

to investigate the variations in the division of the sciatic nerve at different levels with the clinical implications.

Material and methods: For the above study, dissections of 50 lower limbs conducted in the department of Anatomy, NRS Medical College, Kolkata, over two years, from December 2012 to November 2014. The relevant structures were observed carefully and photographs of interested findings taken.

Results: Out of 50 inferior extremities, sciatic nerve divided normal in the back of the thigh, near the apex of the popliteal fossa in 41 cases (82%). In 9 limbs (18% cases), the nerve divided higher than normal: in the sacral fossa (14% cases) and in the gluteal region (4% cases).

Conclusion: A high division of the sciatic nerve may produce damage to the nerve after deep intramuscular injections in the gluteal region, sciatica, piriformis syndrome etc. So this variation has importance in gross and clinical anatomy.

Conflicts of interest

The author has none to declare.

<http://dx.doi.org/10.1016/j.jasi.2016.08.047>

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Abnormal origin of sural nerve from sciatic nerve



Manoj Dehury*, B.K. Dutta, M. Sar

V.S.S. Medical College, Burla, Odisha, India

Aims and objectives: Usually sural nerve arises from tibial nerve in the popliteal fossa. It accompanies the small saphenous vein in the superficial fascia and distributed to the lateral border of foot both on the plantar and dorsal aspect. In this study we found the abnormal origin of sural nerve.

Material and methods: During our routine dissection over the period of 4 years from 2011 to 2015 in 20 cadavers, we found in 2 male cadavers of age around 50 years each, the sural nerve on the right side was found to be arising from the sciatic nerve at the root of the thigh. It had a long course, starting from the root of the thigh to its termination in the skin of the foot. In the popliteal fossa, the nerve becomes superficial by piercing the popliteal fascia. In the leg, it accompanied the small saphenous vein and had a usual course and relation up to its termination.

Results: The sural nerve on the right side was found to take origin from the sciatic nerve (abnormal origin) whereas on the left side, it originated from the tibial nerve (normal origin). This shows the variable origin of sural nerve.

Conclusion: The present study showed differences in the anatomy of sural nerve as its origin from sciatic nerve compared to earlier studies, warranting further studies in Indian population. The nerve is often used as an autologous peripheral nerve graft as it is easily harvested, easily identified and exclusively sensory.

Conflicts of interest

The authors have none to declare.

<http://dx.doi.org/10.1016/j.jasi.2016.08.048>

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Variation of branching pattern of arch of aorta in North Maharashtrans



Santosh Shinde*, P. Bhusari, D. Kathe, K. Shukla, K. Khairnar, M. Rajale

MVPS Dr. Vasantrao Pawar Medical College, Nashik, Maharashtra, India

Aims and objectives: The variations of vessels arising from the aortic arch are numerous. The purpose of this study is the description of the variations on the branching pattern of arch of aorta, in order to offer useful data to anatomists, radiologists, vascular surgeons, neck and thorax surgeons in North Maharashtra subjects, and relating it with embryological basis.

Material and methods: Sixty-six arches of adult North Maharashtra cadavers were exposed and their branches examined during cadaveric dissection in the Department of Anatomy of MVPS Dr. Vasantrao Pawar Medical College, Nashik and PDDVPFs Medical College Ahmednager, Maharashtra.

Results: In this investigations three-branched aortic arch was found in 59 cadavers (89.39%); the 5 (7.57%), remaining aortic arch showed only two branches, out of which one was a common trunk, which incorporated the brachiocephalic trunk and left common carotid and other left subclavian artery and 2 (3.03%) aortic arches showed direct arch origin of the left vertebral artery.

Conclusion: The accurate information on this is vital for vascular surgery in the thorax, head and neck regions. Although, the variations are usually asymptomatic, they may cause dyspnea, dysphagia, intermittent claudication, misinterpretation of radiological examinations and complications during neck and thorax surgery. These observations are precious while invading the arch of aorta and its branches by instruments, as all areas are susceptible to surgical attack.

Conflicts of interest

The authors have none to declare.

<http://dx.doi.org/10.1016/j.jasi.2016.08.049>

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Gross study of intracranial part of internal carotid artery in humans



Manisha Vijaywargiya*, S.A. Athavale, R. Deopujari

L. N. Medical College & Research Centre, Bhopal, Madhya Pradesh, India

Aims and objectives: To describe morphological features of various segments of intracranial part of ICA in foetuses and adults, and also to describe its relations to intracranial structures.

Material and methods: The study was conducted on 30 embalmed adult cadavers and 10 embalmed foetus of gestational age 20 weeks and above. The intracranial course of the internal carotid (ICA) was traced by dissecting the course of the artery from its entry in carotid canal in the petrous temporal bone thence cavernous sinus to its termination as anterior and middle cerebral arteries.

Results: The ICA in carotid canal runs upwards and forwards with two bends. In cavernous sinus it takes a serpentine course in vertical plane to pierce dura mater and enter subarachnoid space.

The artery in adults was relatively constant in relation to surrounding structures in the petrous, cavernous and cerebral portions. The petrous ICA coursed superolaterally in carotid carteryanal, which was directed obliquely, i.e. anteromedially and the structures related to it or the artery with in it were disposed anterolateral and posteromedial to the canal. Furthermore, the cerebral part of the artery became thin walled and took gentle posterolateral curve before terminating as anterior and middle cerebral branches. The ICA in fetuses ran a relatively straighter course taking gentle curves at four sites (two intrapetrous, one cavernous and one cerebral).

Conflicts of interest

The authors have none to declare.

<http://dx.doi.org/10.1016/j.jasi.2016.08.050>

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Variations of the muscles of first extensor compartment of forearm

Harsimranjit Kaur^{1,*}, A. Sheth², M. Singh³

¹ Govt. Medical College, Patiala, India

² Dr. HSJ Institute of Dental Sciences & Research, Chandigarh, India

³ MMIMSR, Mullana, Ambala, Haryana, India

Aims and objectives: To study: (i) variations in muscles of first extensor compartment of forearm with their phylogenetic and ontogenic basis; and (ii) to analyze anatomical basis of possible clinical and applied entities related to the variations.

Material and methods: For present study, 50 upper limbs from 25 adult human cadavers were dissected. Out of them, 28 were male and 22 were female limbs. Extensor compartments were opened and site, origin and insertion of muscles of first compartment were studied.

Results: Of two tendons, tendons of abductor pollicis longus (APL) were found to vary the most. This tendon was split into two to four slips in 49 of 50 (98%) cases. These slips inserted at various sites in order of frequency-base of first metacarpal, trapezium, abductor pollicis brevis, capsule of first carpometacarpal joint and volar carpal ligament. Muscle belly of extensor pollicis brevis (EPB) was present in 49 cases, either entirely distinct (30 cases), or fused to variable extent (19 cases) with muscle bellies of APL. EPB absent in 1 limb.

Conclusion: Multistranded tendon of APL offers an advantage in tendon transfer procedures. Sporadic absence of muscle belly of EPB reflects that it is phylogenetically young structure, found as a separate entity only in humans. Fusion indicates that phylogenetically EPB and APL are differentiations from a common muscle. Knowledge of existence of accessory tendons of EPB has been used for reconstructive hand surgery.

Conflicts of interest

The authors have none to declare.

<http://dx.doi.org/10.1016/j.jasi.2016.08.051>



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Estimation of stature from transtuberular breadth

Parul*, M. Jain, L. Shukla

Maharaja Agrasen Medical College, Agroha, Hisar, Haryana, India

Aims and objectives: Stature estimation is an important tool both for medico-legal experts for identification of an individual and in the field of anthropometry. Although a number of studies have been done on stature estimation by using different body parts (foot, hand, long bones etc) but very few of them have used transtuberular breadth. The present study was undertaken to estimate stature from transtuberular breadth and to estimate the stature of individuals from transtuberular breadth using regression equations separately for males and females.

Material and methods: The present study was conducted on 200 subjects (100 male and 100 female) of 20–40 years of age. Stature was measured using anthropometer rod while transtuberular breadth was measured using round tipped spreading caliper. The collected data was recorded and statistically analyzed by using SPSS software version 20.0.

Results and conclusion: Regression equations were derived with confidence interval –0.232 to 0.927 and –0.030 to 1.009, i.e. with in 95% confidence interval in male and female respectively.

Conflicts of interest

The authors have none to declare.

<http://dx.doi.org/10.1016/j.jasi.2016.08.052>

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Entrapment neuropathy in the scapular region

M.M. Pai, P.P. Reshma Muhamed*, L.V. Prabhu, B.V. Murlimanju, A. Krishnamurthy

Kasturba Medical College, Mangalore, Manipal University, Karnataka, India

Aims and objectives: To define the prevalence of entrapment neuropathy in the scapular region and to investigate the factors leading to neural compression.

Material and Methods: 28 scapula regions obtained from human cadavers belonging to the age group between 40 and 80 years which were dissected during the routine MBBS course and studied for a period of 2 years.

Results: Of the 28 scapular regions, 3 cases showed evidences of neural compression. One was an accessory subscapularis muscle, also known as subscapularis minor or subscapularis secundum entrapping the axillary and inferior subscapular nerves. The accessory subscapularis muscle arose from ventral surface of subscapularis and ran upwards and laterally to fuse with capsule of shoulder joint. In the other two cases a communicating nerve between the radial and axillary nerve was found to be entrapped under split fibres of latissimus dorsi.

Conclusion: Entrapment neuropathy is one of the most fascinating yet most complex aspects of limb surgery. It is also quite often the most rewarding surgery in terms of clinical outcomes. A precise working knowledge of these variations and possible compressive neuropathy is important for orthopaedic surgeons, plastic surgeons and physiotherapists.

