

**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.

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### 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<sup>-</sup> 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<sup>+</sup> and O<sup>-</sup> 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<sup>-</sup> blood group have extensive vascular pattern in nasal half of right eye, and with AB<sup>+</sup> and O<sup>-</sup> have extensive secondary branches in nasal half of right eye.

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### 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

of the kidney. Almost similar case, where only abnormality was seen in the venous drainage of right testis and suprarenal gland, was presented in ASI Conference at AIMS Cochin in 2006, later published in IMSA Journal in 2010. This might be due to defective development of the subcardinal veins. These variations (arterial as well as venous) become important during surgery of the kidney, in deciding the location of tying the renal vessels preventing excessive or accidental bleeding.

#### 41. Anatomical study of chordae tendineae of left ventricle

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**Aims and Objective:** To study the morphology of chordae tendineae of human left ventricle under the following headings: The number of chordae tendineae as counted at their origin, their distribution and arrangement, and the gross morphology at the sites of insertion.

**Materials and Methods:** 30 numbers of adult cadaveric human hearts were collected from the Department of Forensic Medicine and Department of Anatomy, Gauhati Medical College, Guwahati, after taking the ethical clearance. The specimens were meticulously dissected and documented properly.

**Results:** The chordae tendineae are fibrous strings that originate from tiny nipples on the apical portion of the two left ventricular papillary muscles or directly from the ventricular wall. Those that insert into the valve are true chordae tendineae, those that insert elsewhere, for example, into the muscle, are false chordae tendineae.

In the present study, the average length of chordae tendineae inserting into anterior leaflet, posterior leaflet, and the commissural area has been measured, ranging from 0.8 cm to 1.75 cm. Average number of chordal insertions also varies.

Detailed results and observations will be discussed at the time of presentation.

**Conclusion:** Clinical syndrome due to rupture of the chordae tendineae of the mitral valve has been recognized with increasing frequency. So the study of the morphology of chordae tendineae is important for anatomist as well as for surgeons during repairing the mitral valve.

#### 42. A comparative study on growth & development of chick embryos exposed to ultrahigh frequency radiation emitted from 2G and 3G cell phones

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**Aims and Objectives:** The mobile phone technology has become an integral part in everyone's life. It emits a pulsed radiofrequency electromagnetic field, which is absorbed into the user's body, particularly the head region. The present study is undertaken to evaluate the possible effect of chronic exposure of radiofrequency radiation emitted from 2G and

3G cell phones on mortality rate and development of chick embryo.

**Materials and Methods:** Fertilized chick embryos were incubated in three groups (control Group A and experimental Groups B and C) in a standard egg incubator. Group B were exposed to radiation emitted from a 2G cell phone and Group C to radiation from 3G cell phone. On completion of scheduled duration, the embryos were collected and gross morphological features were noted. The CR length, the weight, and the volume of embryos were measured and statistically compared using one-way ANOVA.

**Results:** Control Group A showed normal morphological features with the mortality rate of 8.33%. In the experimental groups B and C, the mortality rate was high with 16.6% and 10.41%, respectively, with some embryos showing abnormal morphological features. The CR length, the weight, and the volume of 3G group were found to be significantly less than control and 2G group.

**Conclusions:** The exposure of developing chick embryos to UHF/RFR emitted from 2G & 3G cell phones increased the mortality rate and development of abnormal embryos. The anomalies were more pronounced in 2G group but the growth parameters were less in 3G group.

#### 43. Attitude of first year medical students in dissection hall

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**Objective:** Mixed feelings of various emotional reactions are normally experienced by first year medical students when they encounter with human cadavers. So this study was conducted to assess the attitude of first year medical students in dissection hall of RIMS, Imphal.

**Methods:** Predesigned questionnaire was prepared & distributed among 100 students after obtaining permission from Institutional Ethics Committee and consent from the participants. Demographic characteristics, history of previous exposure to dead body, and various emotional reactions and views were assessed among participated 99 students.

**Result:** All the participants (100%) agreed that anatomy dissection is an important part of Medical Degree where as 96.97% of them opined that dissection gives better results than demonstration on prosected specimen. Majority of the students (82.83%) agreed with dissection techniques instead of plastic model or computer assisted training programme. 96.7% of the participants had gratitude to people who donated their bodies. Three in hundred participants had ever thought of leaving the course following cadaveric exposure.

**Conclusion:** A better teacher-students interaction and pre-education sessions will help in improving the attitude of the students towards cadaveric dissection which in turn will help in improving their mental status to handle the highest level of stress in clinical carrier.