

Objective: The present study was carried out to assess gestational age in second and third trimesters with the help of ultrasonography measurements of one of the important fetal parameter, i.e., bi-parietal diameter (BPD) in local population (southern zone) of Rajasthan.

Methods: Two hundred normal pregnant females were studied with the known last menstrual period in southern part of Rajasthan. Gestational age was determined by measurement of fetal bi-parietal diameter with real time ultrasonography machine. Statistics was applied to correlate GA and BPD.

Results: In this study, foetal mean BPD showed linear increase from 13 to 36 weeks. Statistically significant correlation was found between GA and BPD ($r=0.38$). Mean BPD showed increase of 2.38 cm in 13–20 weeks, 2.18 cm between 20 and 27 weeks and only 1.72 cm from 27 to 34 weeks. Average growth rate of BPD was found to be 0.31 cm/week from 13 to 28 weeks, which then later reduced to 0.23 cm/week from 28 to 36 weeks of gestation.

Conclusion: BPD is one of the useful criteria to measure GA and to predict expected date of delivery (EDD). Mean measurements of BPD in the present study were found to be lower than that of western studies except Hadlock series, which compares well with present study. The mean BPD values of present study compares well with some Indian studies and other found higher results. Variation in predicted values is attributed to anthropometric differences between the two populations due to racial, genetic, nutritional and socioeconomic factor. Therefore, large-scale studies should be done and population-specific tables should be derived to correlate BPD and GA.

35. Angle of femoral neck anteversion in Tamilnadu population of India

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Background: Abnormal femoral neck anteversion (FNA) have been implicated in the etiology of the hip osteoarthritis and development dysplasia of the hip. The purpose of this study is to estimate the FNA in Tamilnadu population of India hitherto reported.

Method: Digital photographs of 187 dry adult femurs (right side – 75 and left side – 114) were taken and the angle of anteversion was determined with the aid of image tool software.

Results: The average angles of anteversion obtained were $18.5 \pm 9^\circ$ on right side and $19.4 \pm 11^\circ$ on the left side. Retroversion was observed in 3.17% femurs of both sides.

Conclusion: The knowledge of FNA angle nowadays is becoming more significant with the increase in demand for total hip replacement, and anthropological studies. The present study provides FNA data of Tamilnadu population, which adds to the other existing data and may be supportive for the interventional procedures undertaken in this population.

36. A morphological study of fetal myocardial bridges

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Objective: A band is overlying the intramural segment of coronary artery – a place where the artery goes through myocardium instead of epicardium is myocardial bridging (MB). In adult cadaveric and angiographic study, a wide variation of 0.5–90.4% occurs in the incidence of MB with very little data on fetus. Hence, the aim of this study was to identify the presence of myocardial bridges in fetuses of varying gestational age.

Methods: Thirty fetal cadaveric hearts were examined. After removing epicardium, the course of the coronary arteries was delineated and observed for the presence of MB. In the hearts with MB, the location, length, and its distance from the coronary ostium were measured. Histological study of the artery under the myocardial bridges was done.

Result: Out of thirty hearts, 19 showed MB in the left anterior interventricular artery. Five and two hearts showed myocardial bridges in right coronary artery and circumflex artery, respectively. Multiple MB in single artery was seen rarely. The length of the MB segment was around 4 mm on an average. Mostly the MB is seen in the mid- to distal part of the artery. Routine H&E staining of the artery showed narrowing of the segment under MB.

Conclusion: This study concludes that MB is present in fetuses mostly in the left coronary artery. This study may provide potentially useful information for the preoperative evaluation of a newborn and may have clinical implication for sudden fetal deaths.

37. The role of Q-angle in the diagnosis of patello femoral pain syndrome

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Introduction: One of the most common disorders of knee is patella femoral pain syndrome (PFPS), which constitutes about 25% of all knee injuries treated in the orthopedic department. PFPS is considered to be a challenging problem to the clinicians, as multiple factors contribute to its etiology like abnormal lower limb mechanics, muscle weakness, soft tissue tightness and even over exercise. Till date, there is no gold standard test, which would pin point the diagnosis of PFPS. The most commonly used tests are (1) patellar tilt test, (2) palpation of patellar retinaculum, (3) patellar mobility test, (4) medio lateral glide, (5) patellar apprehension test, (6) muscle flexibility, (7) crepitus, (8) patellar tracking test, (9) patellar compression test, and (10) Q-angle. Among the above-mentioned test, an increased Q-angle with subsequent abnormal lateral tracking of patella is considered to be one of the main causes of PFPS.

Aims and Objectives:

- To find out the Q-angle in healthy age- and sex-related population.
- To find out the Q-angle in patients with knee pain.
- To ascertain whether a person with increased or decreased Q-angle may develop PFPS in future.

Materials and Methods: The subjects were patients with knee pain attending our college ortho OPD. The age of the patients was from 25 to 75 yrs and there were a total of 120 participants (males – 60, females – 60). The control group consists of a total 60 normal healthy individuals, without any previous history of knee pain, trauma or any knee surgeries or neurological deficits.

Methods: A set of six tests were conducted to confirm the diagnosis of PFPS and then Q-angle was measured to all the subjects and control group.

Results: In our study we found a strong correlation between the PFPS and an increase in the Q-angle.

Conclusion: Q-angle in females was more than males, probably due to wider pelvis. Q-angle in patients with PFPS was more than normal subjects.

38. Characteristics of superior articular facet of fibula and its clinical significance

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Introduction: Fibula is the most slender of all long bones. Biomechanical studies have demonstrated the role of fibula in weight transmission (6–19%) and in the normal function of knee and ankle. It also plays a key role in dissipating torsional stresses produced by ankle motion. Fibula is a common donor site for cortical bone graft. Transmission of load through fibula from its lower to upper end is crucial to all sports activities involving movements at ankle and knee.

The ability of the proximal tibiofibular joint to withstand longitudinal or axial stresses is a direct function of its anatomy. The proximal aspect of the fibula seems modified to withstand tensile and torsional stresses, yet may undergo subluxation at the proximal tibiofibular joint. In spite of this, no detailed account of the superior articular facet of fibula is available; hence, this work was undertaken.

Material and Methods: Forty fibulae (Rt. and Lt. 20 each) were utilized. Superior articular facets were observed for their shape, surface features, and dimensions.

Observations: On both the sides, the shape was triangular in majority of cases. Next in order were oval shape; only in some cases the facet was circular (left side). The surface was flat in majority but in some cases, it was concave also. The AP diameter was greater than the transverse diameter in all the cases. The vital role played by superior articular facet of fibula in the integrity and function of proximal tibiofibular articulation will be presented and discussed.

39. Study of retinal vasculature in relation with ABO blood grouping

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Aims and Objectives: The purpose of this study is to classify retinal vascular pattern, to compare the retinal vasculature patterns with ABO blood grouping and to form the database for retinal vascular patterns in study population.

Material and Methods: 500 subjects from MMIMSR institute with age ranging between 18 and 30 years formed the subjects. Pupil of both the eyes was dilated with atropine hydrochloride drops. Fundi of both the eyes were photographed with the help of fundus camera. Retinal vascular pattern was classified into number of primary, secondary and tertiary branches in each quadrant and the data saved. The retinal vasculature was studied and analysed. ABO blood group of each subject was noted and subjects were grouped according to ABO and Rh grouping into 8 groups. Retinal vascular patterns were studied in each group and compared to find out any difference.

Results: Primary, secondary and tertiary retinal branches were observed in the pictures of fundus of retina of both eyes of each subject. Retinal vascular pattern is more extensive in temporal half of retina. But when seen in individual blood groups, B⁻ blood group was associated with more number of vessels in nasal half of right eye. Secondary branches of right eye were observed more on nasal side in AB⁺ and O⁻ blood group, while tertiary ramification was seen more in temporal half in all groups. No statistically significant correlation is seen in the study.

Conclusion: Retinal vascular patterns are more extensive in temporal half. Individuals with B⁻ blood group have extensive vascular pattern in nasal half of right eye, and with AB⁺ and O⁻ have extensive secondary branches in nasal half of right eye.

40. Variation in testicular vein drainage

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Normally, testicular/ovarian, preferably can be called as gonadal vein of right side along with right suprarenal vein drain in the inferior vena cava directly, while these two veins of left side drain in the left renal vein. In the present case during routine dissection of abdomen in the Department of Anatomy, Pondicherry Institute of Medical Sciences, Pondicherry, it was found that there are accessory renal veins present on both sides, right and left. These were present about 1 cm inferior to the main renal veins. The right accessory renal vein joins the main renal vein just before it drains into the inferior vena cava, and the left accessory renal vein joins the main renal vein halfway through of its draining into inferior vena cava. The testicular veins of both sides drain into corresponding accessory renal veins. It was also observed that accessory renal arteries were also present on both the sides approximately 2 cm inferior to the main renal artery supplying the lower part