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.

http://dx.doi.org/10.1016/j.jasi.2017.08.071

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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.

http://dx.doi.org/10.1016/j.jasi.2017.08.072

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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.

http://dx.doi.org/10.1016/j.jasi.2017.08.073

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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.

Results: A significant correlation of sex determination was found with iliac length in age more than 6 months and posterior sciatic notch length in age less than 6 months of intrauterine life.

Conclusion: Sexual dimorphism exists from an early age of intrauterine life and sexing could be established almost up to 100% as male or female by using a single or a combination of various parameters of fetal ilium.

Conflicts of interest

The authors have none to declare.

http://dx.doi.org/10.1016/j.jasi.2017.08.074

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Effect of prenatal desvenlafaxine exposure on behavioural alteration in Swiss albino mice

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Introduction: Desvenlafaxine is newer serotonin and nor-adrenaline reuptake inhibitor which is functionally different from other typical antidepressants.

In addition to serotonin and nor-adrenaline reuptake inhibition, it also causes slightly dopamine reuptake inhibition.

Purpose: To check for its deleterious effect in the pregnant women as there are paucity of reports regarding this newer antidepressant.

Methods: Adult female Swiss albino mice weighing between 25 and 30 g were mated with male mice in the ratio of 2:1. Female mice discovered with vaginal plug were given desvenlafaxine via oral gavage in the dose of 80 mg/kg body wt from gestation day 1 to gestation day 6 and day 1 to day 18 of gestation. Control group of mice received water in same dose via same route. These mice were allowed to deliver and subjected to Water Morris behavioural test at the age of 8 weeks.

Result: Water Morris behavioural test was performed to test for the effect of drug on spatial learning and memory. In early session, no significant difference was found in the time taken by offspring of different group to find hidden platform. In further sessions, offspring of group 2 (drug given for day 1 to day 6 of gestation) took less time to reach platform than offspring of 1 and 3.

Conclusion: Above findings suggest that desvenlafaxine interferes with the normal neuronal development and thus affect learning and memory. The degree of degeneration increases as we increase the dose and duration of drug exposure. Other details will be discussed during presentation in conference.

Conflicts of interest

The authors have none to declare.

http://dx.doi.org/10.1016/j.jasi.2017.08.075

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Chromosomal aberrations in mental retardation: A preliminary study

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Background: Chromosomal abnormalities that alter developmental gene expression are the most common cause of mental retardation. Approximately 10% of mental retardation cases suffer from chromosomal abnormalities. Telomeric regions of chromosomes are the most gene-rich regions and any deletion or alteration in this region had been reported to account for nearly 2.5% of mental retardation cases, with or without dysmorphic features. Our study focussed on chromosomal aneuploidies and large structural defects in idiopathic mental retardation detected using conventional cytogenetic technique by peripheral blood karyotype. A total of 30 cases of idiopathic mental retardation were referred for genetic analysis to Cytogenetic Lab, Dept of Anatomy, from May 2013 to April 2016. A peripheral blood karyotype was carried out in all patients.

Methods: 5 ml of venous blood was cultured for leucocytes and subsequently karyotyped using standard protocol of Trypsin Giemsa banding. The slides were visualised for metaphase spread under oil immersion and 20 cells were captured in every case for analysis using Cytovision software.

Results: Cytogenetic analysis of peripheral blood of 30 cases of idiopathic mental retardation revealed 02 Down syndrome mosaic males, 01 Down syndrome female with 14/21 translocation, 01 Fragile X Syndrome male and 26 cases with normal karyotype.

Discussion and conclusion: In our study only 04 out of 30 cases of idiopathic mental retardation showed chromosomal anomaly analysed by peripheral blood karyotype. Genetically determined mental retardation aetiology (comprising chromosomal aberrations, single-gene disorders, and other genetic conditions) account for 17–41% of cases, depending on the different techniques of genetic analysis. Karyotype is gold standard investigation for aneuploidies and large structural defects however small deletions and alterations on chromosome are often missed in conventional cytogenetic procedures. Hence it is suggested that newer molecular cytogenetic techniques like microarray and purely molecular techniques like polymerase chain reaction (PCR) be used to diagnose submicroscopic aberrations which account for majority of aetiologically undiagnosed cases of mental retardation.

Conflicts of interest

The author has none to declare.

http://dx.doi.org/10.1016/j.jasi.2017.08.076

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Effect of carbamazepine on fetal brain

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Aims and objectives: Carbamazepine is one of the most widely used anti-epileptic drugs among women of child bearing age. This study aims to investigate the morphological and histopathological teratogenic effects of carbamazepine use during pregnancy.

Materials and methods: The healthy pregnant female mice were divided into two groups. The control group received equivalent quantity of distilled water by intraperitoneal route on 7th day of gestation. Second group received 30 mg/kg of carbamazepine by