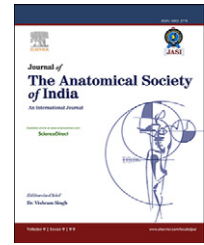


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## Oral Presentations

### Abstracts of Papers Presented at 62<sup>nd</sup> National Conference of the Anatomical Society of India

#### 1. An anatomical study of superficial palmar arch

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**Background:** The study of superficial palmar arch and its variations has been reported rarely. The purpose of the study is to provide assessment of anatomical variations in the formation of superficial palmar arch in hand. A classic superficial palmar arch is formed by direct communication between the superficial branch of the ulnar artery and superficial branch of radial artery.

**Materials and Methods:** Twenty dissected upper limb specimens, out of which 16 belonged to males and 4 to females aged between 18 and 75 years, were obtained from Department of Anatomy, Bangalore Medical College and Research Institute, Bangalore. The vascular pattern of superficial palmar arch was recorded.

**Results and Discussion:** The complete and incomplete formation of the superficial palmar arch was found in 19 and 1 hands respectively. This indicates that the incidences of complete and incomplete formation of superficial palmar arch are 95% and 5% respectively.

**Conclusion:** The findings suggest that the incomplete formation of superficial palmar arch will lead to ischemia or poor nourishment of intrinsic muscles of the hand.

#### 2. Study of sutural variation in occipital region of human skull in central India region

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Occipital region of human skull is bounded by two lambdoid sutures extending from superior angle to lateral angle. Sutural variations are common in human skull. This study is conducted to study the sutural variations in occipital region of human skull, in reference to their embryological, evolutionary and cultural aspects. Naked eye examination of 534 human skulls available at Dept. of Anatomy and Regional Medicolegal Institute, Bhopal and various medical colleges of MP was done and variations were carefully recorded. During our study we found 27 (5.05%) skulls with sutural variation in occipital region. Complete separation of squamous part with basilar part of occipital bone by a transverse suture (*Os inca totum*) in 4 (0.75%) skulls. Diamond shaped formation of bone was observed between right and left lambdoid and external occipital protuberances in 4 (0.75%) skulls. There was incomplete separation of squamous part and basilar part in (*Inca Bipartite*) 3 skulls (0.56%). Subdivision of squamous part was into three bones (*inca tripartite*) in 1 skull (0.18%). Different types of pre-interparietal bone at superior angle were seen in 15 skulls (2.8%). Such variations have their embryological, anthropological, medicolegal and evolutionary importance.

#### 3. Loss of sperm DNA integrity: Role in non-familial retinoblastoma

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**Background and Objective:** Poor sperm DNA quality may be the cause of childhood morbidity and mortality. Spermatozoa divide continuously and are thus the source of new mutations. Sperm is also highly vulnerable to oxidative damage. Retinoblastoma is the most common childhood tumor but its etiology is not known. Thus this study was planned with an

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.