left side and also forming the anterior interclinoid (caroticoclinoid) foramen and posterior interclinoidal foramen with the contribution of middle clinoid process. While in both cases there were incomplete formation of the right sella Turcica Bridge just beyond the middle clinoid process and thus forming the anterior interclinoid (caroticoclinoid) foramen only.

Conflicts of interest

The author has none to declare.

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An osteologic study of cranial opening of optic canal

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Background: Optic canal is a bony canal situated in between the roots of lesser wing of sphenoid, lateral to body of sphenoid transmitting optic nerve and ophthalmic artery; surrounded by meninges. Various authors have studied variations in skull foramina and correlated them clinically, as variations in foramina of skull have been found to be associated with many inherited or acquired diseases.

Materials and methods: Total 150 dry adult human skulls of Gujarat region have been studied to observe variations in size, shape, presence or absence and duplication or multiplications bilaterally. Unusual features such as recess, fissure and notch were also observed bilaterally. The data was statistically analysed.

Results: Optic canal was present in all 150 skulls studied bilaterally. The mean maximum diameter of the canal at cranial opening was 5.03 ± 0.72 mm on right side and 5.02 ± 0.76 mm on left side. Duplication of optic canal was present in one skull on left side. Recess, fissure and notch were found in 105 (35%), 20 (6.67%) and 30 (10%) sides of total skulls respectively.

Conclusion: The optic canal showed variability in various parameters. Knowledge regarding variations in size, shape and unusual features on cranial opening of optic canal can be helpful to clinicians while approaching optic canal for various invasive procedures such as optic nerve decompression.

Conflicts of interest

The author has none to declare.

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A study on variations of profunda femoris artery and its branches

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Introduction: Anatomical knowledge of variations of the profunda femoris artery is of great significance to minimize the complications of various surgical procedures, and understanding the collateral circulation. Bergman et al. describes that various vessels of the profunda complex may more or less dissociate, one or another of them having an independent origin from the femoral artery. J. Perara in 1993 found that the left circumflex femoral artery arose from the femoral artery in 14.6% of cases. In 2001 Dexit DP, Mehta LA and Kothari ML dissected and found that the lateral circumflex femoral artery on the right side was arising from the femoral artery in 8.3% cases, on the left side the lateral circum flex femoral artery was arising as a common stem with profunda femoris artery in 8.3 cases.

Materials and methods: This study was performed on 19 embalmed lower limbs. Femoral artery, profunda femoris artery and its medial and lateral circumflex branches were exposed. The pattern of origin of profunda femoris artery and its branches were studied.

Results and conclusion: The profunda femoris artery originated from the femoral artery at its postero lateral aspect in 17 specimens. The lateral circumflex femoral artery originated from the femoral artery in one specimen, the medial circumflex femoral artery was lower in origin in 5 specimens, and slender in origin in 2 specimens with additional branches arise from the profunda femoris artery at lower part of the thigh. The study will be continued.

Conflicts of interest

The authors have none to declare.

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A study on variations of coracobrachialis muscle along with variations in biceps brachii muscle

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Aims and objectives: The study of variations in coracobrachialis and biceps brachii muscles was done to observe the normal alignment of muscle belly, nerves around them, their possible supply by those nerves, functional capacity in case of extra bellies and compression of nerves by accessory muscle bellies.

Materials and methods: 28 Upper limbs of properly embalmed formalin preserved cadavers were dissected during regular graduation course.

Results: In all arms except one, coracobrachialis takes origin as one belly from tip of coracoid process with conjoint origin of short head of biceps brachii muscle. In one left arm of a female cadaver coracobrachialis presented an accessory belly originating from medial epicondyle and inserting into main coracobrachialis muscle belly. This belly is pierced by ulnar nerve. The belly fuses with medial head of triceps brachii muscle obliterating the medial intermuscular septum. Biceps brachii muscle presents two separate heads up to cubital fossa and thereafter forms a very short tendon to be inserted into radial tuberosity.

Discussion and conclusion: Ulnar nerve compression, flexor extensor in coordination of elbow joint can be serious clinical manifestation of this type of variation. Aberrant bellies may produce confusion in radiologic study. Almost 3.5% cases showed variations. Muscle graft can be taken from accessory bellies if not traversed by any neurovascular structures.

Conflicts of interest

The author has none to declare.

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Measurement of femoral head diameter and its correlation with the femur length

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Background: Stature reconstruction from skeletal remains form a part of the forensic anthropological analysis for the purpose of identification of an individual. Regression formulae for stature estimation have been generated for indigenous population. When a dead body has become skeletonised and the anatomical relationship of individual bone is lost, a single intact long limb bone can help in estimation of stature as there exists a relatively high correlation between limb bone length and stature.

Aims and objectives: To derive regression equation for estimation of femur length using maximum vertical diameter of the femur head.

Materials and methods: Sample size – 200 unpaired femur. Place – Department of Anatomy Vinayaka Mission's Kirupananda Variyar Medical College & Vinayaka Mission's Homeopathy College. Study period – 2 years. Study design – Cross-sectional prospective study.

Methods: Maximum vertical diameter of the femur head is measured by using a vernier caliper at right angle to the long axis of the neck of femur. Maximum femur length is measured from the superior portion of the femoral head to the inferior portion of medial condyle by using osteometric board. Data is statistically analysed for regression.

Results/observations: In the present study, maximum vertical diameter of the head showed positive correlation with the maximum femur length.

Conclusion: Thus, when the proximal fragment of femur is available, the maximum length of femur can be calculated from the metric evaluation of the maximum vertical diameter of the femur head.

Conflicts of interest

The authors have none to declare.

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A morphological and morphometric study of the acromion process and glenoid cavity of scapulae in north Indian population

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Aims and objectives: Anatomic details and variations of shoulder region are important for diagnosis and management of corrective surgeries in this area. Acromion morphology is believed to play a key role in impingement syndrome and pathogenesis of rotator cuff diseases. Present study was carried out with the purpose to collect morphological data of acromion process and glenoid cavity.

Material and methods: We studied 100 dry scapulae (50 of each side) of unknown age and sex obtained from the Department of Anatomy, KGMU, Lucknow. Morphological shapes of tip of acromion and shapes of glenoid cavity were evaluated. Length, breadth, anterior thickness, acromio-coracoid distance, acromio-glenoid distance and height of coraco-acromial arch were measured.

Observations and results: The most common shape of the acromion process noted was intermediate shape. The three types of acromion were observed as type-Iseen in 40%, type-II in 41% and type-III in 19%. In 88% of scapulae, anterior two-third of inferior surface was rough. The mean length and width of scapula were 143.83 ± 9.51, 102.95 ± 6.29 mm respectively. The mean length, width, and thickness of acromion process were 44.32 ± 4.41, 24.40 ± 2.51, 6.83 ± 0.91 mm, respectively. The mean acromio-coracoid distance and acromio-glenoid distance were 37.01 ± 4.47, 29.62 ± 3.60 mm respectively.

Conclusion: The results of present study may be of help to the shoulder surgeons, anthropologists and anatomists.

Conflicts of interest

The authors have none to declare.

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Metric and morphognostic analysis of fetal ilium

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Introduction: Sexual dimorphism is well established in the adult pelvis and is known to provide the highest level of information. But, studies on fetal collections are scarce and with contradictory results. This topic is highly contested as some researchers are of opinion that determining sex from fetal remains is futile as secondary sexual characteristics does not appear until puberty, while some are of opinion that sexual differences are observed in fetal ilium.

Materials and methods: The present study was conducted on 34 pairs of fetal ilium (22 males and 12 females) retrieved during medicolegal postmortem examinations. The different metric and morphognostic parameters were studied from the selected points by using digital vernier caliper, a ruler and a graph paper. Descriptive statistics of both the sexes for left and right sides were compared and analyzed using SPSS software.