55. Study of palmar dermatoglyphics in ventricular septal defect

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Objective: Dermatoglyphics form in utero during early gestation, in which cardiac embryogenesis occurs; thus, any prenatal insult during that period may have an influence on the dermatoglyphics. Therefore, dermatoglyphics study was carried out to elucidate the significance of their presence in ventricular septal defect.
Method: Finger prints and palm prints of the cases and control were taken by Ink & paper method and studied with the help of hand lens of 4D power. Various dermatoglyphic parameters like finger print pattern, atd angle, absolute ridge count & ab, bc, cd, and ad ridge counts were observed and calculated in 72 cases of proven ventricular septal defect and 300 normal children (control) and compared statistically.
Result: It was observed that ventricular septal defect cases exhibited preponderance of whorls (54.4%) with decrease in loop pattern (33.8%) as compared to those of controls and the difference was highly significant ($p < 0.001$). While the mean 'atd' angle in the cases of ventricular septal defect ($51.11^\circ \pm 7.79^\circ$) was widened up and was statistically significant too, the mean 'ab' (30.10 ± 4.96), the mean 'bc' ridge (22.60 ± 6.11), the mean 'cd' ridge (31.6 ± 6.89), and the mean 'ad' ridge counts (68.6 ± 6.53) were also higher in the ventricular septal defect as compared to that controls and on statistical comparison, the difference was found to be highly significant.
Conclusion: Dermatoglyphics may be used as a new predictive and diagnostic tool with practice and expertise for population studies for prediction of congenital cardiac diseases.

56. Variations in the level of exit and division of sciatic nerve

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Objective: The sciatic nerve divides normally into the tibial and common peroneal nerves at the apex of the popliteal fossa. But the division can occur at any level from the sacral plexus to the inferior part of the popliteal fossa. When it divides within the pelvis, the two branches may leave the pelvis through different routes and may be compressed under other anatomic structures, resulting in non-discogenic sciatica. The aim of this study was to determine the level of the exit and of the division of the sciatic nerve.
Methods: 60 inferior extremities were examined in 30 adult male cadavers in the Department of Anatomy, JNIMS, Imphal.
Results: Sciatic nerve divided into tibial and common peroneal nerve at the apex of popliteal fossa in 58.34% of cases, below the apex in 13.33% and above the apex in 28.33%. In 5 cases (8.33%), it divided within the pelvis where common peroneal nerve passed through and tibial nerve below the piriformis in 3 cases, both the nerves passed below in 1 case and in another case, common peroneal nerve passed through and tibial nerve passed above the piriformis.
Conclusion: In sciatic nerve neuropathies, the extent of neurological deficits depends on the level of the sciatic nerve division. Division at a higher level can result in the involvement of only one out of the two branches. On the other hand, it may result in failure of popliteal block anaesthesia.

57. A study on sacral index in Kerala population of south India

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Aims & Objectives: Human sacral bones are of great interest to the anatomists, forensic experts and anthropologists as it is one of the important bones used for identification of sex in skeletal remains. Various parameters and indices are available based on which the sex can be determined using sacrum. One such important parameter is the sacral index. Studies show that sacral index significantly varies among male and female gender and among different populations.
Methods: The materials for the present study consisted of 150 adult sacra (75 males and 75 females) of known sex available in the Department of Anatomy, DM - Wayanad Institute of Medical Sciences, Wayanad, Kerala. With the help of a stainless steel sliding caliper and flexible steel tape, the Maximum length of Sacrum and Maximum breadth of Sacrum were measured. The sacral index was then calculated.
Results: Based on the sacral index, anthropologists have classified the sacra into specific groups. The mean sacral index of the male and female sacra in the present series is 114.94 mm and 126.2 mm respectively falls under the platycheiric group (sacral index >106). The present study showed a significant difference among the average male and female sacral indices and considers SI as a valuable parameter in identification of sex.
Conclusion: The present study showed a significant difference among the average male and female sacral indices and considers SI as a valuable parameter in identification of sex. This study will be useful for the anatomists, anthropologists and experts in forensic medicine for accurate sexing of sacra and various other clinical tenacities.

58. Cadaveric study of the absence of plantaris tendon in lower limbs

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Background: The plantaris muscle is a small muscle with a short belly and long thin tendon that forms part of the posterior superficial compartment of the leg, together with the soleus and gastrocnemius. It is a fusiform muscle in which

the muscle belly occupies a length of 5–10 cm. It is believed that the plantaris muscle was an accessory muscle and only vestigial in humans, and that it might be absent in 7–20% of individuals.
Aim and Objective: To study absence of plantaris tendon in lower limbs.
Material and Method: 32 legs from 16 adult cadavers were dissected, of which 16 were right legs and 16 were left legs. The apparent age of the cadavers was between 30 and 68 years from 1st July 2012 to 30th June 2014. The observations were documented by means of digital photographs.
Result and Observation: In the present study, plantaris was absent in 4 limbs (12.5%) in 2 cadavers (2 on right and 2 on left) dissected.
Conclusion: The typical universal occurrence of absence of plantaris tendon in lower limbs tallies with our results.

59. Study of variations of suprascapular notch

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Abstract: Hundred dried scapulae are examined for variations of suprascapular notch in R.G. Kar Medical College Kolkata. Meticulous naked eye examinations reveal various shapes including "V"-, "U"-, "J"-shaped notches. Very shallow notch has been found in six scapulae (Rt-4/Lt-2). Total number of scapulae having "U"-shaped suprascapular notch are 41 (Rt-22/Lt-19), scapulae having "V"-shaped notch are 19 (Rt-10/Lt-9) and scapulae having "J"-shaped suprascapular notch are 32 (Rt-22/Lt-10). Absence of suprascapular notch has been found in 2(Rt) scapulae. Very shallow suprascapular notch is alarming and May predispose to entrapment of suprascapular nerve causing wasting of supraspinatus and infraspinatus muscle. Anatomical knowledge of such variations should be kept in mind by radiologist, orthopaedic and neuro-surgeons, as these variations may alter the technique of surgery.

60. Variations in the branching pattern of external carotid artery in cadavers

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Introduction: The External Carotid Artery (ECA) begins at the bifurcation of the common carotid artery lateral to the upper border of the thyroid cartilage, level with the intervertebral disc between the third and fourth cervical vertebrae. The external carotid artery has eight named branches distributed to the head and neck. The superior thyroid, lingual and facial arteries arise from its anterior surface, the occipital and posterior auricular arteries arise from its posterior surface and the ascending pharyngeal artery arises from its medial surface. The maxillary and superficial temporal arteries are its terminal branches within the parotid gland.
Objective: To study and note down variations in the branching pattern of ECA.
Methods: In this study, 60 cadavers (52 male and 8 female) embalmed with 10% formalin obtained from the Department of Anatomy were used, and thus 120 neck-halves were dissected and ECA and its branches were studied.
Results: Some branches of ECA were found to be arising as common trunks such as thyrolingual trunk, linguofacial trunk, thyrolinguofacial trunk and occipitoauricular trunk. Accessory branches of ECA such as branches to the parotid gland and submandibular gland were also found.
Conclusion: The variations in the branching pattern of ECA should be kept in the mind during surgical procedures in the neck region, such as emergency cricothyroidotomy, radical neck dissection, catheterization, etc.

61. Morphology of rotator cuff tear: An anatomical perspective

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Objective: To evaluate incidence of rotator cuff ruptures and to compare the findings of the present study with previous studies. To establish morphological parameters of impending rotator cuff rupture.
Methods: 100 embalmed cadaveric shoulders (50 right and 50 left) aged between 34 and 69 were dissected to study the morphology of rotator cuff. The parameters observed were Total muscle length, Extramuscular tendon length, Functional tendon length and Tear size of Supraspinatus (SSP), Infraspinatus (ISP), Subscapularis (SSC) and Teres Minor (TM). The parameters were tabulated and compared between sides and torn with intact tendons.
Results: The incidence of rotator cuff tear is mostly seen with rupture of SSP tendon (23%) and also with SSC tendon (3%). Tear size ranged from 0.2 to 1.2 mm. No tear was found in ISP and TM. Right side tears in both SSP and SSC were found more than left. In all the torn tendons, the myotendinous junction had shifted away from insertion and the observation was statistically significant.
Conclusion: The incidence of rotator cuff tears increases with age. We did not see any complete thickness ruptures of the cuff. Supraspinatus tendon rupture was always observed with torn rotator cuff. Increase in functional tendon length appears to be consistent with cuff tears and should be regarded as a forerunner of cuff tear in intact rotator cuff. Surgical repair can prevent cuff tear in such cases.

62. Fusion of manubriosternal joint: Role in estimation of age

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Introduction: Estimation of age of an individual from unidentified skeletal remains is a crucial step in osteological analysis. For this reason, developing ageing criteria from various