48. Morphological study of lateral menisci of knee joint in human cadavers

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Aim: To study the Lateral Menisci of the knee joint.
Objectives: To estimate the incidence of various shapes of the Lateral Menisci, to study the width and thickness of the Lateral Menisci, and to find out the clinical significance of the morphometrics of Lateral Menisci.
Materials and Methods: 100 menisci from 50 adult cadaveric knee joints, which were preserved in formaldehyde solution, were included in the study. The morphological variants of the shapes of Lateral menisci were noted and classified. The width and the thickness of the Lateral Menisci were measured using a Vernier Calipers.
Results: 70% of the Lateral Menisci were to be C-shaped and 28% were crescent-shaped. One partial discoid lateral meniscus (2%) was observed in the study. The mean width of the Lateral Menisci was 9.14mm in the anterior third, 9.32mm in the middle third and 9.10mm in the posterior third. The mean thickness of the Lateral Menisci was 3.4mm in anterior third, 4.18mm in the middle third and 3.64mm in the posterior third.
Conclusion: Lateral Meniscus was thickest in the middle third. A single specimen of partial Discoid Lateral Meniscus was observed. The mean width of the Lateral Meniscus did not show any difference in the three locations.

53. A cadaveric study on the variations of relationship of recurrent laryngeal nerve with inferior thyroid artery near the lower pole of thyroid gland in West Bengal population

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Objective: Recurrent Laryngeal Nerve supplies all the intrinsic muscles of the Larynx except Cricothyroid. Thus, it plays important role in phonation and in respiration (providing sphincteric action). Most common cause of Recurrent Laryngeal Nerve Palsy is iatrogenic injury during thyroidectomy and other cases of surgical neck dissection as the nerve is closely related to Inferior Thyroid Artery. The present study is intended to find out their variable relationship.
Method: Both sided neck of 25 cadavers dissected in the Department of Anatomy in Medical College, Kolkata and the relationship of the nerve and the artery is studied.
Result: Among 50 nerves dissected, about half of them are running in between the arterial branches, and other nerves are running either in anterior or posterior to the artery and its branches.
Conclusion: Knowledge of the variable relationship of the nerve and artery will help the surgeons to avoid iatrogenic Recurrent Laryngeal Nerve damage.

50. Study of orbital index in human dry skulls of south Indian origin

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Aims & Objectives: The main function of the orbital bony socket is to give protection to the eye. Orbital measurements vary in different races of mankind. Its measurements are better understood by knowing orbital index.
Materials & Methods: 200 hundred human dry skulls (130 skulls belong to male gender and 70 skulls belong to female gender) of south Indian origin were studied. Orbital index: Orbital height/Orbital width $\times$ 100.
Results: The mean orbital index of south Indian adult human male was found to be 81.13 and in adult south Indian human females, it was 82.32. This value places the orbital index of south Indian males and females in Microseme category (Table 1). This coincides with the previous study (Kaur et al. and Gosavi S.N et al.), which demonstrated that the Indian races have microseme orbital index.
Conclusion: This study done on south Indian adult dry skull may be useful for the forensic medicine experts. More regional studies should be done for the standardization of the values for the particular races in the world. It helps the physical anthropologists to know the migration pattern of the early civilization.

51. Variations in the division of sciatic nerve – A cadaveric study

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Objective: The sciatic nerve (SN) separates into its branches, the tibial and common fibular nerves, outside the pelvis or rarely maybe within the pelvis. The study was undertaken to define the level of the SN division.
Methods: To understand the level of division of sciatic nerve, forty-two cadavers (eighty-four lower extremities) were studied during routine undergraduate dissection in Department of Anatomy, AGMC & GBP Hospital, Agartala. The inferior extremity of all the cadavers was divided into five groups (Group-1 to Group-5) according to the level of division of sciatic nerve as, in the pelvis before exit into the gluteal region (G-1), in the gluteal region (G-2), upper (G-3), middle (G-4) & lower third (G-5) of the back of thigh.
Results: In 88.1% of the cases, the SN exited the pelvis as a whole nerve without any division, whereas in 11.9%, a high division before exit into the gluteal region was observed. In 3.57% of lower extremities, the nerve was found to divide in gluteal region, whereas in 78.57% of lower extremities, it was found to divide in the lower third of the thigh in the poplitial fossa.
Conclusion: This variation of sciatic nerve division is important from anatomical point of view & clinician should be aware of this rare variation for diagnostic purpose or before

performing any intervention around hip joint. A higher division of the nerve can result in escape of any one division from any injury and can lead to failure of the poplitial block anaesthesia.

52. Craniofacial growth prediction based on mandibular rotation in deep and shallow antegonial notching – A cephalogram study

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Introduction: Directional growth prediction of craniofacial region has gained importance. It is related to the efficacy and timing of treatment of dental malocclusions. There is increased realization that considerable individual variation occurs in craniofacial growth and morphology.
Aim: To observe whether statistically significant differences occur for the measurements that represent mandibular rotation between groups with deep and shallow mandibular antegonial notching.
Material & Method: Pre-treatment lateral cephalograms of 80 adults of both sexes were obtained from the files of the Dept. of Orthodontics, Govt Dental College and Hospital, Afzalgunj, Hyderabad out of which 40 were with deep and 40 with shallow mandibular antegonial notching. Each subject's pretreatment lateral cephalogram was traced using tracing paper, after which angular and linear measurements were made. Means and Standard deviations were calculated for each parameter and student t-test was done and the differences were considered statically significant when P value was less than 0.05.
Result: Among the four angular measurements, three were greater in deep notch group and one was greater in shallow antegonial notch group and all were statistically significantly. Out of two linear measurements, one was greater in deep antegonial notch group and was statistically significant.
Conclusion: Clockwise rotation of mandible results in vertical growth pattern. Extremes of this condition cause hyper divergent growth pattern/skeletal open bite. Counter clockwise rotation of mandible results in horizontal growth pattern. Extremes of this condition cause hypo divergent growth pattern/skeletal closed bite.

53. Superior and inferior thyroid artery: Branching pattern and anastomoses

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Abstract: The abundance of the blood supply of the thyroid gland is known to every anatomist and surgeon. To minimize the risk of hemorrhage during thyroid surgery compels the surgeons to keep in mind the variations in the terminal glandular branching pattern and anastomoses of arteries. Complete specimens of thyroid gland with its intact arterial blood supply were dissected out from fifty postmortem bodies. All the four arteries were cleaned and identified. A mixture of red lead dissolved in turpentine oil was injected into the arteries and then the specimens were kept in 10% formalin for one month and dissected out. Superior thyroid artery (STA) divides into two branches (59%), three branches (39%) and four branches (2%) of cases. Cricothyroid artery also gave branches in 25% of cases. Inferior thyroid artery (ITA) gave two branches (96%), three branches (3%) and no glandular branches (1%) of cases. Besides these, tracheal and oesophageal arteries also supplied the gland in 21% of cases. Only thirty-five anastomoses were studied upon the twenty-five thyroid glands, rest of the twenty-five thyroid glands were not studied due to technical problems during dissection. These anastomoses were between STA and ITA of same side (42.85%), STA of both sides (17.14%), ITA of both sides (5.71%), STA of one side and ITA of opposite side (8.57%), cricothyroid artery of one side and STA of opposite side (8.57%), cricothyroid artery and STA of same side (5.71%), cricothyroid artery of one side and ITA of opposite side (5.71%), both cricothyroid arteries (2.85%) and branches of ITA of one side (2.85%). The present study was aimed to find the variations in the branching pattern of STA and ITA and arterial anastomoses upon the thyroid gland.

54. Morphological study of left sub-valvular apparatus in human foetal hearts

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Objective: To study morphological variations in papillary muscles, chordae tendineae and mitral valvular cusps in left ventricle of human foetal hearts.
Methods: This study was carried out on 50 formalin fixed human foetal hearts of gestational age ranging from 12 to 40 weeks in the Department of Anatomy, RIMS, Imphal. Left ventricles were cut opened and the number, position, pattern of papillary muscles, attachment of chordae tendineae and mitral valvular cusps were observed and reported.
Results: Different modes of variations in number, position and pattern of papillary muscles were observed. Among the anterior group of papillary muscle, single papillary muscle with multiple head is the commonest variant. In 12 cases, single posterior papillary muscle with multiple heads was found. In 4 cases, single anterior and posterior papillary muscles was noted and both the papillary muscle provided chordae tendineae to both anterior and posterior cusps. Chordae tendineae were attached to both marginal and rough zone of the anterior cusp. Those chordae tendineae attached to rough zone were found extending beyond it under the endocardium. In all cases, there was only one anterior cusp, whereas two well demarcated posterior cusp were seen in two cases only and in the remaining cases only serrated margins were noted.
Conclusion: Knowledge of variations in sub-valvular apparatus will help understanding different pathologies of heart and also the planning of cardiothoracic surgeries.