

to pronator teres are frequently seen. The knowledge of its innervation to pronator teres is of utmost importance in understanding the several presentation of pronator teres syndrome, in investigating the median nerve lesions, to design satisfactory treatment and to avoid iatrogenic injuries during operations. So, the aim of this study is to evaluate possible variations in the innervation of pronator teres muscle.

Material & Method: The study was carried out in 24 cadaveric upper limbs. Dissection of the cubital fossa was done and branches of the median nerve to the pronator teres were identified. The branches were measured in reference to the interepicondylar line, (determined by the medial and lateral epicondyles of the humerus) by a divider and a ruler.

Results: We found there were 1, 2, 3 and 4 branches in 5 (20.8%), 12 (50%), 5 (20.8%) and 2 (8.3%) specimens respectively out of 24 upper limbs. In one specimen we also found that the musculocutaneous nerve was supplying the pronator teres muscle which was arising 10.9 cm above the intercondylar line.

Conclusion: This study will increase the knowledge of the anatomical distribution of nerves to pronator teres and therefore help in the treatment of pronator teres syndrome and in various surgical procedures of cubital fossa and upper limb surgeries.

18. Detailed morphological study of lower end of fibula and its clinical significance

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Introduction: Biomechanical studies have demonstrated the role of fibula in weight bearing and in normal function of the knee and ankle. Fibula has been shown to bear one-sixth of axial loading on the leg, with a key role in dissipating torsional stresses produced by ankle motion. Transmission of load to fibula from its lower to upper end is crucial to all sports activities involving movement at the ankle and the knee. Blood supply of fibula is important for planning free tissue transfer. Peroneal artery provides nutrient vessel to the fibula and at the distal end there is perimalleolar arterial ring which is connected with the three arteries of leg.

Material and Method: Forty-six (23 right and 23 left) dry fibulae were obtained from the Department of Anatomy for this study.

Results: There are three important areas seen on the medial aspect of lower one-fourth of fibula:

- Rough triangular area which gives attachment to interosseous tibiofibular ligament,
- triangular articular facet, and
- malleolar fossa.

The rough triangular area extended to higher level on the right fibulae compared to left. The articular are triangular in 71.7%, diamond shaped in 6.5%, circular in 4.3%, and pear shaped in 19.5%. The articular surface was flat in majority of cases (65%); it was concavo-convex in 26%. Height of the facet was 19 mm and with width at its base being 17.5 mm. Malleolar fossa was

deep in 73% cases and shallow in the remaining. The fossa showed an average of 10 vascular foramina. The significance of these findings shall be presented and discussed.

19. Anatomical variations of ureter: A cadaveric dissection-based study

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Objective: Ureter is a major part of human urinary excretory system. Each measures about 25–30 cm in length. It is continuing superiorly with the funnel-shaped renal pelvis. The diameter is 3 mm, which is slightly less at the junction with the renal pelvis. Inferiorly, each ureter opens into the base of the urinary bladder. Anatomical variations such as incomplete duplication and megaureter are documented by Gray's Anatomy (40th edition) to be 1/800 and 1/125, respectively. So in view of these facts, the study has been carried out to know the incidence of major ureteric variations in this part of the country.

Material and Method: About thirty human kidneys of either sex were dissected to study the major variations of ureter.

Result: A number of anatomical variations were observed. Megaureter (6.6%) and incomplete duplication (3.76%) were most common variations in our study. The details of the study with statistical analysis will be discussed during the time of oral presentation.

Conclusion: A thorough knowledge on anatomical variations of urinary system is of great importance not only for urological conditions but also for the surgeons as it would ease the management and surgical interventions and will reduce possible unnecessary complications.

20. Variation in the branching pattern of popliteal artery

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Objective: To study the variation in the branching pattern of popliteal artery. Preoperative diagnosis of variations in the branching pattern of the popliteal artery may help to avoid excessive unwanted haemorrhage during operative procedure. Also knowledge of these variations is important for the success of the arthroscopic surgeries. The popliteal artery is a continuation of femoral artery and crosses the popliteal fossa. It descends laterally from the opening in adductor magnus to the femoral intercondylar fossa, inclining obliquely to the distal border of popliteus where it divides into the anterior and posterior tibial arteries. This division usually occurs at the proximal ends of the asymmetrical crural interosseous space between the tibial metaphysis and the fibular metaphysis. The artery may show a high bifurcation and divides into terminal

branches proximal to the popliteus. The popliteal artery may trifurcate into anterior and posterior tibial and fibular artery.

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: Popliteal artery showed high bifurcation and divided into terminal branches proximal to the popliteus. (Details will be discussed during the time of presentation.)

Conclusion: This study will be helpful for the surgeons as well as orthopaedic surgeons.

21. A morphological study of thyroid gland in different age groups in females

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Objective: A morphological study of human thyroid gland in different age groups in females.

Methods: A total of 30 formalin-fixed female cadaveric thyroid glands of below 15 years, 15–45 years and above 45 years of age groups (each group 10) are collected from Forensic Department and Anatomy Department of Gauhati Medical College, Guwahati.

Results: Morphology of thyroid gland is subdivided into its length, breadth, thickness and weight. In below 15 years group, average length, breadth and thickness are 2.66 cm, 1.39 cm and 1 cm, respectively of right side and 2.56 cm, 1.3 cm and 0.93 cm, respectively of left side, and average weight is 6 g. In 15–45 years group the same are 5.44 cm, 2.45 cm and 2.02 cm, respectively of right side and 5.24 cm, 2.4 cm and 1.95 cm, respectively of left side. Average weight is 26 g. In above 45 years group, the same are 4.44 cm, 1.96 cm and 1.8 cm respectively of right side and 4.40 cm, 1.88 cm and 1.72 cm, respectively of left side, and average weight is 19.02 g.

Conclusion: The activity and size of thyroid gland varies at different ages in females. It is functionally less active before puberty, and assumes increased activity and size at puberty, during menstruation, pregnancy and lactation. After menopause it tends to atrophy. The reproductive activity and thyroid function reciprocally influence each other. Thyroid function disorders are common in females that are reflected by alteration in normal trend of morphological changes of thyroid gland with age, thus helping in early diagnosis of thyroid disorders.

22. A study on luminal diameters of coronary arteries in human

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Objective: To measure the luminal diameters of major coronary arteries through ocular micrometer. The present study will discuss the differences of coronary arterial luminal

diameters of Indian population with those mentioned in standard literature.

Method: In this descriptive study, after incising pericardium, 0.5 cm long segments of right coronary artery (RCA), left anterior descending artery (LAD) and left circumflex artery (LCX) were taken at their origin, from adult male cadavers of up to 36 years age. After processing for paraffin embedding, 5 µm thick sections were prepared, mounted on glass slides and subsequently stained with hematoxylin and eosin. Luminal diameter for each section was measured through ocular micrometer, at four places along the planes at 45° to each other.

Results: The mean luminal diameters of RCA, LAD and LCX were 1.67 mm, 1.58 mm and 1.43 mm respectively.

Conclusion: The mean luminal diameters of major coronary arteries in Indian population are lower than those reported in international literature. This might be due to geographic and/or ethnic variation(s) in the histological structure of coronary arterial wall.

23. Variations in the central branch/branches of the middle cerebral artery

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Objectives: The knowledge of origin of the central branch(es) of the middle cerebral artery (MCA) has always been of great significance for radiologists and neurosurgeons dealing with cerebrovascular pathological conditions. A number of variations have been earlier reported for the origin of central branches of MCA. The present study was performed to observe whether there are any further variations existing other than those reported earlier.

Methods: This study has been performed in total 60 (38 males and 22 females) non-living brains, obtained from the department of Anatomy and Forensic Medicine, Institute of Medical Sciences, Banaras Hindu University, Varanasi. The middle cerebral artery (MCA) of each brain was picked up and the different pattern of origin of its central (perforating) branch(es) was observed. The brain tissue was dissected besides the origin of the central (perforating) branch(es) under the dissecting microscope.

Results: It was revealed that the central branch(es) usually originated as one or two or multiple in number from M1 segment of the MCA, but not in two groups as described earlier. In few cases, these central branch/branches originated not only from M1 segment, but also from the other artery of the circle of Willis. After its/their origin, all the branches travelled through the anterior perforating substance to reach the basal area of the sub-cortical zone.

Conclusion: Hence, the present study reveals that there exist variations other than those reported earlier in the branches of MCA.