration. Two lungs Rt. & Lt. situated in the thoracic cavity, one on either side of the mediastinum enclosed in the pleural sac. The Right lung is divided into three lobes: superior, middle and inferior by two fissures-(a) Oblique fissure and (b) Horizontal fissure. The left lung is divided into two lobes by an oblique fissure.

Material and methods: The study was conducted in the Department of Anatomy, Assam Medical College, Dibrugarh in 30 formalin fixed specimens collected from the perinatal cadavers received from the department of O&G and also adult cadavers received for dissection of undergraduate MBBS students.

Results: Variation and completeness is not infrequent. Incomplete oblique fissure is more common than incomplete horizontal fissure in right sided lung and incomplete fissures are more common in right sided than left sided lung.

Conclusion: This study will be helpful for the surgeons as well as Physicians. A detailed knowledge of variations of classical and accessory fissures is necessary for proper radiological interpretation and guide to cardiothoracic surgeons before performing lobectomy.

Conflicts of interest

The authors have none to declare.

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Anatomy and dimensions of C1 vertebra relative to lateral mass screw placement



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Aims and objectives: A variety of C1–C2 fusion techniques have been described for stabilizing C1 vertebral fractures including posterior wiring techniques and transarticular screw fixation through C2 pars interarticularis into C1 lateral mass. These techniques have limitations that maybe overcome by isolated C1 lateral mass screws. However, C1 lateral mass dimensions are not well described in literature.

The aim of the study was to suggest ideal entry and exit points, and define safe trajectory for placement of screws through lateral mass of C1 vertebra for maximum stability in C1 fractures. The objectives include defining the dimensions and variability of C1 lateral mass and suggest ideal trajectories for screw placement such as to avoid injury to spinal cord in vertebral canal medially and vertebral artery in foramen transversarium laterally.

Material and methods: A total of 100 lateral masses from 50 C1 vertebrae were examined and variables measured to determine feasibility of placement of lateral mass screws.

Results: Ideal entry point was defined as the midpoint of pedicle at its junction with lateral mass. Direction of angulation of ideal trajectory of screw is 4.8° medially on left side and 3.8° medially on the right. Safe depth of screw penetration is 17 mm.

Conclusion: Safe placement of cortical screws through lateral mass of C1 with maximum bone purchase is ideal for stabilization of C1 fractures.

Conflicts of interest

The authors have none to declare.

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Stylalgia-glossopharyngeal neuralgia: Review of anatomy and outcome of management



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Aims and objectives:

- To review the morphogenesis of Reichert's cartilage with reference to stylalgia.
- To find other possible cause of stylalgia among patients visiting ENT services.
- To assess the effectiveness of management in patients of symptomatic elongated styloid process.

Material and methods: The present study was carried out by the departments of Anatomy and ENT in a teaching Institution, from 2010 till 2014. Thirty patients of stylalgia were evaluated by anatomical and clinico-radiological examination. The presenting symptoms were throat pain, ipsilateral otalgia and facial pain. Diagnosis was established by intraoral palpation of styloid process,