

aim to analyse sperm DNA quality in the fathers of children with retinoblastoma.

**Methods:** 20 fathers of children with retinoblastoma and 15 controls were enrolled and DNA Fragmentation Index (DFI) by Sperm Chromatin Structural Assay, Reactive Oxygen Species (ROS) by Chemiluminescence Assay and 8-oxo-guanine by ELISA were calculated. Ethical clearance was obtained for the study.

**Results:** The mean ages of cases and controls were  $33.17 \pm 11.2$  yrs and  $28.5 \pm 4.54$  yrs, respectively. Seminal mean ROS levels were significantly higher [ $45.78 \pm 38.4$  vs.  $22.75 \pm 8.18$  RLU/s/million sperm;  $p=0.0143$ ] in cases when compared to controls. The 8-OHdG levels were also significantly higher in cases [ $72.5$  (12.8–631.1) vs.  $32.7$  (5.6–89) pg/mL;  $p=0.006$ ] when compared to controls. The mean DFI levels were higher in cases when compared to controls [ $29.31 \pm 5.8$  vs.  $23.27 \pm 11.22$ ;  $p=0.156$ ] but were not significantly different.

**Conclusion:** This study suggests role of oxidative stress in DNA damage. The results show that sperm DNA damage may be the cause of retinoblastoma. Majority of mutations arise during cell replication and as sperm has a limited capacity for DNA damage detection/repair, thus it is highly susceptible to accumulation of mutations. In a study from our lab, we have documented that lifestyle interventions may improve DNA integrity and thus may reduce incidence of childhood cancer.

#### 4. Estimation of stature from maxillo-facial anthropometry in Tripuri population

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**Background:** For the establishment of identity, stature is an important parameter in medico-legal and forensic examination.

**Aims and Objective:** To estimate the stature from the facial parameters.

**Study Design:** Prospective study was conducted from July 2013 to June 2014 in the Department of Anatomy, AGMC, Agartala.

**Materials and Method:** A total of 400 healthy medical and paramedical students were taken, comprising of 200 males and 200 females in the age group of 18–24 yrs. The data were analyzed using regression analysis and correlation coefficient.

**Results and Observation:** The average heights of the males and females were  $167.42 (\pm 7.22)$  cm and  $154.26 (\pm 5.86)$  cm, respectively. It was observed that in the males the total facial height had greater correlation with stature ( $r=0.17$ ) and had standard error of  $\pm 6.42$  cm. In females, nasal height had greater correlation with stature ( $r=0.18$ ) and had standard error of  $\pm 5.52$  cm.

**Conclusion:** It can be stated that percutaneous facial dimensions are not good predictors of accurate stature estimation and can be used when other parameters are not available.

#### 5. Morphometric, CT scan evaluation of facet joints in lumbago patients

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**Introduction:** The degenerative changes of lumbar spine are one of the leading causes of lumbago/low back pain (LBP). These changes occur in the intervertebral discs (IVDs), bony lumbar canal and facet joints. There has been considerable work on degenerative disc disorders (DDD) and spinal stenosis, but there is hardly any work on facet joints particularly in living subjects and especially in the Indian sub-continent. Hence the present study was undertaken to define prevalence of facet arthrosis of lumbar spine in lumbago patients.

**Methods:** Thirty-eight patients, 14 men and 24 women of mean age 44.7 yrs, with complaints of LBP were included in the study. The selected individuals, according to a pre-defined standard questionnaire, were subjected to CT scan examination. The joints were classified as Joint-1 between L1 and L2 vertebrae, Joint-2 between L2 and L3 vertebrae, Joint-3 between L3 and L4 vertebrae and Joint-4 between L4 and L5 vertebrae; arthritic changes in each joint were observed.

**Results:** The evaluation of observations revealed arthrosis in 52.6% of patients and it was more prevalent in females (66.6%) than males (28.5%). The highest incidence of arthrosis was seen in joint-4 (52%). Irrespective of the joint level, the arthrosis was either seen bilaterally or unilaterally on right side only.

**Discussion:** The degenerative changes in the spine commonly affect the IVDs but may involve the facet joints also. The role of facet joints is to assist in load transfer, to stabilize the spinal unit in flexion and extension and to limit axial rotation. The facet joint arthrosis is one of the leading cause of LBP; hence for the management and good prognosis of LBP patients, facet joint assessment is also important.

#### 6. Levator palpebrae superioris and its correlation with superior palpebral crease

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**Objective:** The extraocular or extrinsic muscles of eye include an elevator of the upper eyelid, the levator palpebrae superioris (LPS). The insertion of LPS into the upper eyelid has gained importance recently as the formation of crease in the upper lid is related to its pattern of insertion. The formation of crease and its absence in certain races has fuelled cosmetic double fold surgery. Upper eyelid crease surgery utilizes the pattern of LPS insertion into the upper lid for its success. No studies have been conducted in India to observe the LPS insertion and its relation to superior palpebral crease and to observe any variance to other studies which have been done till date. A pilot study was done on a section of cadavers from Western India to substantiate the pattern of insertion of LPS and its clinical relevance to upper eyelid crease formation.

**Materials and Methods:** Twenty-five human eyelids ranging from 15 years to 80 years were studied. The specimens were collected from unclaimed bodies obtained by the Dept. of Anatomy from a local mental hospital. Eyelid specimens were taken and immediately kept in 10% formalin. Dissection was carried out in 15 specimens and all 25 specimens were processed for paraffin section histological analysis.

**Results and Conclusion:**

Cutaneous insertion		
(a)	Skin	1
(b)	Interfascicular tissue	1
(c)	Subcutaneous tissue	17
(d)	Undetermined	2
Tarsal insertion		
(a)	Lower one-third of tarsal plate	23
(b)	Undetermined	2

The study is in agreement with other studies done elsewhere that the insertion of LPS is in the subcutaneous tissue.

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## 7. A study on cystic artery and its variations

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**Objective:** To study the anatomy of the cystic artery and focus on its variations.

**Methods:** 32 en bloc specimens of liver, the extrahepatic biliary apparatus and duodenum were collected from unclaimed human cadavers from the Department of Anatomy and the Department of Forensic Medicine, Gauhati Medical College, Guwahati, after fulfilling all medicolegal formalities. The specimens were kept in 10% formalin and the following were studied:

1. Origin of cystic artery.
2. Course of cystic artery.

**Results:** All the cystic arteries originated from the right hepatic artery. Variations in the subsequent course of the artery were observed. Cystic artery passed posterior to common hepatic duct in 18 specimens (56.25%), anterior to common hepatic duct in 12 specimens (37.50%), and anterior to right hepatic duct in 2 specimens (6.25%).

**Conclusion:** Misidentification of the biliary anatomy during dissection of the cystic duct and artery are important causes of postcholecystectomy morbidity. Unexpected bleeding may arise from unusual patterns of the cystic artery. An appreciation of the origin and course of the cystic artery is therefore important for the surgeons during surgery of the hepatobiliary region.

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## 8. Morphometrical study of scapular glenoid cavities

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**Aim and Objectives:** The scapula is an integral part of the connection between the upper extremity and the axial skeleton. Lateral angle of the scapula is a shallow, pyriform articular surface – the Glenoid cavity, also known as Glenoid fossa of the scapula. Because of unusual and complex morphology

features of the scapula, and the lack of complete quantitative anatomic studies, the current study was undertaken to describe the glenoid cavity quantitatively with its dimensions and shape.

**Materials and Methods:** In the present study done on 224 dry scapulae, three glenoid diameters were measured. All the measurements were taken in millimeters using sliding calipers.

**Results:** The average superior-inferior diameter on right and the left sides were  $33.68 \pm 4.32$  mm and  $32.09 \pm 4.11$  mm respectively. The average anterior-posterior diameter of the lower half of the right glenoid was  $23.29 \pm 2.34$  mm and that of the left glenoid was  $24.90 \pm 2.95$  mm. The mean diameter of the upper half of the right glenoid was  $15.74 \pm 1.75$  mm and that of the left glenoid was  $16.81 \pm 1.74$  mm.

**Conclusion:** Values observed in the present study, though coinciding with that of some of the studies are mostly less than that recorded by many of the observers. This implies that the smaller dimensions of the glenoid cavities in the south Indian population may have to be taken into consideration while designing and fitting glenoid components while performing total shoulder arthroplasty.

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## 9. Morphological study of the articular surfaces of bones forming the tibiofibular mortise in south Indian population

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**Aims and Objectives:** Talocrural joint is a major weight bearing joint of the body. The objective of the study is to find the mean measurements of the articular surfaces of bones forming the tibiofibular mortise in south Indian population, differences between the sides and variations within the same population and comparison of the study with that of the others.

**Methods:** The present study was done in the Department of Anatomy, DM-WIMS, Meppadi, Kerala using 100 tibias (50 right and 50 left) and 100 fibulas (50 right and 50 left). All the measurements were taken using digital calipers.

**Results:** There were no significant differences between the right and the left sides. There were no significant differences within the population.

**Conclusion:** Articular surface was wider in front and it narrows posteriorly. The study will help in the reconstruction surgeries and in the manufacture of implants in south Indians.

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## 10. Fusion of axis and third cervical vertebrae – Anatomical and radiological consideration

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**Objective:** Osteological study of human cervical vertebrae was conducted for skeletal abnormalities and radiological study was also performed.