

**Abstracts of Paper Presentations during the 57<sup>th</sup> National Conference of Anatomical Society of India, 2009 held at KLE University's Jawaharlal Nehru Medical College, Belgaum.**

**1. Morphometric Analysis Of The Menisci Of The Knee Joint In Human Fetuses**

**Murali Manju**, Narga Nair<sup>\*</sup>, Shakuntala R. Pai<sup>\*</sup>, Mangala M. Pai,

Chandra Philip<sup>\*</sup>, Chandni Gupta<sup>\*</sup>

Kasturba Medical College, Manipal University, Bejai, Mangalore, <sup>\*</sup>Kasturba Medical college, Manipal University, Manipal, Karnataka.

The aim of the study: To Analyse the morphometric aspects of the knee joint menisci such as: external circumference thickness, the width, the peripheral and inner border lengths, the distance between anterior and posterior horns.

**Materials and Methods:** Human Fetal cadavers which were available in the Department of Anatomy, K.M.C., Manipal were utilized for the present study. This included a total number of 106 knee joints from 53 fetuses. All specimens were preserved in 10% formaldehyde solution and they had no musculoskeletal system anomalies.

The thickness and width morphometric variables were evaluated in three different points: anterior 1/3, middle 1/3 and posterior 1/3 parts and the values were compared between medial and lateral compartments. A nonelastic cotton thread and a vernier caliper of 0.02 mm accuracy were used for the measurements.

**Results and Conclusions:** Related to the thickness of outer circumference of meniscus, the anterior third of the medial meniscus was the thickest part compared to posterior ( $p=0.003$ ) & middle thirds ( $p=0.003$ ). The individual analysis of each meniscus showed that the posterior third was the widest part of the medial meniscus than the anterior ( $p=0.00$ ) and middle thirds ( $p=0.00$ ). Whereas in the lateral meniscus the middle third segment was the widest compared to the posterior ( $p=0.00$ ) and the anterior third ( $p=0.008$ ) segment. However in all the three regions the lateral meniscus was wider than the medial meniscus ( $p=0.00$ ,  $p=0.00$ ,  $p=0.008$ ). The detailed morphometric data, analysis and clinical implications of all the parameters will be presented at the conference hall.

**2. An unusual variation of carotid system in a case of situs inversus**

**Sharma R K**, Agnihotri G, Arora APK<sup>\*</sup>, Kumar P  
Government Medical College, Amritsar, <sup>\*</sup> S.G.R.D.I.M.S, Amritsar

Situs inversus viscerum is a rare (0.01%) congenital anomaly and the pathological condition of the transposed organs during life often mislead the clinicians. An unusual case of situs inversus was observed during routine postmortem of a 60 year old male at Govt. Medical College, Amritsar. The thorax and abdomen were systemically opened and position of heart, other visceral organs and

blood vessels was noted. On the right side the common carotid artery was absent. The right external carotid artery arose directly from the arch of aorta. The brachiocephalic trunk was present on the left side giving left common carotid artery and left subclavian artery. The left common carotid artery had a broad diameter and it divided into external and internal carotid arteries. The left internal carotid artery had a wide diameter and it gave two subdivisions. The right subdivision crossed over to the right side compensating for the absent right internal carotid artery. The left subdivision continued as the internal carotid artery of the left side. The embryological, morphological and clinical implications of this unique anomaly will be discussed at the conference venue.

**3. Very Rare Variation of Median Nerve in Cubital Fossa**

**Prathap Kumar. J**, Prakash.B.S, Padmalatha.K, B.R.Ramesh  
Dr.B.R.Ambedkar Medical College, K.G.Halli, Bengaluru, Karnataka

Median nerve is the medial most content of the cubital fossa along with brachial artery, biceps brachii tendon & radial nerve. Variation of median nerve in piercing the pronator teres is described in the literature. During the routine dissection of the upperlimbs, allotted for the students of I M.B.B.S, two out of thirty six upperlimbs (5.5%), the median nerve was not a content of cubital fossa and had an unusual course in the forearm by passing superficial to pronator teres muscle. The clinical importance of such rare variation will be dealt in detail during presentation.

**4. Accessory Renal Arteries And Its Clinical Significance**

**Bhaskar.B.Reddy**, B.R.Zambare, B.N.Umarji<sup>\*</sup>, Santosh.V.Shinde  
P.D.V.V.P.F's Medical College & Hospital, Ahmednagar, <sup>\*</sup> KIMS University, Karad.

The relatively common variations in the blood supply to the kidneys reflect the manner in which the blood supply continually changed during embryonic and early fetal life. A single renal artery to each kidney is present in about 75% of the people. About 25% of adult kidneys have two to four renal arteries. The origin of main renal arteries from the aorta is between the upper margin of L1 and lower margin of L2 vertebra in 98% of the patients. Accessory (super numerary) renal arteries usually arise from the aorta superior or inferior to the main renal artery and follow it to the hilum. An accessory renal artery to the inferior pole may cross anterior to the ureter and obstruct it causing Hydronephrosis. Renal artery variations are common and the frequency of variations shows social, ethnic, and racial differences. Renal artery variations are becoming more

important due to the gradual increase in interventional radiological procedures, urological and vascular operations, and renal transplantation. This should be kept in mind when renal surgery related to renal arteries is performed.

The aim of this study was to determine the location of origins of renal arteries and the variation rates of renal arteries in cadavers. During the routine dissection for a period of two years, on a total of twelve cadavers, accessory renal arteries are found in three cadavers and accessory segmental arteries are found in one cadaver.

#### **5. Left Testicular Artery Arching Over The Ipsilateral Renal Vein-A Case Report.**

**Faiza Siddiqui**, M. Chandramohan, B. Bhagyalakshmi  
Mamata Medical College, Khammam.

**Aim:** To report a case of the left testicular artery arching over the left renal vein (LRV) before running downward to testis .

**Material and methods:** During routine dissection of abdomen in an embalmed male cadaver, variation was observed in course of left testicular artery. The anatomical relationship between the testicular vessels and the renal vein was specially observed .The embryology and clinical significance of the same were reviewed with the available literature. The details of this will be discussed at the time of paper presentation.

**Result:** Nutcracker syndrome is known phenomenon where there is compression of left renal vein between aorta and Superior Mesenteric Artery leading to LRV Hypertension causing effects like Varicocele , Orthostatic Proteinuria ,Hematuria etc.

Arching of Left Testicular Artery could also be additional possible cause of the LRV compression .

#### **6. Extra Abnormal Lobe In Left Lung**

**Virender Kumar Nim**

Pondicherry Institute of Medical Sciences, Kalapet, Pondicherry.

Variation in the fissures and lobe of lungs are quite common, which can be unilateral or bilateral. This includes absence of any fissure leading to decreasing in number of lobes, especially on the right side, or increase in number of fissures leading increasing in number of lobes. The fissures can be incomplete. In the present case a deep fissure was seen in the left lung lower lobe reaching up to the root separating the part of lung tissue from rest of the lung, belongs to the posterior basal broncho-pulmonary segment, supplied by independent bronchus coming out of left primary bronchus directly and a direct branch from pulmonary artery, and its vein was draining to inferior pulmonary vein. It is described as Rokitansky lobe by Bergman. No other abnormality was found. These variations do not interfere in the normal functions of the lungs, but have to be taken care of at the time of surgery, in case they need.

#### **7. Variations of Profunda Femoris Artery- A Morphological Study**

**R.Chitra**, K.S.N.Prasad

Siddhartha Medical College, Vijayawada

The increasing scope of interventional radiology in modern surgical practice has prompted this study on the variation of the profunda femoris artery. The aim of this study is to study the variations in the origin and branches of profunda femoris artery in 100 lower limbs of both-sexes during routine educational dissection of I.M.B.S., students in 4 years in Departments of Anatomy in NRI Medical College and Siddhartha Medical College. The profunda femoris artery is a large branch that arises laterally from the femoral artery 3.5cm distal to the inguinal ligament. The profunda femoris artery gives off the lateral and medial circumflex arteries in the proximal thigh, and perforating and muscular branches more distally. The study is done under the following protocol: the level of origin of profunda femoris from the inguinal ligament, and the origin of branches- the circumflex femoral arteries if from femoral or from profunda femoris and the levels of origin of the circumflex arteries. The origin and the branching of profunda femoris artery showed many variations apart from the normal pattern and they are compared with the previous studies. The knowledge of the variations of profunda femoris artery is important for the radiologists and surgeons. The profunda femoris artery is widely used for arteriography, ultrasound and doppler imaging, digital subtraction angiography and magnetic resonance imaging.

#### **8. Prevalence And Variations Of Cartilago Triticea.**

Joshi S D\*, Joshi S S\*, **Joshi M M**, Chavan S K, Kishve P S.

Rural Medical College, Loni; Dist.Ahmadnagar Maharashtra \*Sri Arbindo Inst. of Med. Sc., Indore

Text-books in Anatomy describe the presence of 'small and unimportant cartilage triticea (like a rice grain).' The lateral portion of thyrohyoid ligament is round cord like and very elastic and in its upper part contains a small nodule. The cartilage triticea probably reinforce the thyrohyoid ligament and it presumably adds to the strength of ligament. Knowledge of shape, size & location of cartilage triticea can be of great help in differentiating it from carotid atheroma and other dystrophic calcifications of soft tissue. Earlier studies have shown that prevalence of cartilage triticea was not age dependant and it's prevalence in one of the studies( Ahemad et al.,2005) was shown to be from 5 to 10%. In the present study it's prevalence is much higher- 58%(40% bilaterally &18% unilaterally). The shapes varied from oval (44%) to spindle shaped (8%). In 16% it was unilateral whereas in 40% it was bilaterally present. Its length varied from 3.72 mm to 13.94 mm. Its diameter varies from 2.42 mm to 3.43 mm. In one case unilaterally two cartilage triticea were found. Very interesting variations in lateral thyrohyoid ligament were also observed from its complete absence (due to the union of superior cornu of thyroid to the greater cornu of hyoid ) to the presence of a complete ligamentous band and an absence of cartilage triticea. The weight of cartilage triticea was varying from 11mg to as much as 109mg. The details of our findings will be presented and discussed.

**9. Anatomical Study On Sphenoidal Air Sinus And Sella Turcica In Relation To Transsphenoidal Approach**

**Angelie Jessica. S**, Vijayakumar J, Saraswathi P  
Saveetha Medical College, Chennai.

**Aim:** Removal of pituitary tumours by the surgeons through modern endoscopic methods or trans sphenoidal approach is claimed to be successful but patients very often get oronasal complications and infections in the post operative stage. In this context the sphenoidal air sinus, sella turcica and their immediate relations in transsphenoidal approach were focussed and studied for a much safer surgical results.

**Material And Methods:** 10 sagittal sections of head and neck, vernier calipers and a graduated scale were used for the study

**Observation:** The relations were observed and the measurements of the sphenoidal air sinus and sella turcica were also tabulated.

**Discussion:** The data obtained in the above study was analysed and correlated with the surgical approach

**Conclusion:** The study will surely contribute to the existing knowledge of neurosurgery in the removal of pituitary tumours

**10. Sturge-Weber Syndrome With Corpus Callosal Agenesis**

**Krishna Pandey**, C Mohanty, B K Das, Gajendra Singh  
Institute of Medical Sciences, Banaras Hindu University, Varanasi

Sturge Weber syndrome is a rare disorder characterized by facial nevus, seizures, hemiparesis, intracranial calcifications and mental retardation. The condition is sporadic with a frequency of 1:50,000. The condition is also known as encephalotrigeminal angiomas. Association with corpus callosal agenesis (ACC) is extremely rare. We report here a case of Sturge Weber syndrome presenting with mental retardation and intractable seizures. Port wine stain was present over right half of the face. Ocular and oral examinations were within normal limits

CT scan of the brain showed dense gyriform calcifications over right occipital lobe in parasagittal location with ventricular dilatation. There was agenesis of corpus callosum. ACC is possibly due to blocked growth by the encephalo angiomas. The child was managed with supportive measures.

**11. Study Of Pyrethroid Inhalation On Psychomotor Activity And Its Neurotoxic Effects In Albino Rats**

**S. M. Yunus**, Z. Alam, F. Ahmad, N. A. Faruqi  
J.N. Medical College, A.M.U, Aligarh

**Aim of Study:** Pyrethroids account for 25% of the worldwide insecticides market. Occupational and experimental studies show that pyrethroids can cause clinical, biochemical and neurological changes. Neurotoxicity caused by this mosquito repellent has aroused

public concern, but no specific studies to evaluate the psychomotor performance with the neurotoxic effects in definitive neurological areas have been done. So, the present study was designed as an attempt to study this fact in adult rats and establish a correlation if any.

**Material and Methods:** Rats were divided into two groups, experimental and control. Experimental group was exposed to 3.2 % w/v prallethrin vapours 12 hours daily for 90 days. Control animals were kept under identical conditions without exposure to prallethrin vapours. Psychomotor performance was assessed by Rota-rod test in both groups. Rats were sacrificed by perfusion method and neurohistological sections were taken from cerebellar cortex and spinal cord. Sections were studied in H&E, Luxol Fast blue stains and by Kluver Barrera technique.

**Results:** Psychomotor performance tested on Rota-rod apparatus did not show statistically significant changes in the experimental group as compared to control; whereas loss of organization and increased density of cells indicating presence of inflammatory cells were seen in sections of Cerebellar cortex. Cell swelling and break in myelinated nerve fibre bundles in Spinal cord were observed.

**Conclusion:** Exposure to inhaled pyrethroids does produce neurotoxic effects as shown by the histological changes. Lack of significant changes in psychomotor activity may be due to short duration of our study and high adaptability of the body.

**12. Fourth Cervical Sympathetic Ganglion**  
**S. K. Srivastava**

Pt. B. D. Sharma, Postgraduate Institute of Medical Sciences, Rohtak.

Most of the text books of Anatomy and Neuro-anatomy describe the presence of three ganglia on the cervical part of Sympathetic trunk, named as Superior, Middle and Inferior cervical Ganglion. Inferior cervical Ganglion usually fuses with the first thoracic Ganglion and forms Cervico-thoracic or Stellate Ganglion. Some additional ganglia in the neck in relation to cervical Sympathetic trunk have been reported in the literature such as Vertebral Ganglion, Intermediate Ganglion and Fourth cervical Ganglion. The present study was conducted on 56 cadavers (112 cervical part of Sympathetic Trunks) to find-out the incidence, frequency and position of the Fourth cervical Ganglion present on the cervical part of Sympathetic trunk observed to be present in one case, on left side, during routine dissection in anatomy department of this institution. In all the 112 dissections used for present study, the Inferior cervical Ganglion was fused with the first thoracic ganglion forming the Cervico-thoracic or Stellate ganglion. The positions of the superior, middle and Cervico-thoracic ganglia were corresponding to positions described in the text books. In one cervical Sympathetic trunk, on left side, one Fourth Cervical Sympathetic Ganglion was found to be present between Superior and Middle cervical ganglia. It was situated in front of the transverse process of C5 vertebra and cephalic to vertebral artery. This Fourth ganglion does not correspond with the position of Vertebral

Ganglion, Intermediate Ganglion or Fourth cervical Ganglion reported.

### **13. Fascinating Facts of Trigeminal Nerve**

**Harsh Mishrikoti .P**, U. K. Kulkarni, Kiran V. Padeyappnavar, A.S. Nagalikar.

Belgaum Institute of Medical Sciences, Belgaum.

**Aim:** To have a look at Trigeminal nerve with different perspective.

**Materials & Method:** Trigeminal nerve is principle sensory nerve of face. When functional anatomy of trigeminal nerve is keenly observed in the lime light of social behaviour and experiences as human beings, many facts are fascinating. Lovable objects / pets are felt by fascial skin. Slap on face is more insulting. An effort is made to explain these & many more such facts related to trigeminal nerve by Anatomy.

### **14. A Tract Tracing Study Of The Trochlear Nerve Nucleus In The Albino Rat**

**Anudeep Singh**, J. Khanna, V. Bharihoke

University College Of Medical Sciences And Guru Teg Bahadur Hospital, Shahdara, Delhi

There is a dearth of literature on the distribution of the Trochlear nerve fibers within the brainstem. This is the only motor cranial nerve whose fibers are seen to decussate in superior medullary velum before leaving the brain in its corresponding nerve. Isolated fourth nerve lesions are rare. There is a scarcity of literature on these lesions. Much needs to be investigated on the structural and functional aspect of this nerve. This study was undertaken to investigate the structural aspects of the nucleus and root fibers of this nerve.

Twenty Inbred adult Wistar albino rats weighing between 150 to 250 gm of either sex were taken in the present study. The Localization of neurons of the trochlear nucleus giving rise to the nerve supplying the superior oblique muscle was done by using fluorescent dyes. Fast blue and Diamidino yellow were used. The Fast blue was applied in the trochlear nerve of the right side and the Diamidino yellow was applied in the nerve of the left side in each animal. The labeled neurons were localized in the fourth nerve nucleus after calculating appropriate survival period for the two dyes, with the help of a zies fluorescence microscope.

The majority of the fibers of the trochlear nerve cross to the opposite side and a few fibers remain ipsilateral. Many neurons were labeled with both the dyes indicating bilateral innervation.

### **15. Evaluation Of Alpha Lipoic Acid (ALA) Supplementation In Ameliorating The Arsenic Induced Oxidative Stress In Rat Hippocampus.**

**Pushpa Dhar**, Shilpi Dixit, Raj D. Mehra.

All India Institute of Medical Sciences, New Delhi

Exposure to arsenic has been implicated in a number of systemic disorders. Disturbance of cellular homeostasis reported in arsenic induced toxicity has been associated with generation of oxidative stress, induction of apoptosis, disruption of microtubular system etc. following arsenic exposure. To determine, if supplementation of an

antioxidant is helpful in restoring the cellular homeostasis, sodium arsenite alone or sodium arsenite along with alpha lipoic acid (ALA) was administered to Wistar rat pups from postnatal day (PND) 4 -15. The control groups included the normal control (no treatment) and the sham control group (receiving distilled water). At the end of the experimental period, elevated plus maze test was performed from PND 14 -16. The brain tissue obtained from the animals sacrificed by cervical dislocation was used for estimation of glutathione (GSH) & super oxide dismutase (SOD) and the brain tissue obtained from the paraformaldehyde fixed animals was processed for paraffin embedding, cutting and staining (CV) of the paraffin sections. The results indicated a significant difference in enzyme levels in animals receiving sodium arsenite along with ALA. Also the morphological & morphometric features of the pyramidal and granule cells of hippocampus presented evidence of reversal of arsenic induced effects in animals receiving ALA along with sodium arsenite. The results suggest that ALA, a potent antioxidant, may protect the hippocampus against arsenic induced oxidative stress by reducing the level of oxidative enzymes.

### **16. An Unusual Anomaly Of Brachial Plexus – A Cadaveric Report.**

**Santanu Bhattacharya**, Pit Baran Chakraborty, Sumita Dutta.

Medical College, Kolkata.

Variations of peripheral nerves are of interest to anatomists, clinicians, anaesthesiologists and especially to the surgeons. The aim of our study is to provide additional information about abnormal brachial plexus and its clinical significance.

A variation of brachial plexus at right upper limb was observed during routine educational cadaveric dissection of a 65 years old male cadaver, in the Department of Anatomy, Kolkata Medical College.

It was found that there was no standard formation of lateral cord of brachial plexus on right side because anterior division of upper trunk continued as Musculocutaneous nerve and the Median nerve was formed medial to the first part of Axillary artery just below and behind the Clavicle by the fibres of anterior division of middle trunk via lateral root and anterior division of lower trunk via medial root. About 1.5cm distal to its formation Median nerve gave a branch which crossed the second part of the Axillary artery and supplied the Coracobrachialis muscle in addition to Musculocutaneous nerve. A single Pectoral nerve was formed by union of two nerves arising from anterior division of middle and lower trunk respectively. The Musculocutaneous nerve of opposite limb was formed by union of two nerves arising from the lateral cord of Brachial plexus.

Such knowledge of variation- is of immense importance during surgical exploration of axilla and arm region & also during nerve block. It also helps clinicians in proper understanding of some previously unexplained clinical symptoms.



**17. Morphological Features Of Heterogeneity In The Cervical Dorsal Root Ganglion Neurons Of Mice**

**Aijaz A. Khan**, Naushad A. Dikash, Nafis A. Faruqi  
J.N. Medical College, A. M. U., Aligarh

Primary sensory neurons of dorsal root ganglion (DRG) are said to be heterogeneous in different respects and light microscopic features for their categorization in various subgroups in different species remains inconclusive. The present study was attempted to note the features of similarity and difference among the neurons of DRG of mice with those of common experimental animals. Five adult mice of either sex were euthanized and perfusion fixed with 10% buffered formalin. Observations were recorded from Haematoxylin and Eosin stained 10  $\mu$ m-thick sections. DRG neurons were arranged in clusters interspersed among the nerve fascicles. Most of them were round or oval in shape, ranging in sizes from 8 to 25  $\mu$ m in cross section, had large centrally placed euchromatic nucleus and prominent central nucleolus. Each neuron was surrounded by 2 to 5 satellite glial cells. Some interesting observations included a) about 1/3<sup>rd</sup> of neurons had double nucleoli; b) many neurons had a single prominent peripheral ring of Nissl granules; c) occasional neuron had a pyramidal or triangular soma; d) some neurons possessing eccentric nucleus had also eccentric nucleoli. It was concluded that mice cervical DRG possessed some neurons which were morphologically different than those described for rat and rabbit and therefore require appropriate categorization in accordance with their ultrastructural, neurochemical and functional characteristics.

**18. Cadherin-Catenin Adhesion System In Invasive Ductal Carcinomas Of Breast**

**Rath G**, Ralhan R, Mathur S\*, Bhatnagar D, Prasad C P  
VMMC & Safdarjung Hospital, New Delhi  
\*AIIMS, New Delhi

Malignant transformation is often characterized by major changes in the organization of the cytoskeleton, decreased adhesion, and aberrant adhesion-mediated signaling. Disruption of normal cell-cell adhesion in transformed cells may contribute to tumor cells enhanced migration and proliferation, leading to invasion and metastasis. Aim of the present study was to elucidate the underlying role of the cadherin-catenin system in the regulation of cell proliferation, invasion, and intracellular signaling during Invasive Ductal carcinoma's (IDCs) of breast progression. Expression of E-cadherin and b-catenin were examined in IDCs of breast (n=98) by Immunohistochemical analysis. The immunohistochemical results were further revalidated by Western blot analysis. Furthermore, the endogenous expression of E-cadherin and b-catenin were examined in breast cell lines (MCF12A; MCF7 & MDA-MB231) by means of Immunofluorescence. Of the 98 IDCs analyzed, 53 (54%) showed loss/or reduced membranous staining of E-cadherin in tumor cells. Loss of cell surface  $\beta$ -catenin was observed in 65(66%) of breast carcinomas, whereas nuclear expression of  $\beta$ -catenin was observed in 47(48%) IDCs. Our study demonstrates

significant association between loss of cell surface localization of b-catenin protein with increased tumor stage ( $p < 0.01$  and OR=0.19) and histological staging ( $p < 0.01$  and OR=0.14) in IDCs, suggesting loss of  $\beta$ -catenin expression on cell membrane is associated with aggressive tumor behavior. In conclusion, our data suggests the downregulation of cadherin-catenin adhesion system in IDCs.  $\beta$ -catenin nuclear accumulation suggests the activation of Wnt/  $\beta$ -catenin pathway in IDCs, accountable for cell proliferation, invasion and metastasis. Furthermore, strong association was noticed between cadherin-catenin system with advanced tumor stage thereby underscoring the clinical significance of canonical Wnt/ $\beta$ -catenin pathway activation in breast cancer.

**19. Effects of Histamine Receptor - Agonists on the Airway Epithelium and Lungs of Rabbits: A Light Microscopic Study**

**Naushad M**, Trivendra T, Aijaz A K, Shahid M, Haris M K, Mashiatullah S, Rahat A K, Abbas A M  
JNMC, AMU, Aligarh, \*CSMU, Lucknow

The biological pleiotropic effects of histamine are mediated by four subtypes of histamine receptors. These receptors have been important drug targets for many years, but information regarding the exact role of histamine receptors in respiratory system histopathology remains limited, hence the present in vivo experimental model was designed. The cohort comprised of five groups, containing five rabbits each, and received subcutaneous (b.i.d) histamine, H1R- H4R-agonist, and control-group received vehicle. After completion of treatment for 30 days, animals were euthanized and perfused with 10% buffered formalin. Small tissue blocks of trachea and lungs were processed for paraffin embedding. Observations were recorded in sample photomicrographs taken from 10  $\mu$ m thick Haematoxylin and eosin stained sections. Epithelial lining of trachea and bronchi from Histamine, H1R and H4R groups had patches of hyperplasia and hypertrophy but the bronchiolar epithelia from all treated groups showed hypertrophy, hyperplasia throughout. Lungs from all treated group revealed congested vessels and hyperemia, congestion and oedema of interalveolar septa. It was concluded that histamine receptors on induction via its specific agonist can induce hyperemia, edema and congestion in the lung as well as hypertrophy, hyperplasia of respiratory tract epithelia suggestive of its role also as growth stimulating factor.

**20. Age Related Changes Of Human Spleen – A Study In The Population Of Assam**

**Himamoni Deka**, K.L Talukdar, T. K. Das  
Gauhati Medical College, Indrapur, Guwahati

The spleen was a source of intrigue to ancient physician and philosophers. It is the largest lymphoid organ

and its size varies with individuals' age, sex and underlying metabolic conditions.

Spleen takes an important part in body immunity, as high incidence of serious bacterial infections were reported following splenectomy in infancy.

A research work was carried out in the department of Anatomy, GMC. The morphological and histological characteristics of 21 normal human spleens were studied under light microscope in different age groups and to correlate them functionally. The specimen of spleen varies from newborn to eighty year old cadavers, within stipulated time limit after fulfilling the formalities.

The spleens were first washed in normal saline, dried with blotting paper and weighted in electronic weighing machine. From the collected specimens, tissues were fixed, processed and slides were prepared using standard laboratory procedure of haematoxylin and eosin staining.

In all the spleens, the weight and size of white pulp that seen on histological sections, increase with age, reach its peak at around puberty and then involute. The growth of the organ follows peculiar lymphoid growth curve.

Weight of the organ and size of white pulp were measured and statistically analysed. These will be discussed at the conference.

To have an insight of different clinical presentations, a sound knowledge of anatomy is essential. This study may be used as a pedestal for further sophisticated studies.

#### **21. Histochemical Study Of Mucosubstances In Normal Human Parotid Salivary Gland.**

**R. R. Karambelkar**, B. N. Umarji, M. A. Doshi, R. A. Karambelkar, A. D. Shewale

Krishna Institute Of Medical Sciences, Karad.

The oral cavity is one of the route for entry of harmful substances, both living and non-living. It is said to be even worst than the anal canal. So to protect it lot of glands open and pour their secretion in it. Parotid salivary gland is the largest, predominantly serous salivary gland. Its secretions are rich in mucosubstances which perform a wide variety of functions like lubrication, protection, chemical digestion etc. in present study the normal human parotid salivary gland is studied. Ten normal human parotid glands are obtained during autopsies and surgical removal. They are fixed in 10 % formalin with 2% Ca. acetate. 4-5 micron thin sections were cut after preparing paraffin blocks. The section were stained by using specific stains like Per iodid acid schiff, Alcian blue of different pH and aldehyde fuschin alone and in combinations. Confirmatory tests are also carried out. The gland show presence of both neutral and acidic mucosubstances which are predominantly carboxylated or weakly acidic. The carboxylated mucosubstances possess antiviral and antibacterial property, while neutral mucins help in flushing and lubrication. The results will be discussed while presenting the paper.

#### **22. Effect of Deltamethrin on Testis in Rats – A Morphological Study**

**Kumar Anil**, Nagar M, Khatri K

University College of Medical Sciences & G.T.B. Hospital, Shahdara, Delhi

Deltamethrin, a broad spectrum pyrethroid is one of the most commonly and extensively used pesticides, internationally today. Its expanded use has expectedly resulted in residues in food causing toxic effects on human health.

In the present study, Deltamethrin was administered intraperitoneally, in the dose of 1mg / kg / body weight, daily for five days a week for a month in adult Wistar albino rats (150-200 Gms). Controls were maintained. The animals were sacrificed within twenty four hours of the last injection by perfusion. Testis was dissected, paraffin section (8i) were prepared for light microscopy. In the experimental animals, there was a statistically significant increase in the weight of the testis though the mean antero-posterior, vertical and transverse diameters of the testis had increased but it was not statistically significant when compared to the controls. The tunica albuginea appeared to be thickened at sites. The seminiferous tubules appeared distorted

and shrunken with large intervening spaces in between. In most of the seminiferous tubules, the spermatogenic cells were sparsely placed and there was sloughing of the apical epithelium into the lumen. The Leydig cells and the intertubular vascularity appeared to be reduced. There was a statistically significant reduction in the mean tubular population which was found to be  $4.62 \pm 0.36$  and  $8.61 \pm 0.43$  in the experimental and control animals respectively. The mean score of fertility index in the peripheral and central tubules was statistically significantly lower as compared to the control animals.

#### **23. Effect Of Drug Pantoprazole On Oesophagus And Stomach Of Rat- A Histological Study.**

**Dass Praveen Kumar**, Mehrotra Namita, Singh Deepa, Jethani S.L.

HIHT University, Dehradun, Uttarakhand

Present study is based upon histopathological effect of Pantoprazole (proton pump inhibitor) on stomach of albino rats. Pantoprazole was administered intraperitoneally to rats for 4 weeks. Rats were divided into 4 groups -1 control & 3 study groups (mild, moderate & severe dose of Pantoprazole). Control group (15 rats) was administered with vehicle (normal saline). After 3 wks rats were sacrificed with ether anaesthesia & tissues were procured. After tissue processing histological slides were made with H&E staining. On examination, hyperplasia of gastric glands & enterochromaffin like cells hyperplasia were found in study group in comparison to control. Details of observation will be presented in conference.

#### 24. Histological Changes In Testis In Men With Varicocele.

**Chandra Philip X**, Shakuntala. R. Pai.  
Kasturba Medical College, Manipal.

Aim of the study : To observe various histological patterns in men with Varicocele.

To correlate these histological findings with sperm count.

Materials and Methods: - 68 male patients who presented with infertility to the Department of Urology at KMC, Manipal between 2002 to 2004 were included in the study. Routine physical examination, Doppler Ultrasound Examination of scrotum and semen analysis was done. All the patients who had severe oligospermia, azoospermia underwent testicular biopsy.

Results and Conclusion: - Histopathological evaluations of 68 testicular biopsies from infertile men were carried out. Hypospermatogenesis (80.88%) with sloughing was the common histological pattern observed in the study, followed by normal spermatogenesis (5.88%) and maturation arrest (5.88%). Sertoli Cell-Only syndrome was observed in 1.47%.

#### 25. Preparation And Characterization Of Silver Nanoparticles

**Brigesh Shahare**, Madhu Yashpal, Gajendra Singh  
Institute of Medical Sciences, Banaras Hindu University, Varanasi, Uttar Pradesh.

Silver nanoparticles are emerging as one of the fastest growing product categories in the nanotechnology industry with focus on anti-microbial activity. This has led to increasing number of medical applications of silver nanoparticles. Silver nanoparticles used in wound dressings, contraceptive devices, surgical instruments and bone prostheses. Thus, use of nanosilver is becoming more and more widespread in medicine and related applications.

In the present study we will discuss about the preparation of stable silver nanoparticles and their characterization by transmission electron microscopy. Silver nanoparticles was synthesized using silver nitrate solution, deionised water, 30% ammonia, D-glucose and hydrazine was used as a reducing agent. It is a simple process of recent interest for obtaining silver nanoparticles. After preparation of the silver nanoparticles characterization was done by using the transmission electron microscope in order to reveal the nano nature of the particles. These studies infer that the particles are mostly spherical in shape.

#### 26. Placental Grading By Ultrasonic Study In Normal North-Indian Population.

**Deopa Deepa**, Babu C. S. Ramesh  
U.F.H.Trust Medical College, Haldwani.

The relationship of the placenta as seen after birth, to infant outcome is very important. By ultrasonography we visualize the placenta in-situ and describe progressive sonographic changes in the placenta. The placenta

undergoes series of progressive changes that relate to gestational age and fetal maturity.

The purpose of the present study was to correlate mean gestational age by crown rump length (CRL), biparietal diameter (BPD), femur length (FL) and placental grading by ultrasonography in normal pregnancy for predicting neonatal outcome. This study was conducted on total 26 patients coming for antenatal clinic and admitted in the department of obstetrics & gynecology, Sardar Vallabh Bhai Patel Hospital, Meerut were included.

Detailed personal and family history was taken; general examination of the patient was done to exclude the high risk cases. For measuring crown- rump length the electronic caliper was placed at outer edge of the cephalic pole and outer edge of the fetal rump and measure this length to assess the gestational age. The biparietal diameter was measured between parietal eminence reflection using electronic calipers. For measuring the femur length an attempt is made to define both ends of calcified portion. Morphology of placenta was studied under following heading a) chorionic plate b) echotexture of placental substance c) basal layer of placenta d) thickness of placenta.

It was observed that between 32 to 37 week, grade II placenta were found more common as compared to grade I whereas with >37 weeks grade III placenta was found. There is acceleration of placental thickness up to grade II and in grade III placenta again becomes thin.

Thus placental grading is adjunct to BPD, FL & CRL in obstetric ultrasonography.

#### 27. Anatomy Of The Cerebellopontine Angle - An Endoscopic Approach

**Aaijaz Ahmed Khan**, Muzammil Ullah, Zul Izhar, Hillol Kanti Pal, Shamim Khan  
School Of Medical Sciences, Universiti Sains Malaysia, Malaysia

In the past 40 years the endoscopes have established themselves as indispensable instruments in the clinical medicine. They are extensively used in GIT and abdominal surgeries and otorhinolaryngology. The collaboration between neurological and otorhinolaryngological surgeons has led to the development of novel endoscopic endonasal surgical procedures for the lesions of the skull base. In spite of so many advances, there is very little literature available on the endoscopic anatomy of the cranial base. Thus, the authors felt the need to study the anatomy of cerebellopontine angle (CPA) endoscopically. The findings are based on the endoscopic study performed on two cadaveric heads through the retrosigmoid approach. The CPA was examined using Wolf 5.0 mm rigid endoscopes at viewing angles of 0° and 30°. The CPA can be divided into three levels: the cranial, middle and caudal. Cranial level shows the trigeminal, trochlear, oculomotor nerves and superior cerebellar artery. When endoscope was introduced further cranially the pituitary stalk, contralateral optic radiation and oculomotor nerve and the vessels in the interpeduncular fossa were visualized. The middle level contained the acousticofacial bundle. Here we found a corridor bounded by the trigeminal nerve and

acousticofacial bundle. Through this the abducens nerve, anterior-inferior cerebellar artery (AICA) and vertebrobasilar junction were seen. Through the caudal level IX, X, XI and XII cranial nerves and V4 segment of the vertebral artery were seen. We found that endoscopic anatomy is useful for skull base neurosurgeons for better orientation and understanding of the cranial nerves and intracranial vessels.

### 28. Right Renal Agenesis-A Case Report (Radiological Study)

**Balaji K.**, P.Saraswathi

Saveetha Medical College & Hospital, Thandalam, Chennai

Aim: To discuss the cause of right renal agenesis using computed tomography.

Materials: Computed tomography with 3D imaging softwares, contrast (omnipaque) & Pressure injector.

Methods: 25 computed tomography of kidney, ureter, bladder (plain & contrast) were evaluated in Saveetha Medical College & Hospital, Thandalam, for various reasons, out of which one was found to have right renal agenesis with history of left lumbar pain.

Result: Right renal agenesis.

Conclusion: The cause may be embryological, genetical or environmental. This condition has got surgical significance and also significance in other fields, which will be discussed in venue.

### 29. A Cadaveric And Computed Tomographic Morphometric Study Of The Craniovertebral Junction

**Mrinalini Konjengbam**

Regional Institute Of Medical Sciences, Imphal, Manipur

Aim Of Study:

1) To provide valuable quantitative database on the craniovertebral junction.

2) To compare gross anatomical morphometry with CT scan morphometry.

Materials And Methods: Fifty-one embalmed cadaveric detached head and neck specimens used for undergraduate teaching were taken up for the study. Cadaveric phantom imaging for CT scanning was first carried out in twenty-six of the specimens and morphometry of the major bony landmarks and ligaments of the craniovertebral region were studied. This was followed by meticulous dissection of the region in the same specimens. Morphometric measurements were then statistically analyzed and Student's 't' test was applied to check the significance in the difference between means of CT and gross dissection.

Results: The Mean, Standard Deviation and Range of the various parameters [osseous and ligamentous] were tabulated both from CT images and following dissection of the region for comparative analysis.

Conclusion: Standard error of the difference between the means obtained from gross dissection and in CT was analyzed. Except for the length of the apical ligament, all the parameters studied had statistically non-significant differences in their means which means that the CT measurements give a fairly good account of the actual morphometry derived from gross anatomical actual measurements.

### 30. A Radiological Study Of Lumbar Spine In Low Backache Cases In Western Rajasthan Population

**Pushpa Potaliya**, D. S. Chowdhary, Sushma K. Kataria, Anju Choudhary

Dr. S. N. Medical College, Jodhpur (Raj.)

Aim: Backache is been the commonest complaint especially the low backache throughout the history of medicine. The present study of lumbar spine in low backache was done with an aim to assess the role of plain skiagram in the diagnosis of such cases and to find out the incidence of spinal stenosis in cases of low backache.

Material And Method: In this study 25 normal cases were studied radiologically to establish standard normal values of lumbar spinal canal. Fifty cases of low backache were also studied and compared with the normal values to find out the incidence of spinal stenosis in low backache cases. 25 cadaver spines were also studied and measurements of lumbar spinal canal were made to obtain the anatomical values for comparison.

Results And Conclusion: Incidence of spinal stenosis came out to be 16 percent in our study. It was found that plain X-ray study of lumbar spinal canal is a good preliminary method for making initial diagnosis of spinal stenosis and helps in avoiding unrequired myelographic examinations.

### 31. Presence Of Human Immunodeficiency Virus In Fresh And Post Embalmed Hiv Infected Cadavers And Its Implications During Dissections – A Review

**Lt Col Subhendu Pandit**, Lt Col Rajan Bhatnagar

Armed Forces Medical College, Sholapur Road Pune

Aim of study: To study presence of Human immunodeficiency virus in fresh and embalmed cadavers. Objectives:

- outline safest time to perform embalming on HIV infected cadavers
- feasibility of using freshly embalmed HIV infected cadavers for dissection.

Material and methods: It is a known fact that the HIV virus is present in the cadaver for a variable period after death. Infectious HIV has been reported in the pleural fluid, pericardial fluid bone fragments, brain, bone marrow, spleen and lymphnodes 6-16 days after death. Presence of virus increased with refrigeration. This fact assumes importance when HIV infected bodies are embalmed or dissected.

Details of the procedure and the methodology used: Most of the cadavers were received from civil hospitals and from the municipal corporation. The available history was ascertained from the available documents. The bodies were refrigerated at 2-6 degrees Celsius. Samples from skin, body fluids etc were collected immediately on arrival (non cryopreserved), 24, and 48 hrs respectively (cryopreserved). The cadaver were embalmed and stored in formalin tanks. Samples of embalmed skin samples, deeper tissues, and bone were collected. The samples were sent for PCR.

Results and conclusion: Few studies conducted in the West suggests infectious HIV has been reported in

various body tissues several days after death. Hence embalming and dissection to be performed after a safe period.

### 32. Morphometry And CT Measurements Of Useful Landmarks For Skull Base Surgery With Special Emphasis On Henle's Spine

Biswabina Ray, Gayathri .B.M.V., Rajesh.T  
Kasturba Medical College, Manipal University, Manipal

Knowledge of temporal bone anatomy is important in skull surgeries for safe surgical approaches. Aim of the present study was to determine the anatomical landmarks on temporal bone like henle's spine; that will act as a guide in planning various surgical procedures such as middle cranial fossa, transpetrosal, transmastoid and skull base approaches on temporal bone. We studied 78 preserved bone specimens of 39 adult skulls from Department of Anatomy, Kasturba Medical Collage, Manipal, which were studied using manual digital caliper; and 5 temporal bone CT-scan of 5 cases were determined. Distances to various anatomical land marks were noted. CT-scan measurements were taken in sagittal bi-axial and coronal planes considering the head of malleus as the point of origin. The difference between distance from henle's spine to important anatomical landmarks of skull in right and left side and male and female was statistically not significant. CT-scan measurements were enumerated considering the head of malleus as the point of origin. The present study indicates the relationship of henle's spine and head of malleus to other important anatomical land marks, which may play an important role in planning skull base surgeries. This study can be applied as a reference for various surgical approaches for safer results.

### 33. Correlation Of Anthropometric Measurements And Ultrasonic Measurement Of Abdominal Fat In Adults With Hypertension

Ashwini C A, Roopakala M S, Jagadeesh, Roopa Kulkarni  
M.S Ramaiah Medical College and Hospital, Bangalore.

Aim: Obesity is known to be an important risk factor in the development of hypertension. Studies have reported various anthropometric measurements to be significant indicators for estimation of hypertensive risk. In normotensives, abdominal fat measured by ultrasound is found to correlate with blood pressure. Not much work has been done in hypertensives. To correlate anthropometric measurements and ultrasonic measurement of abdominal fat with blood pressure in hypertensive adults.

Material and Methods: In this cross-sectional study 50 known hypertensives (M:F=30:20) in the age group of 30-60 (mean-55.30±11.33 years) were recruited.. Their anthropometric measurements like body mass index (BMI), waist circumference (WC) and waist-hip ratio were measured using standard methods. Systolic (SBP) and diastolic (DBP) blood pressures were recorded. Ultrasound measurement of abdominal fat was done in the midline,

1cm above the umbilicus and the thickness of subcutaneous fat (SF) and visceral fat (VF) were measured. Data was analysed using Pearson correlation coefficient test and multiple linear regression analysis was applied to study the predictors of hypertension.

Results: The mean values of BMI, WC, W-H ratio, SF and VF are 26.10±5.70, 89.25±8.31, 0.92±0.06, 1.56±0.54 and 5.01±1.42 cms respectively. Among the 5 study parameters measured waist circumference showed a significant positive correlation ( $r=0.3$ ,  $p=0.04$ ) with DBP and was also observed to be the positive predictor (Beta weight=0.471,  $p=0.04$ ) of DBP.

Conclusion: Waist circumference is the best predictor of blood pressure in hypertensive adults. Intervention programs designed to reduce waist circumference may have significant public health importance in reducing the incidence of hypertension.

### 34. Models Of Larynx As Teaching Aid

Anupama. K, N. M. Shama Sundar, G. Saraswathi, C. M. Nanjaiah  
J S S Medical College, Mysore.

Larynx is one of the difficult topics to teach and make the learner understand the anatomy, physiology and applied aspect. This is because of the presence of small muscles and their actions which bring the movements of the cartilages and help in its functions.

Use of models of larynx help the students in better understanding, as it can be handled easily. The actions of various muscles can be understood by demonstrating it on these models. The models are prepared by using non biological materials such as plaster of Paris, thermocol, thermo-foam and plastic/metal. Structure of larynx can be demonstrated very well with plaster of Paris models but the disadvantages are that, they are heavy and breakable and require careful handling.

This can be overcome by the use of thermocol and thermo-foam. The use of thermocol is limited because it is brittle and can be infested by ants and other insects. Thermo-foam is preferred to it because it is flexible, inexpensive and portable. Plastics are best for live size model but it is little more expensive and needs expertise to prepare. Certain diseased condition such as effect of nerve paralysis, foreign body impingement on vocal cord can also be demonstrated using these models. We, in the department of anatomy have prepared these teaching models with the help of modeller.

### 35. De-Stressing The Distressing Exposure To Cadaveric Dissection

Agnihotri G., Sagoo M.G\*  
Govt. Medical College, Amritsar, Punjab, India.  
\*Division of Basic Medical Science, St. George's University of London, U.K.

Introduction: Anatomical knowledge remains a cornerstone of medicine and related professions in spite of reductions in importance, time committed to, and status of anatomical

education in modern curricula. The anatomy dissection laboratory represents a significant emotional challenge for medical students and even symptoms suggestive of post-traumatic stress disorder have been reported.

**Material and Methods:** We prepared questionnaires to assess impact of anxiety / physical symptoms from experience of dissection, and observed changes in feeling and attitude in control and experimental groups. Categorical variables were tested using Chi-square and Fisher's exact test and in case of paired data, Willcoxon signed ranks test was used.

**Results:** The difference in rate of anxiety initially and 6 weeks later was significant ( $p < 0.001$ ) in control group, but not in experimental group. There was no statistically significant difference in rate of anxiety between experimental and control group after 6 weeks. 34.66% had seen a dead body before and females were more apprehensive as compared to males.

**Conclusions:** We need to mentally and emotionally prepare medical students before entering dissection room so that they are involved and stimulated. Dissection allows haptic appreciation of 3-D anatomy and enjoys student preference. The student-cadaver-patient encounter is paramount.

### **36. Knowledge Of Medical Ethics And Law Amongst Health Professionals**

**Sarasu. J.**

Perunthalaivar Kamaraj Medical College and Research, Puducherry.

Physicians and nurses commonly encounter ethical and legal issues without being aware of their importance and to act appropriately to deal with the issues. This study aims to assess the knowledge; attitudes and practices among medical professionals in medical ethics and law in an attempt to assist in guiding their professional conduct and aid in curriculum development. A self-administered structured questionnaire about medical ethics and law were given to health professionals and asked to answer. The study found mixed responses from a group of 200 which included doctors and nurses comprising interns, junior doctors, consultants, staff nurses. 20% senior medical staff and 80% nursing staff knew little of the law pertinent to their work. Though 80% of junior doctors did know about the medical ethics existence but could not clearly understand the application of it. The study also found difference of opinion and attitudes amongst doctors of private clinic and doctors at Government organisation. The study concludes the existence of poor knowledge of medical ethics and law amongst health professional and need for such knowledge even before the health professional encounters the first patient. And thereby stresses the necessity of inclusion of medical ethics and law as a part of medical curriculum.

### **37. Attitude Of Medical Students Towards Dissection**

**K. H. Katti,** Geetha K. N., Anagha Nawal.

MGM Medical College, Navi Mumbai.

Anatomy is a visual science. Dissection is an age old method of learning anatomy. Dissection hall is an age old method of learning anatomy. Dissection hall is the place

where a STUDENT becomes a MEDICAL STUDENT. Though dissection is essential in medical curriculum, the attitude of medical students towards the dissection can be variable. The present study was attempted to assess the attitudes of 1<sup>st</sup> and 2<sup>nd</sup> year medical students of MGM Medical college, Navi Mumbai towards the dissection.

A questionnaire was distributed to 149 students (94 from 1<sup>st</sup> year and 2<sup>nd</sup> year) in academic year 2009-10. The average age of 1<sup>st</sup> year students was 18 years and of 2<sup>nd</sup> year students was 19 years. Majority were Indian. The response rate was 100%.

Almost 50% students complained about physical symptoms on 1<sup>st</sup> day. Most common symptoms were nausea and loss of appetite, major reason being smell and sight of the cadaver. More than 50% students were mentally prepared for dissection. Tour of the dissection hall and LCD on importance of dissection helped them for this. Very few reported dislike towards dissection. The major cause for dislike was smell. Almost all felt respect and / or sympathy towards cadavers. Working in dissection hall was a new experience, and even if few disliked it, everyone found it important. Other than learning anatomy, it helped them in many different ways.

Overall dissection experience was good and enriching for students. But it can be made still better with enriching for students. But it can be made still better with effective preparatory programmes and better infrastructure in dissection hall.

### **38. Voluntary Body Donation- A Survey In India**

**Ashwini C A,** Roopa Kulkarni, Kumar S

M S Ramaiah Medical College, Bangalore

**Aim of study:** A strong basic science foundation becomes most essential for training of effective and competitive medical professionals. The extensive human anatomy knowledge can be gained only by exploring the real human body. But the provision of human cadavers for the purpose of study alone is a scarcity. The only ray of hope to get human cadavers in the recent past is Voluntary Body Donation. In this aspect of developing voluntary body donation organisations a survey was conducted to get a view of the existing scenario in India.

**Material and Methods:** A questionnaire was prepared containing 18 items. The questionnaire was sent to all the Medical and Dental colleges in India by post with a preamble addressing the purpose of doing the survey. The funding for the postal charges and stationery was provided by the institution. The questionnaire data was collected and analysed.

**Results:** Out of 300 Medical and Dental colleges 54 colleges have replied back to the questionnaire. All the eighteen questions were answered. 60% of the colleges have the problem of dearth of cadavers. The student: cadaver ratio ideally has been recommended as 10:1 but practically it has not been possible in most of the colleges. 90% of the colleges are getting unclaimed bodies or from other colleges.

**Conclusion:** There is a need for creating an increased awareness of voluntary body donation. The number of colleges having this programme is very less. By

developing a VBD programme in each institute, the dearth of cadavers can be solved. Public campaigns, use of media for creation of awareness will definitely benefit the institutions.

A concept of cadaver pooling can be done at the level of district/state level and national level so that cadaver shortage problems might be solved.

### 39. Innovative Teaching Of Gross Anatomy Through Video Dissections

**Sheetal Joshi**, Nutan Mandke, P. Vatsalaswamy, Uddhav Mane  
Padm. Dr. D. Y. Patil Med. Coll., Pune

With the advent of one academic year time frame for preclinical subjects, a real challenge for both students and teachers to do justice to a vast subject like anatomy has emerged.

We brain-stormed for more innovative ideas to facilitate effective teaching tool that gives better understanding of the subject without compromising on the content. The importance of good knowledge and clear understanding of anatomy needs to be overemphasised on future doctors and this has led us in starting the project of supplementing routine dissections with video dissections.

Dissections of various parts of adult cadaver were recorded by Sony Cyber-shot camera in the Department of Anatomy at B.J. Medical College, Pune. These videos were then appropriately labelled and architected with and without audio narration. The clippings were then introduced to under graduate and post graduate students during lectures and in pre-dissection schedules of anatomy. Feedback was taken regarding the new modality/technique of teaching anatomy. Subsequently, the results were evaluated. Then it was inferred that the new teaching module gave encouraging results, mainly learning became easier with clarity of subject and generated more interest. The outcome proved rewarding. However, this concept is undoubtedly only a supplement to Cunningham's manual for dissection.

### 40. Cardiovascular Anomalies In Dicephalus Dipus Dibrachius Twin – A Case Report

S. Thangaraj Thomas, **Prasanna, L. C.**, Shaik Hussain Saheb, Mallikarjun. N. Adibatti.  
J. J. M. Medical College, Mysore.

Dicephalus dipus dibrachius is an extremely rare type of parapagus (11% of conjoined twins) in which the infant has two arms, two legs, one trunk, but two heads.

A case of full term still born Dicephalus dipus dibrachius is reported. Radiological examination revealed two heads, two vertebral columns joined distally with single bony pelvis and two sets of ribs with single sternum. Various cardio-respiratory, genitourinary, gastrointestinal and skeletal malformations were noted during dissection.

In the present study, special emphasis has been laid on the analysis and description of complex cardiovascular abnormalities as it is one of the vital organ which influences

the twin survival after successful separation. Detailed report of the case will be discussed during presentation.

### 41. Study On Co-Relation Of Fetal Age With Different Parameters Of Brain

**D. Suseelamma**, Gayatri. N  
Kamineni Institute of Medical Sciences, A. P.

Aim of the study: To correlate the relationship between fetal age by the standard method with different parameters of brain

Material & Methods: Weight, volume and external surface of fetal brain Sulci & Gyri were observed in 30 aborted dead fetuses without any congenital anomalies ranging from 16 weeks to till term, received from KIMS, Hospital, Narketpally, Nalgonda. A linear co-relation was observed between weight, volume, appearance of Sulci & Gyri with fetal age with available data co-relation between the maturity and weight of the brain, appearance of Sulci & Gyri will give approximate age of the fetus.

Result: Appearance of sulci & Gyri is little earlier than USG & MRI Study.

Conclusion: Various parameters like, weight, volume, appearance of Sulci & Gyri helps in knowing brain maturation and any abnormality of central nervous system defect.

### 42. Meckel Gruber Syndrome - A Case Report

**Krishnanand Shetty**, K. R. Dakshayani  
Mysore Medical College and Research Institute, Mysore

During routine foetal autopsies conducted in the department of anatomy, a rare case of Meckel Gruber Syndrome was observed in foetus of 32 weeks gestational age. The autopsy findings revealed disorders of cerebrenodigital defect associated with ambiguous genitalia, cleft lip, cleft palate and patent left umbilical vein.

Meckel Gruber Syndrome is a rare autosomal recessive condition with genetic heterogeneity. Several loci have been mapped to chromosomes 17q22-q23, 11q13, 8q24, 12q21.3, 16q22.2 and 4p15. Hence the present syndrome gains clinical significance which will be discussed in details during presentation.

### 43. Neural Tube Defects-An Incidence Ratio Between Male And Female Dead Foetuses.

**G. Raghuramaiah**, Sinivasareddy, Sumangali Devi, Raji Reddy, Venkateshwar Reddy.  
S.V.S. Medical College, Yenugonda. Mahaboobnagar, Andhra Pradesh.

Neural tube defects are the common congenital anomalies of the central nervous system. When the neural tube does not develop normally, this may affect the brain, spinal cord and meninges which results in the congenital deformities called neural tube defects.

Survival of fetuses are very rare after birth neural tube defects can be classified based on embryological consideration and the presence of or absence of exposed neural tissues, as open or closed types.



Material and methods: Dead fetuses were collected from the gynaecology department of S. V. S. Medical Hospital and were preserved in formalin.

Results: Neural tube defects are most common in female fetuses compared to male fetuses, in a ratio of 3:1. Among them three fetuses were having anencephaly, one among them associated with spinal rachischisis. One fetus is identified having occipital meningocele with spinabifida occulta.

Anencephaly one of the severe anomaly of the brain result from the failure of anterior neuro pore and the brain substance is exposed to the surface as an irregular degenerated mass of nervous tissue. Most of the neural tube defects are due to chromosomal abnormalities, single gene mutations, folic acid deficiency and teratogenic causes.

#### **44. Multiple Aberrant Renal Vasculature In A Horse Shoe Kidney: A Case Report.**

**Vandana Wankhede**, Anup Shyamal, Shabina Anjum, Pradeep Bokariya, A M Tarnekar, I V Ingole  
Mahatma Gandhi Institute Of Medical Sciences, Sewa Gram, Wardha, Maharashtra

Routine dissection of male cadaver (aged 59 years) in the Department of Anatomy MGIMS Sevagram revealed presence of horse shoe kidney. The fusion was at the lower poles and the connecting bridge (isthmus) extended from the lower border of L2 to lower border of L3 vertebra. Multiple aberrant renal arteries arising at variable levels of abdominal aorta and similar anomalous pattern of renal veins were also seen. Measurements were taken carefully identifying the anatomical variations. The normal relation of structures present at hilum was not seen. Incidence of presence of horse shoe kidney has been quoted to be quite low.

Very few data is available in literature of these aberrant renal vessels. So it was thought pertinent to present the case because of its importance in renal transplant, abdominal aortic aneurysm surgery, and in hypertension, Takayasu's disease, renal trauma and urological procedures.

Embryological basis of these variations along with relevant photographs will be discussed.

#### **45. Assessment Of Foetal Biparietal Diameter During Normal Pregnancy By Ultrasonogram And Its Correlation To Gestational Age In Garhwali Population.**

**Rashmi Ghai**, S.L. Jethani, Satyam Khare, Mukesh Singla, Prabhat Goel.  
Subharti Medical College, Meerut.

Accurate knowledge of the maturity of the foetus influences management of antepartum care of a patient, planning of appropriate therapy or intervention, perinatal morbidity and mortality. Measurement of biparietal diameter by ultrasound has proved to be a useful and accurate method for determining gestational age of the fetus. The foetal biparietal diameter was measured in 25 Garhwali women during normal pregnancy between 12-40 weeks of

pregnancy. The mean Biparietal diameter of cranium between 11-12 weeks of gestation was  $17.50 \pm 0.71$  mm and it attained a maximum mean of  $90.87 \pm 3.48$  at full term pregnancy. The study showed that the gestational age calculated from the regression equation for the Biparietal diameter correlates well with the actual gestational age.

#### **46. Anencephaly With Omphalocele**

**Kiran V. Padeyappanavar**, V.B. Hukkeri.  
Belgaum Institute of Medical Sciences, Belgaum.

Aim: To study congenital anomalies in babies born in BIMS Hospital, Belgaum.

Material & Discussion: Routine collection of dead fetuses from Department of Obstetrics & Gynaecology of BIMS Hospital Belgaum, for about 3 years time we have found out five fetuses of Anencephaly with Omphalocele. Abnormal development of the brain occurs in about 3 per 1000 births such as meronencephaly (Anencephaly) and meningoencephalocele which usually result from defective closure of the rostral neurophase (Neural tube defects) during the fourth week and involve the overlying tissue i.e. Meninges and calvaria.

Etiology of the neural tube defects could be genetic, nutritional and environmental. Two anomalies are also associated with omphalocele (Physiological umbilical hernia).

The details of the abnormalities will be presented during conference.

#### **47. The Arterial Branching Pattern Of Internal Iliac Artery In Humans (South India Population)**

**P. K. Ramakrishnan**, C. D. Selvarasu, M.A. Elezy  
Karuna Medical College, Palakkad, Kerala

Unlike the external iliac artery, which is constant and relatively simple in its morphology, the branching pattern of internal iliac artery is extremely variable. Since the variations in the origin of the parietal branches of internal iliac artery are of great surgical and radiological importance, but have not been previously investigated in a South Indian population, the present study was undertaken to study the variations in the origin of the major parietal branches of internal iliac artery. A total of 50 pelvic halves obtained from the dissection halls of three South Indian Medical Colleges were studied. The larger parietal branches of internal iliac artery, namely, superior gluteal artery, inferior gluteal artery, internal pudendal artery and obturator arteries were studied. The findings for superior gluteal, inferior gluteal and internal pudendal arteries were typed into different patterns based on Adachi's (1928) classification, which is universally accepted. The findings for the obturator artery were classified separately based on its different modes of origin. Adachi's type I was observed as the predominant and comparatively constant arrangement. One remarkable feature of the present study is the observation of a relatively high incidence of Type III pattern (30%) as in contrast to observations in Western population. The observations regarding the obturator artery are in agreement with the previous workers, excepting a few significant differences.

**48. A Case Of Absence Of Musculocutaneous Nerve Along With Presence Of Accessory Fasciculi Of Biceps Brachi.**

**Uddhav Mane**, Swati Pandhare, Yashwant Kulkarni, Anjali Patil, Nutan Mandke.  
B. J. Medical College, Pune.

Musculocutaneous nerve is one of the terminal branches of lateral cord of brachial plexus. This nerve is responsible for innervation of flexor compartment of arm and for cutaneous innervation on lateral surface of forearm. It's absence has been described previously but it's real prevalence is unknown.

**Case Report:** A case of absence of Musculocutaneous nerve along with presence of accessory fasciculi of biceps brachi was observed during routine undergraduate dissection of right arm of a male cadaver. The muscles which are usually innervated by musculocutaneous nerve were innervated by median nerve in this case. Two muscular branches arose from median nerve and innervated biceps brachi and brachialis muscles. Branch of median nerve which supplied brachialis continued as lateral cutaneous nerve of forearm. The coracobrachialis muscle was supplied by one small nerve twig that arose from lateral root of median nerve.

Medical concerns related with these variations include, anaesthetic blocks, surgical approaches, interpreting tumour or traumatic nervous compressions having unexplained clinical symptoms. There is also possibility of injury to the muscular branches of median nerve in arm by surgeon as usually this nerve does not give branches in arm. Hence this case report will be discussed and compared with dissections over 40 arms.

**49. Morphometric Analysis Of Human Mitralvalue Annulus**

**Kavimani .M**, Christilda Felicia Jebakani\*

Sree Balaji Medical College Chennai, \*Madras Medical College, Chennai

Morphometry of a structure forms the basis for its function. Mitral value surgery has advanced in the recent past. A data base has to be generated to provide a baseline of reference for the cardiothoracic surgeon. The present study is aimed to analyses the morphometric details of mitral value in cadaveric and live hearts. 50 hearts were dissected and the circumference measured using a thread at the sulcus margin near the annulus and then subsequently using a measuring inch tape. The recordings of mitral value annulus was tabulated in 4 different age groups and according to sex. All the mitral annulus were D shaped. There is increase in circumference with advancing age. The size is smaller in female compared with male. These are conforming to earlier studies. This information will help reparative procedures in surgeries involving mitral value complex.

**50. Ossified Spinoglenoid Ligament**

**Sonia Singh**, Anu Sharma, Poonam Singh  
Dayanand Medical College, Ludhiana

The documented variations of the inferior transverse scapular (spinoglenoid) ligament include bilaminar or unilaminar membranous band, ligamentous band and absence. Standard textbooks of anatomy do not describe the ossification of the spinoglenoid ligament. The study was conducted in Dayanand Medical College & Hospital, Ludhiana. During routine bone extraction from a male cadaver for the bone library, it was observed that the left inferior transverse scapular (spinoglenoid) ligament was ossified. The ossified ligament may be clinically relevant in entrapment of the distal part of the suprascapular nerve in athletes.

**51. Unilateral Rectus Sternalis Muscle With Axillary Arch Mucle – A Case Report.**

**Bhavana Tiwari**, S Shrivastava, Seema Garg, Ameet Julka  
MGM Medical College, Indore

During routine careful Dissection in the Department of Anatomy M.G.M. Medical college indore (M.P.) in a sixty year old female cadaver we came across an anomalous muscle slip rectus sternalis along with axillary arch muscle on right side. The aponeurotic fibers of rectus sternalis were seen extending from aponeurosis of external oblique and continuing as muscle belly across the pectoralis major and finally got attached to sternocleidomastoid of same side and pectoralis major of opposite side. Axillary arch muscle was extending from anterior aspect of latissimus dorsi of right side and continued with pectoral fascia and axillary fascia. It was seen passing superficial to axillary vessels and brachial plexus.

No anomaly was found on left side. Detail findings will be discussed.

**52. Variations Of Veins Of The Head & Neck**

**Balachandra N**, B R Ramesh  
Dr. B. R. Ambedkar Medical College, K.G.Halli, Bengaluru, Karnataka

During routine dissection of cadavers by medical students variations were found in the formation & drainage of the external jugular vein & drainage of the facial vein respectively on the right side of a cadaver. The external jugular vein was draining into the internal jugular vein while the facial vein in turn was draining into the external jugular vein. The retromandibular vein & the posterior auricular vein formed the external jugular vein. The variations & their clinical importance will be discussed.

**53. Variations Of The Sphenoid Sinus And Their Impact On Related Neurovascular Structures**

**Mamatha. H**, N. M. Shama Sundar, G. Saraswathi, C. M. Nanjiah.  
J S S Medical College, Mysore.

Sphenoid sinuses are the most inaccessible paranasal sinuses, intimately related to numerous vital neural and vascular structures. Degree of sinus pneumatization varies from absence to extensive. According to the extent of pneumatization, the bony covering of the carotid arteries, optic nerve, maxillary nerve, and vidian nerves can be thin or even absent, making these structures susceptible for injury.

The aim of this study is to outline the surgically risky anatomic variants of sphenoid sinuses as well as the relationships between the sinuses and related neurovascular structures. 20 patients referred for sinus related pathologies were selected and subjected to axial and coronal CT imaging in all patients existence of following variants were noted: Degree of pneumatization, septation pattern, protrusion and dehiscence of internal carotid artery and optic nerve.

In the present study the most common variant found was sellar pneumatization with or without protrusion of internal carotid artery and optic nerve. In order to avoid morbid consequences during surgery it is imperative that clinician determines the locations and extent of the wall of sphenoid sinus and its relationship to adjacent vital structures whenever transphenoidal pituitary surgery is contemplated.

#### 54. **Linburg Comstock Syndrome**

**G. Panneer Selvi**, P. Saraswathi

Saveetha Medical College, Thandalam, Chennai, Tamilnadu.

Most of the functional or organic disorders of the hand may be diagnosed by thorough clinical examination. In 1979, Linburg and Comstock described anomalous tendon slip between Flexor pollicis longus (FPL) and Flexor digitorum profundus of index finger (FDP II) in 4 individuals. Epidemiological study reveals an incidence of this syndrome up to 37% with unilateral incidence more than bilateral. Aim of the study is to find out the incidence of Linburg Comstock syndrome and also to confirm the anomaly with diagnostic modalities.

A clinical examination of hands of 300 healthy volunteers from Saveetha Medical College and Hospital, Chennai were carried with a special test. In some individuals, there was inability to actively flex IP joint of thumb without simultaneously flexing the distal IP joint of Index finger. Any resistance to the parasitic reaction causes pain on the distal part of forearm and wrist. This is due to an anomalous tendinous connection between FPL and FDP II which was confirmed with the diagnostic modalities like Electrical stimulator, Musculo skeletal Ultrasound and MRI.

In spite of higher incidence of the anomaly only a small sub group of individuals were symptomatic. Statistical analyses were made to find the incidence of people affected by this syndrome. The study provides the surgeon detailed information about the scope of variability in deep flexors group and nature of its intertendinous connection. The result will be discussed in the scientific session.

#### 55. **A Retrospective Study Of Anatomical Sites Of Mandibular Fracture**

**Chanemougavally. J.**, Karthik. R, Sundarapandian. S, Radhika Krishnan. J

SRM Medical College Hospital & Research Centre, SRM Nagar, Kattankolathur, Kancheepuram District, Tamilnadu

Introduction: Mandible is one of the most commonly fractured facial bone. Mandible fractures are mostly caused by road traffic accidents, assaults and falls. The most common anatomical region of fractures are parasymphysis, condyle, angle and body of mandible. International incidence of anatomical sites of mandibular fractures may vary. Because of these variables, retrospective study of mandibular fracture patterns is done throughout the world. This study was done to study the anatomical sites of mandibular fracture.

Aim And Objectives: The purpose of this study is to provide retrospective analysis of anatomical location of mandibular fracture patterns and also to determine the age, sex distribution and etiology of mandibular fractures.

Materials And Methods:

- 2346 trauma patients were reported at SRM Hospital
- Anatomical locations of mandibular fractures were analyzed
- Data about age, sex distribution and etiology of mandible fracture were collected

Result: The most common anatomical site of mandibular fracture is parasymphysis (18%), condyle and angle (13%), symphysis (11%) and body (9%)

Conclusion: The data achieved from the study varies with the results of international study which were done previously. Hence, a study involving Indian population has been done to formulate differences in anatomical locations of mandible fracture and its etiology.

#### 56. **Variations In The Anatomy Of Suprascapular Notch**

**Punita Manik**, A.K.Srivastava, P.K.Sharma, Archana Rani, Jyoti Chopra, Anita Rani  
C.S.M. Medical University, Lucknow

The present study was conducted on 500 dried scapulae of North Indian population to determine the variations in the morphology of the suprascapular notch which could be an important predisposing factor for entrapment of suprascapular nerve. An attempt is made to classify the suprascapular notch which might help the clinicians to easily identify the type of notch on plain radiographs and correlate it with the possibility of suprascapular nerve entrapment. The detailed description of the classification and its clinical relevance will be discussed during the presentation.

#### 57. **Occipitalization Of The Atlas Vertebra (C1)**

B.R.Zambare, **Bhaskar.B.Reddy**, B.N.Umarji\*, Santosh.V.Shinde  
P.D.V.P.F's Medical college & Hospital, Ahmednagar, \*KIMS University, Karad.

First cervical vertebra is also known as Atlas, because it supports the globe of the head. The atlas is a ring shaped bone without a body. It has an anterior arch, a posterior arch and two lateral masses.

Occipitalization of the atlas is an important congenital malformation because of its close relationship to the spino-medullary region and it can produce a wide range of neurological signs and symptoms such as torticollis, restricted neck movements and/or abnormal short neck. The clinical findings may be the headache, neck pain, numbness and pain in the limbs, weakness, abnormal head posture.

The aim of the present study is to demonstrate the prevalence of atlanto-occipital fusion and to describe, in detail, the gross skeletal changes that occur in such an anomaly. The knowledge of this uncommon anatomical variation in the cranio-vertebral junction is imperative for clinicians.

In the present study a sample of 135 human adult skulls were examined for evidence of atlanto-occipital fusion. For the study non pathological adult skulls of both the sexes were included. Only one specimen exhibited this type of anomaly, in which the total fusion of the atlas vertebra with the skull was seen. The lateral masses had fused completely with the occipital condyles. The anterior arch was fused with the basilar part of the occipital bone completely on right side and partially on the left side of the arch. The hypoglossal canal was absent on the left side. The posterior arch was not fused with the occipital bone.

#### **58. Asterion A Reliable Landmark In Surgical Planning And Approaches**

Biswabina Ray, **Rajesh.T.** Gayathri.B.M.V.  
Kasturba Medical College, Manipal University, Manipal, Karnataka. India.

Aim of the present study was to determine the easily identifiable bony landmarks on temporal bone like Asterion. It could be used as a reliable landmark for other important structures for various approaches of Skull Surgeries like Lateral skull base surgeries, Middle cranial fossa surgeries and Facial nerve related surgeries. Our studies includes 78 preserved specimens of 39 dry skulls were studied from Department of Anatomy, Kasturba Medical College, Manipal. Distance from various important anatomical land marks from Asterion was determined using digital caliper. The difference between distance from Asterion to Root of zygoma, Henle's spine, External Acoustic Meatus, Inion in right and left side and male and female was statistically not significant. Similarly, difference between distance of Mastoid tip to Root of zygoma and Root of zygoma to Foramen spinosum was not statistically significant between sides and sexes. Distance from Asterion to Mastoid tip is 49.9mm (rt) 49.3mm (lft) in male and 45.8(rt) and 46.7(lft) in female, difference between sides is statistically significant. From the above results it can be concluded that the distance of Asterion to related bony landmarks is variable. Bony land marks such as Asterion

can be useful in surgical orientation as well as in guiding the direction and degree of bony removal for a safe surgery.

#### **59. Study Of Retro transverse Groove / Canal : Incidence and its Clinical Co-relation.**

**Ketu Chauhan** , Rajinigandha Vadagaonkar.  
Kasturba Medical College, Manipal University, Manipal

Atlas, the first cervical vertebra contributes to the maximum anatomical variations of cervical part of spine. Retro transverse groove or canal when present, is on the lateral aspect of lateral mass of atlas vertebra, through which passes an anastomotic vein connecting atlanto-occipital and atlanto-axodian venous sinuses. Present work is done to study the presence of such groove/ canal or both in human atlas vertebra , its percentage of occurrence and there by correlating it with clinical significance.

#### **60. Influence Of Metric Osteogenetic Traits On Cranial Architecture Of North Indian Crania (Predominantly Haryanavi)**

**Suresh Kanta**, Usha Dhall, P Raghavan.  
Pt. B. D. Sharma, University of Health Sciences, Rohtak.

Much attention has been paid to the variations of the shape and size of the human skull and efforts have been made to associate these variations with certain differences which characterize different races. In dealing with crania of different racial types, an impression of racial affinity and differences may often be introduced. For present study, 150 complete skulls (115 males, 35 females) were used. 47 Cranial measurements were taken according to systems proposed by Howells. Howells has measured crania from different populations all over world. One way Anova test was applied to compare different cranial measurements of north Indian population with Howells 28 populations in two sexes. All cranial measurements of north Indian population were found to be significantly different as compared to Howells 28 populations of the world. This suggested that these crania are different from other populations of the world. The present data was also compared with data for ethnic groups i.e. UP, MP and Punjab from north India. One way Anova test was applied to all of Howell's measurements to see if there were some significant differences exists in different groups. Analysis of male and female data showed that some of cranial measurements were found to be different as compared to all other three ethnic groups i.e. UP, MP, Punjab. Close observation has also reflected that most of the Haryanavi cranial measurements are closer to Punjabies followed by MP and UP in that order. Meaning thereby more affinity exists between Haryanavis and Punjabies. From the above discussion it can be said that Haryanavi skulls are quite different from Howells 28 populations of the world in all the cranial measurements but in some measurements Haryanavi skulls do resemble closely to nearby ethnic groups. Meaning thereby some resemblance does exist between North India populations which have not been demonstrated so far.

**61. Prevalence, Expression & Dichotomous Nature Of Carabelli's Trait In Permanent Dentition Of Contemporary Jat Sikhs.**

**Agnihotri G.**, Singla S\*, Singla R.K.  
Government Medical College, Amritsar, Punjab, India.  
\*Department of Oral & Maxillofacial Surgery, D.I.R.D.S.,  
Faridkot, Punjab, India.

The Carabelli's trait is an elevation, groove or pit usually seen, when present on palatal surfaces of mesio-palatal cusp of maxillary first molar crowns. The phenotypical appearance of trait is genetically determined. A tubercle of Carabelli makes tooth susceptible to dental caries and interferes with banding techniques during fixed orthodontic therapy. The Jat Sikhs of Punjab are endogamous and primarily agriculturalists. Our study on 200 maxillary first molars determines distribution and forms of expression of Carabelli's trait in contemporary Jat Sikhs. It also ascertains the dichotomous nature of this trait (male, female ratio 50:50). The data was tested by application of chi-square test and significance noted at 5% level. The results indicate:

- 1) Prevalence of trait is 78.5%. The trait absent / present exhibits bilateral development. However, few unilateral cases were also observed (3.5%).
- 2) Groove form was commonest (35 %) while pit form was least prevalent (2.5%). Slight tubercle was observed more frequently (25%) than pronounced tubercle (16 %).
- 3) Each first molar and its antimere exhibit no statistical difference in the exhibition of trait. A definite statistically significant sexual dimorphism exists in phenotypic expression of trait among sexes.
- 4) Percentage frequency of pronounced tubercle was almost double in males while absence of tubercle was observed three times more in females.
- 5) Ratio of non-tubercular: tubercular varieties is 1:1.5.

**62. Internal Architecture Of Calcaneus: Correlations With Mechanics And Pathoanatomy Of Calcaneal Fractures**

**Atahavale S. A.**, Joshi S D\*, Dr. Joshi S S\*  
KVGMC Sullia DK District, \*SAIMS Indore.

**Aim:** Available studies on internal architecture of the calcaneus are cursory and contradictory. Present study focused on elaborate descriptions of the different trabecular groups and their correlation with the fractures of this bone.

**Method:** To study the internal architecture, fifty dry adult human calcanei were sectioned in various planes and grossly dissected.

**Results:** Six different groups (A –F) of lamellae were identified. Based on the observations of trabecular architecture, potential weak areas in this bone were identified and correlated with the fractures of this bone. The predicted weak zones correlate well with the fracture lines described in the calcaneus and provide anatomical basis for their occurrence.

**Conclusions:** This study underscores the major influence of the internal architecture of the calcaneus in predicting the fracture lines. The findings can be utilized to

classify fractures of calcaneus, which has been a topic of ongoing debate.

**63. Anterior Clinoid Process and Optic Strut In South Indian Adult Skulls**

**Anne D.**, Rashmi B, Manjunath K Y, Roopa R  
St. John's Medical College, Bangalore

**Aim of the study:** Anterior clinoid process (ACP) is a part of sphenoid bone situated at its posterior border and forms a prominent projection. During operation on the cavernous sinus ACP and optic strut are often removed. As internal carotid artery is closely related to the ACP, it may be damaged during its removal. Hence it is important to know the anatomy of the ACP and its variations for safer surgical approaches. The aim of the study is to measure the length, basal width, thickness of ACP and its distance from optic strut.

**Material and methods:** 50 adult skulls of unknown sex from the Department of Anatomy, St. John's Medical College were used for the study. The length, basal width, thickness of ACP and its distance from the optic strut were measured using digital callipers. Mean and standard deviation (SD) was calculated and Pearson's correlation was applied.

**Results:** The Mean and SD of length, basal width, thickness of the ACP on right side were  $10.03 \pm 1.36$ ,  $9.8 \pm 1.93$  and  $6.47 \pm 1.74$ mm and on the left side were  $10.02 \pm 1.56$ ,  $9.94 \pm 1.8$  and  $6.5 \pm 1.64$ mm respectively. The average distance between the optic strut and ACP on right side was  $6.29 \pm 1.21$  and on left side was  $6.5 \pm 1.5$ mm. Pearson's correlation showed negative correlation between the measured parameters. The complete caroticoclinoid canal was found in 2(4%) skulls bilaterally.

**Conclusion:** The length, basal width and thickness of ACP showed minimum variation as compared to the previous studies.

**64. Micronucleus Study In Predisposing Factors Of Oral Carcinoma**

**Jeevappriya.T.**, Sundarapandian.S, Pratheepa Sivasankari.S, Radhika Krishnan.J  
SRM Medical College Hospital & Research Centre, SRM Nagar, Kattankolathur, Kancheepuram District, Tamilnadu

Cancer is a complex disease in which cells with altered gene expression grow abnormally invade other tissues and disrupt their normal function. Oral cancer is the most common malignancy in 40% of Indian population. Micronucleus (MN) is characteristically seen in exfoliated cells like buccal mucosa in subjects having predisposing factors like smoking, tobacco chewing and alcohol consumption. 120 subjects were taken and slides were prepared from the smears taken from the cancer prone areas and MN count was studied after staining. Results show that increase in MN count was seen in subjects having the history of the above said predisposing factors for a long period. Hence this test can be used as a screening test for the risk groups.

**65. Segmental Pattern Of Epididymis In Mouse And Rat**

**S. Karthick**, J P Gunasegaran  
Rajah Muthiah Medical College, Annamalai University

Epididymis is a complex organ responsible for maturation, storage and motility of the spermatozoa. Though epididymis is divided anatomically into three parts, histologically it can be subdivided into many zones or segments. The number of segments varies from species to species and within the same species. There are conflicting reports about the number of segments in epididymis of rats and mice. Therefore an attempt has been made to differentiate the segments of epididymis in mouse and rat based on some histological parameters: On examination with light microscope the epididymis of mouse and rat showed marked variation in structure in different regions suggesting a segmental pattern. It was noticed that there were six segments in mouse and eight segments in rat which may be involved in various functional activities.

**66. Histogenesis Of Kidney In Human Fetuses**  
**A. Syed**, R. A. Joshi, D. S. Joshi.

Govt. Medical College, Miraj, Maharashtra.

Development of metanephric kidney starts in 9<sup>th</sup> week of intrauterine life. It includes appearance of various structures in cortex and medulla and its maturation at different gestational age. The main functional component i.e. glomerulus also passes through various stages of development. The present study was undertaken to study the details of appearances of various histological elements of kidney in relation with gestational age.

In the present study 40 aborted human fetuses between 14- 40 weeks of gestational age with no obvious congenital anomalies were obtained from the department of Obstetrics and Gynecology with prior permission of Ethical Committee of Government Medical Collage Miraj. External parameters of the fetus were measured and kidneys were removed. After taking measurements, kidneys were fixed with 10% formalin. For the microscopic studies serial paraffin sections were taken and the findings were noted under high and low power.

**67. Effect Of Cuminum Nigram, T. Foenumgraecum And T. Copticum On Hemoglobin Level Of Females In Child Bearing Age.**

**M. A. Doshi**, B. N. Umarji, R. R. Karambelkar, A. D. Shewale  
Krishna Institue Of Medical Sciences, Karad

The females of first year nursing students are selected for present study. Female are exposed to monthly menstrual bleeding and hence are included in present study. They have been divided in different five groups. Serum hemoglobin level of all the students is recorded by Sahli's method.

1. First group acts as control group.

2. Second group is given Kadvi Jeeri (CUMINUM NIGRAM)
3. Third group is given Methi (T. FOENUMGRAECUM)
4. Fourth group is given Owa (T. COPTICUM)
5. Fifth group is given a combination of above three substances in the ratio of 1:5:2.

Hemoglobin value of all these groups is recorded monthly for 3 consecutive months. The difference in hemoglobin value will be recorded and statistically analysed for testing the significance. Details of this paper will be discussed while presenting the papers.

**68. Testicular Histomorphometry In Deltamethrin Treated Rats**

**Kumar A**, Nagar M, Khatri K  
University College of Medical Sciences & GTB Hospital, Delhi

In the past five years, deltamethrin, a type II synthetic pyrethroid is one of the most popular and widely used insecticides in the world because of its broad spectrum control. It occupies a leading position in many countries for commercial agriculture, garden and home pest control, forestry, aircraft disinfectant, livestock application and public health programmes. This wide spread commercial use has lead to a widespread concern over the potential adverse effects on human health.

In the present study, deltamethrin was administered intraperitoneally in adult Wistar albino rats (150-200grams) in the dose of 1mg / kg body weight /day for five days a week for thirty days. Controls were maintained. The animals of both groups were sacrificed within twenty four hours of the last injection by perfusion. The testis was dissected out. Paraffin sections (8µ) were made and stained for light microscopy. There was a statistically significant decrease in the body weight in the deltamethrin treated animals when compared with the control animals. Histomorphometric studies revealed a thickening of the tunica albuginea at some sites. The subtunical space appeared to be empty and increased. The basement membrane appeared to be slightly thickened at sites. There was a significant decrease in the diameter of the seminiferous tubules with an associated collapse and distortion at sites predominantly in the central region. Spermatogenic and supporting cells showed disorganization and appeared disheveled. There were large number of pyknotic nuclei towards the luminal side and presence of debris of degenerating cells and spermatozoa in the lumen with accumulation of macrophages. A decrease in the height of the tubular epithelium was recorded. These distinct histopathological changes noted after chronic administration of deltamethrin are characteristic of toxic effects on the testis.

**69. Study Of Foetal Thymic Corpuscles**  
**Sharadkumar P. Sawant**

Bharathi Vidyapeeth Medical College, Pune.

Aim: To study the microscopic differentiation and organization of Thymic Corpuscles in Foetal Thymuses.

Material and Methods: 100 Fetuses were obtained from the Dept. of Obstetrics after M.T.P. Thymuses were dissected, section and stained for micrographic study.

Conclusion and Result: It was observed that the microscopic differentiation and organization of Thymic Corpuscles begins at the 12<sup>th</sup> week of I.U.L. They gradually increase in size and number in subsequent weeks.

#### 70. Effect Of Drug Pantoprazole On Large Intestine Of Rat- A Histological Study.

**Mehrotra Namita**, Dass Praveen Kumar, Singh Deepa, Jethani S.L.  
HIHT University, Dehradun

Present study is based upon histopathological effect of Pantoprazole (proton pump inhibitor) on stomach of albino rats. Pantoprazole was administered intraperitoneally to rats for 4 weeks. Rats were divided into 4 groups -1 control & 3 study groups (mild, moderate & severe dose of Pantoprazole). Control group (15 rats) was administered with vehicle (normal saline). After 3 wks rats were sacrificed with ether anaesthesia & tissues were procured. After tissue processing histological slides were made with H&E staining. On examination, hypertrophy of villi are found in mild and moderate drug dose groups of rats while in severe drug dose group, atrophy of villi were found in comparison to control. Details of observation will be presented in conference.

#### 71. Study Of Palmar Dermatoglyphic Patterns In Primary Epilepsy

**Lt. Col. K. Mohanlal**, R K Zargar, B V Bhanu\*, P V Swamy AFMC, Pune, \* Former Professor, Dept of Anthropology, University of Pune

Epilepsy is a common worldwide health problem with several personal, familial and social impacts. It has a worldwide incidence of 0.3 to 0.5%. The cause of epilepsy is not known and 70% belonged to Idiopathic (cryptogenic) variety. This study examines the presence of dermatoglyphic patterns / pattern frequencies specific to individuals with Primary epilepsy when compared with controls.

Sixty established cases of primary epilepsy in the age group of 05-12yrs were studied to understand their Palmar dermal patterns and were compared with a control group of 60 healthy children of the same age group.

The palmar prints were taken using Ink-pad method described by Commins and Midlo. Inverted T pad, ink slab made of plain glass, white paper & cyclostyling ink were used for obtaining prints.

Various parameters for palm including frequency of patterns in the thenar / 1<sup>st</sup> interdigital area, hypothenar area and other inter-digital areas were studied using Bhanu's system of pattern classification.

The analysis of patterns showed that there was an increase in frequency of patterns in the thenar - 1<sup>st</sup> interdigital area, a slight decrease of hypothenar patterns and a decrease in inter-digital patterns except for the I<sub>4</sub>.

#### 72. Cytogenetic Studies In Down Syndrome Cases

**Makarand V. Apte**, S. D. Gangane\*

B. V. U. Medical College, Pune, \* Grant Medical College, Mumbai

Down syndrome is the commonest chromosomal anomaly and the most frequent genetic cause of mental retardation. The present study was undertaken to analyze various chromosomal anomalies associated with Down syndrome and to correlate them clinically. Clinically diagnosed Down syndrome cases (n=100) were selected for the study. Findings of a detailed history with pedigree and examination were recorded and chromosomal analysis was done, for every patient.

The most striking clinical feature observed in the present study was mental retardation; others being delayed milestones, mongoloid slanting eyes, etc. Anomalies of chromosome 21 were observed in 92 cases. The most frequent was pure trisomy 21 (92.39 %) followed by translocation (3.26 %) and mosaicism (4.35 %). The sex ratio observed was 1.24:1 with a male predominance.

Counseling of parents of the subjects was done according to the need of the situation.

#### 73. Genetic Demographic Study Of Settibalija (Backward Class) Of Coastal Andhra Pradesh

**Lata Omprakash Mahato**, D.S. R.S.Prakash  
G.S.L. Medical College, RJY

Population genetics concentrate on genetic structure of population to find out mechanism for a change from generation to generation. Evolution in human population is based on four forces of evolution i.e. mutation, natural selection, genetic drift and gene flow which operate to bring about changes in the genetic composition of population rather than individuals.

The major aim of present study is to understand the demographic pattern and ethnographic profile of settibalija population which was not studied by earlier workers. The main objective of this study was to record the age and sex structure, sex ratio, patterns of mating, inbreeding, fertility and mortality on reproductive performance among settibalija, to have comparative account of various demographic aspects such as age at menarche, marriage, first conception, last conception, menopause, marriage types, marital distances, occupations and literacy to record the observations of family planning method like tubectomy, vasectomy and hysterectomy.

100 households of settibalija population from four different endogamous population was selected as study group from 'Narsapuram' division and west Godavari district.

Simple statistical analysis for understanding classification, comparison and final interpretations was done in systematic manner. I got predominant statistical variations in biological indicators like age at menarche, age



at marriage, age at first conception, age of last conception, family planning all will be discussed.

#### 74. Iso X Chromosome And Its Phenotype Presentation

Rema Devi, Preetha Tilak, M. S. Amudha S, M. S. Mary Margaret, M. S. Jayalakshamma

St. John's Medical College, Bangalore

**Introduction:** Isochromosomes are a type of structural chromosomal anomalies which has two copies of one arm and no copies of the other. They are supposed to arise due to a faulty division of the centromere along the long axis instead of the usual transverse axis. Isochromosomes of the autosomes are most often lethal. Most of the isochromosomes seen in living are associated with the X chromosome and they may present with Turner syndrome features.

**Aim of the study:** To do a phenotype-genotype correlation of patients having an iso (Xq) genotype

**Materials and methods:** A retrospective study where peripheral lymphocyte culture was put up on patients presenting with menstrual irregularities or short stature and suspected to be a Turner variant is analyzed and those who have iso X chromosome are analyzed for their phenotypic presentation.

**Results:** Out of 3100 cases referred to the division, 83 cases (2.67%) were Turner variants. Out of these 83 cases, 6 (7.23%) of them showed isochromosome X, either as a pure cell line or as a mosaic cell line.

**Conclusion:** Iso X(q), be it a free cell line or a mosaic, produces its effect in the form of gonadal dysgenesis eventually manifesting with features of Turner syndrome.

#### 75. Screening For Genetic Disorders: Indian Scenario

Lt. Col. P. Hareesh Kumar, Lt Col M S Ahuja, Lt Col S Pandit  
AFMC, Pune.

With a very large population and high birth rate, and consanguineous marriage favoured in many communities, there is a high prevalence of genetic disorders in India. The common problems being congenital malformations, G6PD deficiency, Down syndrome,  $\beta$ thalassaemia, sickle cell disease, and amino acid disorders. Many of these disorders can be detected by antenatal screening. The implications of a screening programme and its impact on health services would be

discussed. The feasibility and methods would be presented.

#### 76. A Study Of Mentally Retardeds In Manipur I. Deven Singh, M. Matum Singh, N. Damayanti Devi Regional Institute of Medical Sciences, Imphal, Manipur

Mental retardation is defined as incomplete or insufficient general development of mental capacities. Mental retardation is not curable but largely preventable by genetic counseling. The condition is quite prevalent in this part of the country but its genetic study at chromosomal level is non-existent.

**Aim:** The aim of the study was to diagnose and categorise mental retardation of genetic origin from those of environmental or multifactorial causes.

**Materials & Method:** The material consisted of 50 mentally retarded persons aged 2 to 50 years of a mental health rehabilitation centre. Detailed history was taken and physical examination performed. They were subjected to chromosomal analysis by lymphocyte culture and GTG banding. Ultrasonic survey of the abdomen and heart for congenital anomalies and organomegaly was done.

**Results:** 10 persons with dysmorphic features had chromosomal abnormalities – 9 with Down's syndrome and 1 with Cri-du-chat syndrome. None of the mentally retarded with no dysmorphic features showed any chromosomal abnormality. **CONCLUSION:** A large number of mental retardation is of genetic causes. Karyotyping (prenatal or early childhood) should help in proper genetic counseling, prevention and reduction and timely rehabilitation of mental retardation cases.

#### 77. Study Of Spectrum Of Anomalies In The Families Of Consanguinous Couples

Arunkumar S. Bilodi  
HIMS, Hassan

**Aim:** Aim of the present study is to know the types of anomalies – percentages of incidences of anomalies in the families of consanguinous couples that came across in the teaching hospital of Sree Raja Rajeshwari Medical College, Bangalore.

**Place of the study:** In the various clinical departments of teaching hospital of Sree Raja Rajeshwari Medical College, Bangalore.

**Period of the study:** From 21.11.2006 to 20.11.2008 – A study of two years.

**Materials and Methods:** One hundred and ninety five (195) cases of patients from the teaching hospital of Sree Raja Rajeshwari Medical College, Bangalore in the various clinical departments constituted the materials for the present study.

Family history, obstetrics history, personal history, material history systemic diseases for each case were also examined in detail to rule out any systemic diseases. Necessary investigations were carried out along relevant special investigations.

**Results:** All the cases were of different age groups from the different departments – ranging from new born

groups -72% of cases were males. 24% cases of females in 3% sex could not identified properly due to

- a) Absence of genitalia and
- b) Improper development of genitalia
- c) In 1% of congenital anomalies were diagnosis y radiological examination.

Hence sex could not diagnose properly. All the cases had definite history marrying nearest relatives – there was second degree of consanguinity – more commonly found due to

- (i) Low socioeconomic status
- (ii) Illiteracy
- (iii) Superstitious
- (iv) Lack of guidance or education
- (v) Forcible marriage among relatives

Conclusion: So far no study has been done on anomalies. They are found to have embryological and anatomical importance, hence they have been studied and reported.

#### 78. Anthropometric Study Of Capitate Bone In Vidarbha Region.

**Rajesh N. Dehankar**  
NKP SIMS, Nagpur.

Anthropometry is an advanced branch in the research field where study of human skeleton is done to establish the individual identity like age sex stature etc. anthropometric work in this field has been in progress since later half of 19<sup>th</sup> century.

Bone age development is one of the significant indicators depicting the growth status in children. The present study is done in Vidarbha region of Maharashtra where climatic conditions, nutritional status Socio-economic status and pattern of diseases are different from other regions viz; Marathwada and Western Maharashtra. The study is done with aim to assess different measurements of human Capitate for assessment of age, sex and bilateral asymmetry.

Present study is carried out in department of Anatomy NKPSIMS, Nagpur. It consists of fully ossified capitates belonging to dissection hall cadavers of both sexes and known age. Measurements were taken using vernier calipers and spreading calipers. Parameters were analyzed to find out mean, SD, Coefficient of variation, & SE of mean. Sex differentiation is also done by using identification points. These identification points are the limiting points of the range for males and females. The parameters were compared with work done by other researchers and the results were found to be significant.

#### 79. Body Mass Index In Adult Indian Punjabi Male Jat Sikhs And Banias

M.Singla<sup>1</sup>, A. Jain A<sup>2</sup>, R. Ghai<sup>1</sup>, **P. Goel**<sup>1</sup>, M. Kumar<sup>3</sup>, S. Khare<sup>1</sup>

<sup>1</sup>Anatomy, Subharti Medical College, Meerut

<sup>3</sup>Physiology, Subharti Medical College, Meerut,

<sup>2</sup>Department of <sup>2</sup>Anatomy, Christian Medical College, Ludhiana

Obesity is a disease in which excess body fat has accumulated to such an extent that health may be negatively affected. It is a well known fact that overweight and obesity lead to serious health consequences. Risk increases progressively as BMI increases. The screening of population is important as after classifying, it brings overweight people under medical scanner and also ensure that help can be provided to them before they go from fact to obese stage.

BMI is defined as the individuals body weight divided by the square of their height. The BMI mathematical formula is BMI – kg/m<sup>2</sup>. It is an inexpensive, easy to perform and one of the best methods of screening of population for assessment of overweight and obesity.

BMI prime is the modification of BMI system. It is the ratio of actual BMI to upper limit BMI. It is useful clinically because individual can tell at a glance what percentage they deviate from their upper weight limit.

The present study is conducted on 300 adult male Jat Sikhs and 300 adult male Banias of Punjab of Indian origin. The aim of present study is to investigate the epidemiology of BMI, overweight and obesity among these population. For this, weight and height was measured and BMI and BMI prime was calculated.

The prevalence of overweight and obesity is 25% in Jat Sikhs and 41% in Banias. These values are more than the national values (12.1%). The results of present study indicates that obesity is becoming a problem of concern in Punjabis particularly Banias.

#### 80. Comparative Study Of Digit Lengths In Male And Female Subjects And Its Clinical Significance In PCOS

**K. N. Geetha**, S.C.Patel K. H. Katti  
MGM Medical College, Navi Mumbai

Hand analysis and palmistry have intrigued humans throughout history. In modern science two aspects of human hand have drawn attention for observation and analysis:

- (i) Dermatoglyphic ridge pattern and its quantification (ii) Finger lengths and their proportions.

Study group consisted of 50 males, 50 females (as control group) and 23 polycystic ovarian syndrome subjects. The aim was to study the sexual dimorphism in digit length ratios and to find out to what extent it has been affected in PCOS subjects when compared with control group. Parameters selected were length of index finger (2D) and length of ring finger (4D). Digit lengths were measured by both anatomical and dermatoglyphic method using a vernier calliper. Digit ratios (2D:4D ie. Ratio of 2<sup>nd</sup> and 4<sup>th</sup> digits) were compared between males and females, between PCOS subjects and control group.

Study results indicate the existence of sexual dimorphism in digit ratios. On an average male 2D:4D ratio was <0.980, female ratio was >0.980 and PCOS ratio was about 0.950. This finding was more pronounced in right hand dermatoglyphic length than left hand dermatoglyphic length measurements. The anatomical length measurements showed poor clinical value. In PCOS 2D:4D ratio matched the general male ratio indicating possible in

utero androgenic influence on digit ratios compared to control group.

### 81. A Comparative Study Of Anthropometric Parameters Of Newborns And Their Mothers In Western Rajasthan Population

D. S. Chowdhary, Rekha Parashar

Dr. S. N. Medical College, Jodhpur, Rajasthan

The importance of this anthropometric study is in the assessment, management of premature babies and in prognosis regarding the survival of premature and growth retarding babies. The aim of present study is to determine the factors which are associated with size and proportionality at birth in a cohort of term infants to investigate their growth and development.

This present study was conducted on 200 newborn babies in western rajasthan population.

1. Group-I - Normal birth weight babies. Babies having the weight of >2500 gms.

2. Group-II- Low birth weight babies. Babies having the weight of <2500 gms.

Various anthropometric parameters of newborns and their mothers were studied. In statistical analysis the p and t values of both groups were compared. In our study p value of age of mother and height of mother showed the non significant relationship while weight gain of mother from 20 weeks to late pregnancy, haemoglobin concentration, residential area, socioeconomic status and education showed the highly significant relationship.

Calculated p value of head circumference, chest circumference, gestational age, birth weight and length of baby showed the highly significant relationship. pre-eclampsia was more common in mothers having low birth weight babies while hypertension did not show any significant relationship.

### 82. Estimation Of Stature & Determination Of Sex From Human Radius Bone

Geethanjali B. S., Jayanthi.V, Shashirekha, S. R.

Sharma, Jayashree. S. Seeri, Sridevi, Jnanesh, Suma, Narayana Swamy.

Advisor: Dr. (Mrs.).S.Kantha.

Vydehi Institute of Medical Sciences & Research Centre

Identification of unknown bone is an important aspect in Forensic Medicine. The radius bone is the lateral bone of the fore arm. The radius bone is the lateral bone of the Forearm. The radius bone articulate with humerus and ulna forming the elbow and radio ulnar joints respectively. The study on sex determination on pelvic, humerus, femur, and ulna bones are documented but hardly on radius. Hence the study on radius bone was taken for estimation of stature and for sex determination. The present study is an attempt to assess the sex from one hundred radius bones collected from the department of Anatomy, Vydehi Institute of Medical Sciences & Research Centre. The following anthropometric parameters were taken-side, weight, length, circumference of head, circumference of distal end, maximum diameter of head, minimum diameter of head, transverse diameter

of mid shaft, surface area of head, lower end & ulnar notch, nutrient foramen –numbers & distance from head were measured using osteometric table, weighing machine, vernier caliper, measuring tape, graph. Statistical analysis was done & calculated. It showed significant difference ( $p < 0.001$ ) of parameters like weight, length, circumference of head, circumference of distal end, maximum diameter of head, minimum diameter of head, surface area of head & ulnar notch in which mean values were more in males than female bones. Correlation & test of significant difference between length & stature is very highly significant ( $p < 0.001$ ) and that between circumference of head & circumference of distal end which was found significant ( $p < 0.001$ ). Considering head diameter & other parameters, radius can be used as reference for determination of sex & stature. To increase the Significance of the value further studies can be done on large number of population

### 83. Study Of Footprint Measurements For Estimation Of Stature Using Regression Formulae

Vidya C. S., N. M. Shamsundar, G. Saraswathi, C. M.

Nanjaiiah, Nithin M. D.

J.S.S.Medical College, J.S.S.University, Mysore

Introduction : Identification is required in Medicolegal practice. The Foot prints if present at the scene of crime may provide clue regarding identity of persons which could be of great significance. In the present study, an attempt has been made to derive regression formulae to determine the height from footprint length and breadth in both sexes.

Aims of the study:

· To estimate the role of footprints as a tool for identification of the individual

· To assess the reliability and applicability of estimating stature by deriving Linear regression equations.

Materials and Methods: Footprints of 200 subjects [ Males=100, Females=100 ] of age group between 22 – 30 years from south Indian population were studied. Kores duplicating ink was used and uniformly spread on a glass slab using a ink roller and the subject was first asked to place his or her feet on the slab and then on a plain white sheet of paper. Footprints thus obtained were analysed and the details will be discussed during presentation.

Results: The mean height and the footprint length of males were greater than that of females. Accuracy of determination of height from foot parameters is highest for right foot length [R=0.883] in males and [R=0.817] in females respectively followed by left foot length, left foot breadth and right foot breadth.

Conclusion: The study has revealed a highly significant degree of correlation between the footprint length and stature of both sexes between 22-30 years.

### 84. Gender Differences In Body Proportions Of An Indian Population

Nachiket S. Sujatha N, Priya R, Raveendranath V, Rema D

St. John's Medical College, Bangalore

Aim of the study: The main contributors to the stature of an individual are the sitting height, length of the thigh, and leg. With reference to the above, the question that arises is whether a female body is a simply a scaled down version of a male body. The aim of this study was to document gender differences, if any, in the following proportions: 1) sitting height / stature; 2) lower limb length / stature; 3) thigh length / stature; 4) leg length / stature.

Materials and methods: One hundred (50 males and 50 females) normal healthy adult volunteers from India of the age of 18 years and above and a mean age of the 23 years were selected for the study. The following measurements were taken: 1) height; 2) sitting height; 3) length of lower limb; 4) length of thigh ; 5) length of leg. The proportions mentioned above were calculated. The mean and standard deviation of the measurements and proportions were calculated. The unpaired t-test was used to check for any significant gender differences.

Results: As expected, significantly greater height and body segment measurements were noted in males. However when the body proportions were considered, females had a significantly greater relative sitting height and thigh length as compared to males. The relative length of the leg was greater in males, though not significantly so. The relative length of the lower limb was similar in both sexes.

Conclusion: Significant gender differences exist in the different body segments in proportion to height.

#### 85. Constriction Ring Syndrome - A Case Report

**Deepa Bhat**, N. M. Shamsunder, G. Saraswathi, C. M. Nanjiah, Vijay L  
JSS Medical College, Mysore

Constriction rings are soft tissue depressions that encircle any portion of the limb. Congenital constriction rings usually affect multiple sites, often contain fibrous bands in their depths, and may be associated with other disruptions of the face, trunk and limbs.

A 3 yr old boy presented with constriction bands / rings, one in upper 1/3<sup>rd</sup> and other at the junction of middle and lower 1/3<sup>rd</sup> of left leg and in upper limb little above left wrist joint. He also had absence of middle three fingers of right hand and greater toe of left limb. The boy had associated clubfoot bilaterally. It was diagnosed as a case of constriction ring syndrome. Clinical history and physical examination revealed absence of any family history and features suggestive of any other associated anomalies. The limb below the rings was viable.

The cause of constriction rings remains controversial. This report attempts to discuss the various views regarding the etiology of the syndrome, its distribution, any associated features, possible treatment and uses of prenatal diagnosis.

#### 86. Pattern Of Calcaneal Articular Facets In Indian Human Tali

**Fazal-ur-Rehman**, Nafis Ahmad Faruqi  
J.N.M.C. A.M.U., Aligarh 202002

Aim of the study is to find out presence and percentage of incidence of various patterns of calcaneal articular facets in Indian human tali. Mechanism of changes of pattern of various calcaneal articular facets of human tali.

Forty adult dry human tali from the collection of the bone sets of the department of Anatomy, Forensic Medicine and obtained from students of MBBS 1<sup>st</sup> year. They were examined individually and observations were made on types of calcaneal articular facets for tali. They were classified into four groups and their percentages of incidence were calculated. Their incidence was as follows, type-1(40%=16), type-2(30%=12), type-3 (20%=08), type-4 (10%=04). These findings were compared with the available literature.

This study has revealed that the various types of facets may be due to racial and individual differences, size and shape of the talus and calcaneum and their relation with other tarsal bones.

This also may be due to gait somatotype of the individual and walking habits in hilly areas/ in plains.

#### 87. Pentalogy Of Cantrell With Limb - Body Wall Complex – A Case Report

**Mallika. B.**, K. R. Dakshayani  
Mysore Medical College and Research Institute, Mysore

During routine foetal autopsies conducted in the department of Anatomy, MMC&RI, a rare, interesting case of preterm fetus with multiple congenital anomalies was observed.

The autopsy findings revealed large omphalocele, ectopia cardis, sternal cleft, anterior diaphragmatic hernia, intracardiac anomaly, polydactyly with syndactyly, bow femur and spinal deformities. Most of the above findings correlate with features of PENTALOGY OF CANTRELL WITH LIMB-BODY WALL COMPLEX.

Early detection of anomalies is possible using ultrasound and termination of the foetus can be recommended since survival rate is very poor. This anomaly needs an elaborative surgical procedure to reverse the defect.

Details of the case will be discussed during the presentation.

#### 88. Faciocranial Growth - Changing Interpretations And Applications

**H. A. Buch**  
Faculty of Dental Science, Dharmsinh Desai University, Nadiad, Gujarat

The knowledge of faciocranial growth has wide ranging applications in orthodontics, oral & maxillofacial surgery and also reconstructive surgery. However, fundamentals of growth usually belong to basic subjects including anatomy.

There are many theories of faciocranial growth (to explain as to how it occurs) starting from the remodeling theory of Brass to the servosystem theory of Petrovic

(Carlson, 2005). Based on animal experimental and human clinicosurgical research, no longer is the nasal septal cartilage or the mandibular condylar cartilage regarded as pacemaker or facemaker-the master center of growth. Results of various modalities of surgical treatment of temporomandibular joint ankylosis in growing children are inconclusive regarding the contribution of costochondral graft or sternocavicular joint graft in restoring mandibular and facial growth.

Instead of genes, genome and genetics, it is the epigenesis and epigenome which are now attracting more attention. It is not merely the physical (or chemical) presence of genes but it is their expression that appears to govern the growth. As for example, from molecules to mandible, there are many steps and each step is important. There is many a slip between the gene (cup) and the mandible (lip). It is becoming increasingly clear that it is possible for the mechanical factors to influence nuclei of cells like osteocytes and osteoblasts and thus growth.

In view of such recent developments, how far is the 'functional matrix theory and its revisit by Moss (1997) himself still valid? Can we think beyond 'Moss'? What role do sutures, teeth, brain and function play in matters of growth? What is the impact of newer interpretations on the current surgical practice? While the gene therapy is in the need of resurrection, it is time to work out the modalities of epigenetic therapy

Anatomists are sometimes consulted by the clinicians particularly with regards to the timing and termination of growth of mandible and maxilla. No surgeon or patient ever wants relapse and recurrence, and hence precise knowledge about the termination of growth and period of growth spurt in both sexes is of paramount importance for a surgeon contemplating orthognathic surgery and orthodontist treating malocclusion of teeth. Consequences of facial growth also affect oral implant surgery in children and distraction osteogenesis. It is still a formidable challenge to predict, restore and modify growth. Why so?-can be addressed though.

#### **89. A Rare And Atypical Female Pseudohermaphroditism With Phallic Urethra And Persistent Cloaca.**

**J. E. Waghmare**, S. K. Duff, P. D. Kamble, S. K. Kale, A. K. Pal.

Mahatma Gandhi Institute of Medical Sciences, Sevagram, Wardha

A girl of 16 years of age with ambiguous genitalia was referred from the department of obstetrics and gynecology to our cytogenetic lab for confirmation of the sex by karyotyping. She had an enlarged phallus with accessory phallic urethra. The vaginal and urethral openings were absent and the perineum was fused like the males. She uses to defecate, micturate and menstruate through the only opening at the anal site i.e. the persistent cloaca. Chromosomal analysis confirms normal female, Karyotype-46, XX.

The case is enlightened with its genetic, embryological and hormonal etiogenesis.

#### **90. Congenital Talipes Equino Varus: A Clinical Study**

**Malamoni Dutta**, K. L. Talukdar, P. K. Baruah. Gauhati Medical College, Guwahati, Assam

Idiopathic (non syndromic) Congenital Talipes Equino Varus (C.T.E.V.) or Clubfoot is a poorly understood but common developmental disorder of the lower limb.

It occurs one in every 1000 live births. Four elements of deformity are found in this condition i.e. slight medial rotation of the tibia, flexion of the ankle, inversion of the foot

and adduction of the forefoot. Hippocrates, the "Father of Medicine" first put forward a hypothesis to explain the etiology of C.T.E.V. He wrote "The deformity involves the entire combination of bone which make up the skeleton of the foot. All the changes seen in the soft part are secondary...." Today a number of hypotheses remain and research findings do not clearly support any particular one.

Aim of the study is to have an insight into various clinical aspects associated with C.T.E.V cases. During the study 41 consecutive cases of C.T.E.V. attending Orthopaedics O.P.D Gauhati Medical College Hospital from January 2009 to September 2009 were studied clinically. The clinical study of those cases included sex ratio, unilateral or bilateral involvement, side of involvement, association with pregnancy ailments, involvement of the parents and other offsprings. The findings will be discussed at the time of presentation.

#### **91. Histological Study of Normal Human Placenta In Different Gestational Ages**

**C K Lakshmi Devi**, J Vasudeva Reddy. Sri Venkateswara Medical College, Tirupathi, AP

The present study is aimed at the study of Histological features of Placenta in three different categories of 6 – 12, 13 – 24 and 25 – full term gestational age in weeks in 50 Placentae. The tissue was subjected for routine Histological preparation and the Histological features were recorded.

In 6 – 12 weeks the stroma is loose Double layered trophoblast is seen. The cytotrophoblast cells are large with round nucleus, the syncytiotrophoblast cells with small nuclei, Hofbauer cells are numerous and foetal capillaries are small and centrally placed. In 13 – 24 weeks the number of villi are increased in number, syncytiotrophoblast layer is thinner the nuclei are less evenly dispersed, Cytotrophoblastic cells are scanty and does not form a continuous layer, Villous capillaries are larger and peripherily located Hofbauer cells are less conspicuous with vacuolated appearance. In 25 –full term the villi are numerous small syncytial knots are present with reduced stroma, the fetal capillaries are placed more peripherily and Hofbauer cells are less in number without vacuoles were observed.

In spectrum of Histological study the conclusions are in the 1<sup>st</sup> trimester villi exhibited two layers of trophoblast, loosely arranged stroma, less populated small sized

centrally placed fetal capillaries and plenty of Hofbauer cells which are vacuolated.

The histological features of second trimester villi are increased in the number of villi, cytotrophoblastic layer showing discontinuity, thinner syncytial trophoblast compact stroma and large peripherally placed fetal capillaries and numerous Hofbauer cells.

In the third trimester, the villi are numerous, smaller in size, syncytial knots are seen, insignificant stroma, approximation of the vessels to the syncytium leading to the formation of "vasculosyncytial membrane" and reduced number of Hofbauer cells with loss of vacuoles were concluded.

## **92. Congenital Anomalies Of Thyroid Gland**

**Sree Lekha D.**, Sundeep Kumar H, Sai Sucheetra.D., Raja Madhava,  
Swayam Jothi Dorai Raj.  
S. K.M.C., Guntur

**Introduction:** - Thyroid gland is an important endocrine gland undergoing physiological and pathological changes.

**Aim:** - The anomalies that we came across while studying the morphology of the thyroid gland were reported here.

**Materials and Methods:** - Thyroid gland was observed during the routine dissection of head & neck while midline structures were exposed in 20 male cadavers and 2 female cadavers. The anomalies that we came across were reported here.

**Observations:** - In two male cadavers isthmus was absent. In three male cadavers pyramidal lobe was absent. In three male cadavers and in one female cadaver levator glandulae thyroideae was observed.

i. Levator glandulae thyroideae was fibrous, thin and extended for a short distance from the pyramidal lobe.

ii. In one male cadaver it extended upto the thyroid cartilage and could not be traced beyond that.

iii. In another male cadaver it extended upto the hyoid bone.

iv. In one female cadaver muscle fibers were present in it and were supplied by ansa cervicalis.

In one male cadaver two pyramidal lobes were seen

.In one female cadaver right lobe was not in its usual place and was displaced behind the carotid sheath with lymph node enlargement.

**Discussion and conclusion:** - Being one of the areas where surgery is common it is wiser to have sound knowledge about the common anomalies met with.

## **93. A Study On The Congenital Anomalies Of Gall Bladder In A Specific Population**

Indrajit Gupta, **Sudeshna Majumdar**  
Calcutta National Medical College, Kolkata

There may be a number of congenital anomalies of the gall bladder, cystic duct and cystic artery. During the routine dissection in different Medical Colleges of Kolkata

we came across some congenital anomalies of these structures including double gall bladders, double cystic ducts, variations in the origin & course of the cystic artery. So a study was undertaken to note the types and incidence rates of these anomalies in Kolkata and suburbs. 120 formalin preserved cadavers, collected from local population, were dissected over four years (from 2004 to 2008); their family background, age and sex variations were noted in this study.

Among the 120 cadavers two cases of double gall bladders were found. In one cadaver there was one intrahepatic and one extrahepatic gall bladder. In the second case both the gall bladders were extrahepatic with separate cystic ducts & cystic arteries while one cystic artery arose from the gastroduodenal artery. The incidence rate of double gall bladder is 1.66% in this study. In four cadavers there were two cystic ducts, opening into CBD and in one such cases the cystic artery arose from the undivided hepatic artery proper. The incidence rate of double cystic duct is 3.33% in this study.

This study will make the clinicians aware of these congenital anomalies of the biliary tree and may help them to undertake any investigative (for example, ERCP) or surgical procedure like cholecystectomy in this region; at the same time this study may enhance our knowledge in Embryology.

## **94. Proximal Femoral Geometry And Its Clinical Correlation**

**D. Ravichandran**, HIRAK DAS, Muthukumaravel, Melani Rajendran\*

VMKV Medical College, Salem

\* Sri Ramachandra Medical College & Research Institute, Chennai.

The implants presently used for the treatment of proximal femoral fractures are exclusively designed according to the Western dimensions. The usage of these implants increases the chance of screw cut through, non-union and malunion rate in our Indian population. Need of the hour is to modify the implants according to the proximal femoral geometry of our Indian population. 150 femora collected from the department of Anatomy and the Dynamic Hip Screw implant system from the department of Orthopaedics, Sri Ramachandra Medical College and Research Institute, Chennai were used for the present study. The neck-shaft angle, length and width of the neck of femur were studied using goniometer and vernier calipers respectively as per the guidelines given by Singh and Bhasin. The results were recorded and worked out statistically. The available dimensions of the Dynamic Hip Screw (DHS) implant system were also noted. Results were compared and correlated. The present study showed significant difference in the proximal femoral geometry of the dry bones and the dimensions of the dynamic hip screw implant system. Its clinical implications are further discussed.

**95. Abnormal Lobulation In The Right Lobe Of Liver – A Case Report**

**Sreeja. M.T**

MIMSR Medical College, Latur

The abnormal lobulation in the right lobe liver is noted during abdominal dissection of a male cadaver. The right lobe of the liver is divided into a larger right and smaller left part by a deep longitudinal fissure. This fissure is extending from the superior surface of the right lobe to its inferior border. The length of the fissure is about 10.5cm. Associated abnormalities are not present. All other viscera such as thoracic, abdominal, pelvic viscera are found normal. The developmental basis and clinical implications are discussed.

**96. A Study on Medial Circumflex Femoral Artery**

**B. H. Shiny Vinila, D. Suseelamma**

Kamineni Institute of Medical Sciences

**Aim of the Study:** To determine the origins of medial circumflex femoral artery, which is clinically important and widely used.

**Material and methods:** This study is conducted in Kamineni Institute of Medical Sciences, Narketpally in the Department of Anatomy. In 9 adult human cadavers, 18 femoral triangles were dissected and femoral artery, profunda femoris and its branches were exposed.

The distance of origin of medial circumflex femoral artery from mid point of inguinal ligament and from the origin of profunda femoris artery were measured with scale.

**Result:** Among 18 extremities, In 14 extremities medial circumflex femoral artery was found to branch from profunda femoris artery. In 3 extremities a common trunk for deep external pudendal and medial circumflex femoral artery was observed. In 1 extremity medial circumflex femoral artery was found to branch from femoral artery.

**Conclusion:** Medial circumflex femoral artery can be used in flaps in reconstructive surgery or in selective arteriography in idiopathic ischemic necrosis of femoral head to determine its blood supply.

This study gives idea to the clinicians about the variations of this artery to improve their success in diagnosis and treatment.

**97. Variation In Origin Of Common Interosseous Artery With Unusual Course Of Radial And Ulnar Arteries**

**Siddaraju K S, Krishna G, Kumar M R Bhat\***

Haldia Institute of Dental Sciences And Research, Haldia, West Bengal, India.

\* Kasturba medical college, Manipal, Karnataka, India.

Normally brachial artery terminates into smaller radial and larger ulnar arteries, at the level of neck of the radius (1cm below the elbow) in cubital fossa. Radial artery runs behind brachioradialis in its upper part, ulnar artery

runs deep to superficial group superficial flexor muscles of the forearm in its upper part and sub fascial in its lower part. Common interosseous artery arises from ulnar artery in cubital fossa. But here we found a case during routine dissection of 60 year old male cadaver, brachial artery terminates bit above the bicipital aponeurosis into smaller ulnar and larger radial arteries. The common interosseous artery arising from the radial artery, in the cubital fossa. The radial artery runs behind the bicipital aponeurosis, then it runs between pronator teres medially and brachioradialis laterally in its upper part with tortuous nature. The ulnar artery runs superficial to superficial group of flexor muscles of the forearm, and then deep to flexor carpi ulnaris in its lower part. We also discuss its clinical importance.

**98. Morphological Variation Of Thyroid Gland**

**Shailaja Shetty, Roopa Kulkarni, C. Sheshgiri**

M.S. Ramaiah Medical College, Bangalore

It is a well known fact that thyroid gland, a highly vascular endocrine gland is unique in certain of its features which are of functional significance. It is made up of two lateral lobes connected by a bridge; the isthmus giving the gland an 'H' shaped appearance. Structural variations and Congenital anomalies of thyroid gland are of wide range and have been reported in the literatures available. It was noticed that in an adult male cadaver of about 60 years there was absence of isthmus of thyroid gland, the two lobes being positioned independently on either

side of trachea. This notable feature was observed during the dissection of the head and neck region in cadavers with age groups ranging between 45-60 years. The present interesting case variation was first of its kind reported in the Department of Anatomy, M.S.R.M.C. from the past 20 years amongst the study of about 200 cadavers. The developmental and clinical significance of this study will be discussed during the presentation.

**99. Abnormal Fixation Of Sigmoid Colon – A Case Report**

**Umesh K. Kulkarni, Deepali U. Kulkarni**

BIMS, Belgaum.

**Aim:** To study the congenital abnormalities related to intestines during routine dissection.

**Materials and Method:** During routine dissection of cadavers in BIMS Belgaum, we found abnormally fixed sigmoid colon in a male cadaver, dissection and cleaning was done. Necessary photographs were taken.

**Results and Conclusion:** In this cadaver the sigmoid colon was abnormally fixed in between midline and descending colon. The details of fixation along with additional peritoneal bands seen will be discussed during presentation.

**100. A Study Of The Distribution Of Both Coronary Arteries And Their Variations**

**Vaishaly K. Bharambe, Vasanti Arole**

Padmashree Dr. D.Y.Patil Medical College, Pimpri, Pune



**Introduction:** Since human dissections began, wide variations have been recorded in origin, length, branches and distribution of coronary arteries by investigators across the world.

Presence of some even minor variations may lead to considerable increased mortality and morbidity when encountered during surgery. With the advent of coronary bypass surgery, it has become imperative that surgeon should have prior knowledge not only of the normal origin, course and distribution of coronary vessels but also of their possible variations during bypass grafting. The present study has been undertaken to shed more light on this topic.

**Aim:** To study the distribution of both the coronary arteries and their variations.

**Materials and Methods:** A total of 50 hearts were included in this study irrespective of sex. The hearts were procured from dissection room cadavers and were preserved in 10% formalin. Both the coronary arteries and their branches were dissected in detail and any variations were noted.

**Results:** Variations such as vasa vasorum, SA nodal artery and circumflex artery taking origin from anterior aortic sinus, bifurcation of right and trifurcation of left coronary arteries were observed. Details will be discussed in the conference.

#### 101. Study Of Hyoid Bone And Ligature Mark In Hanging Cases

**Maniyar Roshan Zameer**, \* B. N. Umarji, \*\* S. V. Kshirsagar, Sandeep S. Malegaonkar, Sai Sudheer

\*KIMS University Karad, \*\*BRIMS, Bidar, Karnataka,

Hanging is usually presumptive of suicide. Ligature mark on the neck is the principal external sign of hanging. The hyoid bone may get fractured or fracture dislocated in hanging in 60% of cases. as for as typical hanging is concerned and 30% of cases in atypical hanging. Hyoid bone fracture in hanging cases often occurs in anteroposterior compression either in the greater horn or at its junction with the body. Radiographic magnification to detect the fracture of the hyoid bone. This technique might be used to useful to detect the evidence of lesions of the hyoid bone and larynx. Death produced by suspending the body by the ligature tied around the neck. Ligature constricts the neuro-vascular bundles in the neck. The mark may show an imprint or impression of the pattern of the material used as a ligature. The character of the ligature mark depends upon the nature of the ligature body weight, length of time the body, and number of turns of the ligature around the neck.

#### 102. Estimating The Bizygomatic Width Of An Unknown Individual From Bite Mark Anatomy Of Upper Central Incisors.

**Jagadeesh D**, P. Saraswathi

Saveetha Medical College & Hospital, Thandalam, Chennai

**Aim:** To use bite mark anatomy of maxillary central incisor (upper central teeth) as an adjuvant –indicator of unknown individuals bizygomatic width.

**Materials:** Wax bite mark sample of 100 subjects, vernier caliper, divider, metal scale

**Methods:** From the bite mark sample the mesiodistal width of upper central incisor is calculated. This value is used in a reverse manner in berry's biometric index which is a established formula in prosthodontics in dentistry. From this the bizygomatic width of the individual is estimated

**Result:** Estimated bizygomatic width from the bite mark width of upper central incisors.

**Conclusion:** In forensic science, bite mark has been used in various ways to find an unknown individual. but here this study is only restricted to how the bite mark anatomy of upper central incisors act as an adjuvant in finding the unknown individuals bizygomatic width approximately, with relevant studies and discussion about its advantages and limitations.

#### 103. Identification Of Sex And Race From The Adult Clavicles In South Karnataka Region

**Makandar U. K.**, Kulkarni P R\*

SSIMS & RC Davangere, \*Dr V M Govt Medical College Solapur (Maharashtra)

As clavicle is a dermal bone its morphological values are uncertain and do not represent any ventral arch<sup>6</sup>. From evolutionary point of view also it is either absent or rudimentary in primates and lower mammals, and in some mammals it is straight steeped or slightly curved.<sup>9</sup>

Medico- legally it is a challenged to identify the clavicle if it is examined individually. Moreover Davangere comes under South India (South Karnataka) where majority of people belong to Dravidian race<sup>5</sup> their diet and environment certainly differs from the other states of the country.

The length, mid- Clavicular circumference, robust index, angles of curvatures of clavicle and weight are studied from Dept of Anatomy of J.J.M Medical College and S.S. Institute of Medical Science and Research Centre Davangere. A total No of 160 clavicles 90 male (45 Right & 45 Left) and 70 Females (35Right & 35 Left) are studied from different cadavers.

Attempt has been made by many workers Singh (1966), Singh and Gangrade (1968). Arora A etal (1978), Habir Kaur (1989) Sayee R etal (1992). In present metrical study of clavicle is carried out to view sex, race and to compare the observations with other states where the majority of Aryan race is present with different diet and environment. Moreover many workers from other countries have also studied the clavicles. Their work is also compared to rule out the metrical observations.

In present study 1) the length of the Left Clavicle is more on the Left side than the right side in both sexes. 2) Lateral angle degrees are more on the Left Clavicle on Left side than the Right Clavicle. 3) Mid-Clavicular Circumference is more in male than female on both sides.

4) Weight of the Clavicle is more in Males than Female on both sides.

**104. Study Of New Bony Parameters Of Nasopharyngeal Region For Sexing Of Skull**

**Manmohan Patel**, S. K. Shrivastava\*

Gandhi Medical College, Bhopal, \*NSCB Medical College, Jabalpur

Determination of Sex could not be determined accurately from the conventional measurements of skull only. For this we have to depend on the parameters of the other bones of the body. The present study was designed to stabilize the craniometric measurements of nasopharyngeal region and see whether any sexual dimorphism present in these values. Distance between pharyngeal tubercle and posterior nasal spine, maximum transverse diameter of posterior nasal opening, maximum vertical distance of posterior nasal opening, distance between medial pterygoid plates at three levels and distance between anterior margins of inferior opening of carotid canals were measured. Significant difference was observed among the skulls of male and female in all the parameters except the distance between pharyngeal tubercle and posterior nasal spine. These parameters can be used for determination of sex of the skull more accurately.

**105. "Forensic Anatomy - A General Overview Of Forensic Radiology"**

**Parvathi S.**, G. S. Pawar, C. M. Ramesh

JJM Medical College, Davangere

In the current world of political climate more forensic techniques, are being applied in cases of massive disasters, genocide and terrorism. This provides with unique opportunity to develop multi disciplinary approach with contributions from all branches of medicine. The major contribution comes from anatomy with references to forensics.

The forensic anatomy is a survey of all aspects of death and living with an emphasis on forensic theory and technique as applied to the anatomical features of the human body. It focuses on the scientific study of the human body including tissues and skeletal components of the remains. It is powerful when combined with other disciplines like Anthropology, Forensic Radiology etc... And also to provides solid information ground for police, investigators and Judiciary.

Most of the gross anatomical structures can be revealed and demonstrated in an x ray plate and some soft tissues like cardia, can be demonstrated in Radiological anatomy.

To highlight on the importance of anatomy in other fields, this presentation intends to critically evaluate objectives focusing on the strength and limitations of the study.

**106. Study of Foot Prints for Sex Determination in the South Indian Population**

**C. S. Vidya**, N.M. Shamasundar, Manjunatha. B, M.D. Nithin

J. S. S. Medical College, Mysore, Karnataka, India

In the present study, an attempt has been made to determine the sex from the length and breadth of the footprint, and foot index. Foot prints of 200 subjects (100 males and 100 females) belonging to the South Indian population were studied. Normal arched foot was the commonest type, followed by the high arched and flat foot in both sexes. The foot index is 37.17 and 37.45 in the right foot and left foot of males, respectively. Whereas in females, the foot index is 36.7 and 36.6 in the right foot and left foot, respectively. We conclude that males have a higher value in length, breadth and foot index in both the feet irrespective of the age.

**107. Sex Determination Of Scapula On North Indian Population**

**Kayalvizhi**, Monisha Bansal, Usha Dhall

Pt. B.D.Sharma, PGIMS, Rohtak.

The determination of sex from skeletal remains by discriminant function analysis is a method in forensic anthropology and osteoarcheological sciences to identify skeletal remains. Morphologic observations of cranium and pelvis are the preferred method to determine sex when human skeletal remains are available. Metric analysis is fundamental in the determination of the sex which requires an appropriate standard because there is evidence that populations are metrically distinct. The purpose of the present study is to establish metric standards for determination of sex specific to north Indian population as there is lack in literature of such a standard for scapula bone. The analyzed sample consisted of 30 males and 30 females scapulae, which were preserved in our departmental collection for the past 30 years. The form of superior border, pattern of suprascapular notch, the lateral axillary border and shape of glenoid cavity was considered for morphological characters. Maximum scapula height, maximum scapula breadth, scapular index, spine length, coracoacromial breadth, vertical glenoid diameter and transverse glenoid diameter was considered for metric characters. Maximum Scapula average height was 14.8 cm for male and 13.06 cm for female. Maximum Scapula average breadth was 10.02 cm for male and 9.4 cm for female. Glenoid Cavity average height was 3.9 cm for male and 3.6 cm for female. Glenoid Cavity average breadth was 2.61 cm for male and 2.31 cm for female. All measurements demonstrated some degree of sexual dimorphism.

**108. Standardisation Of Soft Tissue Thickness In Facial Reconstruction**

**T. K. Kumari**, Neetha V Kulkarni, M. S. Subhadra, Umadathan B

Govt. Medical College, Trivandrum

Reconstruction of face from an available skull is one of the standard techniques that is often practiced to establish the identity of a deceased person in medicolegal investigations .

The present study was done (1) to present a table of average facial tissue thickness for the people of South Kerala and (2) to determine the relationship between facial tissue thickness and age and sex. One hundred postmortem cases belonging to the age group of 20 to 69 years were studied in Govt. Medical college hospital mortuary, Trivandrum. Stewart method was used to record facial tissue depth. A table of statistical mean at 15 facial points was made. The difference in the tissue thickness in relation to age and sex was found out.

**109. Study The Age Related Changes Of Maxillary Air Sinus From Its Anteroposterior, Transverse & Vertical Dimensions Using CT (Computerised Tomographic) Scan.**

**Sonia Baweja**, Asha Dixit.

Gandhi Medical College, Bhopal (M.P.)

The maxillary sinus is the first of the paranasal sinus to begin development in the human fetus. After birth the maxillary sinus enlarges with the growing maxilla, though it is only fully developed following eruption of the permanent dentition.

When teeth are lost, the maxilla reverts towards its infantile shape. Thus its height diminishes and the alveolar process is reabsorbed.

In the present study, dimensions (anteroposterior, transverse & vertical) of maxillary air sinus of 90 subjects divided into 9 age groups were measured by CT scan.

The study concluded that there was gradual increase in all the three dimensions from age groups 0 – 25 years and thereafter a decrease in dimensions was observed.

**110. Study Of Left Coronary Artery Using Coronary Angiography- An Observational Hospital Based Study**

**Rashmi B**, Lakshmi T A, Kiron V, Roopa R

St. John's Medical College, Bangalore

A sound and precise knowledge of the coronary artery anatomy and its variations is essential due to the widespread use of the newer imaging modalities and newer non aggressive treatments which have been developed to battle against the increasing incidence of coronary artery diseases seen in the current era.

To study angiographically the left coronary artery (LCA) in terms of its

1. Calibre
2. Length
3. Branching pattern

**Material and methods:** A non interventional, prospective, hospital based study which was done at catheterization and interventional cardiology lab at St. John's Medical College Hospital which involved the study of 100 consecutive angiographies. The quantitative analysis of the digital arteriograms was done using commercially available digital image analysis system and calibre was determined by quantitative coronary analysis (QCA).

**Results:** Calibre of the LCA:  $4.13 \pm 0.63$  mm  
Length of the common trunk of LCA:  $9.61 \pm 1.98$  mm

The LCA was found to be bifurcating in 63% (n= 63), trifurcating in 30% (n=30) quadrifurcating in 4% (n=4) and pentafurcating in 1% (n=1) cases. LCA was found to be absent in 2% (n=2) cases.

**Conclusion:** The present study was compared with previous studies. The results of this study are important because LCA has been implicated in atherosclerosis most commonly. Hence the length, calibre and branching pattern are important for cardiologists for interventional procedures.

**111. A Symptomatic Impacted Mandibular Third Molar Tooth – A Radiological Study**

**Saravana Kumar**, S Pravin Devaprasad A, Karthik R, Sundarapandian S, Radhika Krishnan J  
SRM Medical College Hospital & Research Centre, SRM Nagar, Kattankolathur, Kancheepuram District, Tamilnadu

**Introduction:** Impacted tooth is one that fails to erupt into the dental arch with in expected time and the removal of impacted mandibular third molars is one of the common procedures in dental surgery. Relationship of inferior alveolar nerve to lower third molar is the most important pre operative assessment to be made to avoid intra operative & post operative complications. This study was done to evaluate the relation of inferior alveolar nerve to impacted third molar radiographically.

**Aim:** Panoramic radiographic study of the relationship between impacted lower third molar tooth and inferior alveolar nerve.

**Materials And Methods:**

- 50 adult panoramic radiographs were used
- Evaluation of impacted third molar and the inferior alveolar nerve by interpretation on orthopantomograph.

**Results:**

- The impaction in males is 62% when compared to females 38%.
- In 82% of cases inferior alveolar nerve is related to impacted lower third molar.

**Conclusion:** This paper emphasizes the need for accurate localization of the inferior alveolar nerve before any maxillo-facial surgery or tooth extraction, to avoid nerve injury in relation to impacted third molar.

**112. Morphometry And MRI Imaging Of Anterior Cruciate Ligament And Measurement Of Secondary Signs Of Anterior Cruciate Ligament Tear**

**Alok Saxena**, Biswabina Ray, Rajagopal K V, Shakunthala R. Pai, Samuel Pyrtuh.

Kasturba Medical College, Manipal University, Manipal

Anterior cruciate ligament injury is caused by overstretching or tearing of the anterior cruciate ligament (ACL). A tear may be partial or complete which may be due to contact or non-contact injuries. To conduct morphometry of ACL, Twenty six knees (14 right and 12 left) were examined from 21 male and 5 female formalin fixed knees. Length and width of ACL, length and width of ACL tibial foot print and distance of anterior edge of tibia to anterior edge of ACL was measured with the help of digital calliper.

Magnetic resonance imaging (MRI) is a useful tool for diagnosis of any disruption in the morphology of ACL. Indirect signs of ACL (sagittal ACL-tibial angle, Coronal ACL-tibial angle, Blumensaat line-ACL angle and Angle of inclination of the intercondylar roof) tear complement the MR diagnosis of ACL tear. We also observed the consequences of injury involving Meniscal and Posterior cruciate ligament on these angles on the basis of MRI images. Eighty four MRI images of knees (age range 10-74) were evaluated to establish the data for consequences of injuries in aforesaid groups. Outcome of aforementioned observations will be discussed during conference. The present study will act as a valuable guide for radiologists in evaluating the ACL tear. Morphometric data will be useful for enriching knowledge on anatomy of ACL.

### **113. Radiological Study Of Club Foot**

**Geetanjali Arora**, Dash S. K.

Hi-Tech Medical College & Hospital, Pandara, Rasulgarh, Bhubaneswar, Orissa

Club foot is a common congenital deformity of the foot. It consists of four components- hind foot equinus, hind foot varus, fore foot adduction and Talonavicular subluxation.

The aim of our study was to do the radiological evaluation of foot in club foot patients, as radiological evaluation is more objective while clinical evaluation tends to be arbitrary.

In our study AP and lateral view radiographs were taken in club foot patients. Using these radiographs the Talocalcaneal angle (both in AP and stress dorsiflexion lateral view) and the Talo - First Metatarsal angle (in AP view) were measured in each case. The Talocalcaneal angle was decreased while the Talo - First Metatarsal angle showed a measurement in positive direction, in all these cases. Decrease in Talocalcaneal angle indicates hind foot varus and hind foot equinus. Positive measurement of Talo-first Metatarsal angle indicates fore foot adduction.

This study will act as a guide for surgeons to assess the extent of club foot deformity and to come to a correct conclusion regarding surgical procedure for each individual case. Further details are discussed in the paper.

### **114. Assessment Of Ovarian Reserve In Fertile And Sub-Fertile Women Using Ultrasonographic Measurement**

**Prabhu K.** Vatsala Venkatesan, W.M.S. Johnson

Sree Balaji Medical College And Hospital, Chromepet, Chennai

Ovarian reserve is an estimate of the primordial follicle pool in the ovaries. It is a new concept to reflect the women's reproductive capacity and her remaining fertility power. One of the variables used for calculating ovarian reserve is the Antral Follicular count (AFC) and Ovarian Volume (OV)

50 women having regular menstrual cycle between 20-39 years age group were selected for the study. The ovarian reserves with respect to Age, BMI and Ovarian

volume (OV) in fertile and sub fertile women were compared. Transabdominal / transvaginal scan was done between day 2 to day 7 of menstrual cycle to measure AFC and OV in both Ovaries. Age and BMI were also recorded. The value of OV, AFC were less in sub fertile women and was statistically analyzed.

### **115. Study Of 1<sup>st</sup> Costal Cartilage Calcification On Radiographs As An Indicator Of Age Of Human-Beings.**

**Pushpa M. S.**, Roopa R. Kulkarni\*, M. G. Srinath, C. Sheshgiri,

Bangalore Medical College, \*M.S.Ramaiah Medical College, Bangalore, Karnataka, India.

Progressive calcification of costal cartilages exhibit age distinctive pattern, hence can be used in identification of age in living or from skeletal remains. Though the chest radiographs are routinely and extensively examined, costal cartilage calcification has not received a major attention in radiology literature, more so in relation to age. **In this present study on costal cartilage, calcification on radiographs, various parameters, have been taken and elaborately analyzed to find the influence of age on patterns of costal cartilage calcification. Some of these parameters have been found very useful, which include – calcification of first costal cartilages exhibit a definite pattern in relation to age.**

**This study will be useful for Anatomist's experts in forensic medicine and in the field of physical anthropology for age determination from skeletal remains of costal cartilages.**

### **116. Spectrum of Neural Tube Defects**

**Sanjeev Kumar**, Shankar, Trineshgowda, Nagalaxmi, K. Kathiresan

Mandya Institute of Medical Sciences, Mandya.

Any deviation in the development of neural tube during the organogenesis of the developing fetus results in anomaly of brain and spinal cord, and the tissues overlying it: meninges, vertebral arches, muscles and skin. Failure of neurulation produces conditions of craniorachischisis totalis, craniorachischisis and spina bifida. Such neural tube defects can be detected antenatally by investigation and they can also be prevented by proper counseling and treatment during preconception period and antenatal period.

Three aborted fetuses of such anomalies showing the spectrum of Neural tube defects namely, craniorachischisistotalis craniorachischisis and spina bifida, were obtained from the dept. of OBG from our hospital MIMS, Mandya. These fetuses were examined to find out any other associated anomaly by performing fetal autopsy. Incidence, etiology and embryological basis of Neural tube defects will be discussed during presentation.

### **117. Hand Abnormalities In Two Aborted Foetuses - Bilateral Monodactyly And Polydactyly - Case Report**

**N. Abraham Ratna Joseph**, V.Subhadra Devi\*, R. Sekhar. Sri Venkateswara Institute of Medical Sciences, Tirupati, Sri Venkateswara Medical College\*, Tirupati.

During routine foetal cadaver collections for autopsy purpose two female fetuses of 28 and 34 weeks gestational ages presented bilateral hand abnormalities. One fetus of 28 weeks gestation presented bilateral monodactyly and another of 34 weeks presented bilateral polydactyly. Both the fetuses were subjected to x-ray to find out the other skeletal abnormalities.

Detailed observations, comparison of these results with available literature, clinical importance and embryological explanations will be discussed at the time of presentation.

#### 118. Inguinal Ovary – A Case Report

**B. Naveen Kumar**

Mamata Medical College, Khammam.

An inguinal hernia containing an ovary and fallopian tube is extremely rare in a woman of reproductive age. Ovarian and fallopian tube inguinal hernias are commonly associated with defects in genital tract development. We report a case of a woman presenting with primary infertility and ovarian and tubal inguinal hernia. The details of the case will be discussed at the conference presentation

#### 119. Unilateral Phocomelia Right Upper Limb - A Case Report

**K. P. S. Adinarayana**

Andhra Medical College, Visakhapatnam

Localized malformations in limbs are absence of bones, fusion of bones is present. Complete absence of one or more limbs is known as Amelia and if they are represented by partial it is meromelia. Some times the long bones are absent and rudimentary hands and feet are attached to the trunk by small irregular shaped bones it is phocomelia a form of meromelia. Some times all segments of the extremities are present but abnormally short. It is micromelia. Here it is a case of unilateral phocomelia on right upper limb and limb reduction in left upper limb with hypoplasia of ulna (longitudinal) defect and ankylosis of radio humeral joint, Absence of thumb, little finger, partial appearance of ring finger (transverse) defect and scoliosis of spine in nine years boy is reported. Details will be discussed at the conference.

#### 120. Bilateral Unrotated Kidneys

**Ruta N. Ramteerthakar**, D. S. Joshi, R. A. Joshi, A. J. Pote

Government Medical College, Miraj (Maharashtra)

During routine dissection of first M.B.B.S 2008-2009 batch in a female cadaver of 80 years, we found a rare anomaly of unrotated kidneys and their vessels. Both the kidneys were unrotated with their hilum facing anteriorly. The presence of accessory renal vessels and their abnormal course was noted.

Details of which will be discussed in the conference.

#### 121. Teratogenic Effects Of The Anticonvulsant Lamotrigine In Mice

**Prakash**, Jayanthi V, T Rajani, Archana R, Geethanjali B S, Gajendra Singh.

Vydehi Institute of Medical Sciences & Research Centre, Whitefield, Bangalore

Institute of Medical Sciences, Banaras Hindu University, Varanasi

Present work was undertaken to study and elucidate the safety profile of antiepileptic doses of lamotrigine during pregnancy, and to evaluate lamotrigine induced murine fetotoxicity at different dose levels.

A total of 48 pregnant mice, divided into 12 groups of 4 mice each, were exposed to lamotrigine in four different doses of 0 (control), 25, 40, or 50 mg/kg body weight equivalent to 0, 197, 315, or 388 mg respectively of adult human dose; at three different gestational stages including early gestation (1-6 days), mid gestation (7-12 days), and late gestation (13-17 days). The fetuses were collected from uterus of pregnant mice on day 18 of gestation and were observed for teratogenic manifestations. Brains of fetuses were dissected and examined for gross changes, malformations and histological changes.

Lamotrigine administration in early gestation (1-6 days), and mid gestation (7-12 days) resulted in fetal resorptions in all treated groups. Whereas stunting in size and growth retardation of live fetuses was observed in all the mid gestation (7-12 days), and late gestation (13-17 days) treated groups. Various gross malformations were observed with all the three doses (25, 40, or 50 mg/kg body weight per day) when lamotrigine was administered at mid gestation (7-12 days). Similar trends were confirmed by gross and microscopic examinations of brain.

Lamotrigine should not be prescribed during pregnancy, as no therapeutic dose of lamotrigine is safe during this period as far as fetal well-being is considered.

#### 122. Sirenomelia (Mermaid Syndrome) – A Case Report

**P. Bheemesh**, Sumangala Devi, Saritha, Srinivas Reddy, Vitu Rao

S.V.S Medical College, MahaboobNagar

Routine Fetuses which came to Department of Anatomy S.V.S Medical College, MahaboobNagar. A CASE OF SIRENOMELIA was seen it characterized by complete fusion of lower extremities with distinct feet's, imperforated Anus and in Radiological Examination found to have Lower extremities are in extended position. It incidences 1.5 to 4.2 in 1, 00,000 (M-3: F-1). pre natal diagnosis of the condition not mad.

This case of Sirenomelia was with multiple interesting anomalies, incidences, causes classification, external and internal anatomical features and Radiological features will be discuss in detail at the time of presentation.

#### 123. Position Of Foetal Appendix

**Md. Younus**, Neelee Jayasree, G. Narasimha Reddy, Shabana Sultana, Neeraja, Srinu, Naresh  
Chalmeda Anand Rao Institute of Medical Sciences, Bommakal, Karimnagar

Adult Vermiform Appendix of Gastro intestinal Tract (GIT) is normally present at the ileo-caecal junction in the right iliac fossa.

Foetal appendix is observed in 50 dead foetuses of different stages of gestation which have been collected from the Govt. and Private Nursing Homes. The length position and diameter of appendix of all the Foetus is observed and will be discussed at time of Presentation.

#### **124. Gastrotoxic Effects of Indomethacin, Nimesulide and Celecoxib in Rats: Histopathological Analysis**

**Vinay Kumar**, Sohial AP, RK Rohatgi, SL Jethani  
HIHT University, Dehradun, Uttarakhand

Indomethacin, Nimesulide and Celecoxib belong to the group of non-steroidal anti inflammatory drugs (NSAIDs). These drugs inhibit the activity of cyclooxygenase (COX), a key enzyme involved in the synthesis of prostaglandins (PGs) which play an important role in acute inflammation. Indomethacin is a non-selective COX-inhibitor of older generation. Nimesulide is a preferential COX-2 inhibitor and Celecoxib highly selective COX-2 inhibitor. 48 Albino rats of 120 gms ( $\pm 10$  gms) were included for study. The animals were divided into four groups, one control and three experimental groups. Each experimental group were subjected to oral administration of above said drugs in a dose of 10 mg/kg of body weight per day orally for 1, 2, 3 weeks respectively. Rats were sacrificed after administration of drugs. The cardiac part of stomach samples were fixed in 10% formalin and dehydrated in graded alcohol, xylol and paraffin wax. The paraffin section of 3-5  $\mu$  thick were stained by hematoxylin and eosin (H-E) methods.

The tissue sections were examined under light microscope to evaluate the morphological changes. The stomach of rats treated with Indomethacin and Nimesulide revealed increase in the thickness of keratinization and epithelium along with increase in the number mitotic figures /HPF, while in case of Celecoxib, all the above parameter decreased than the control group.

Our results demonstrated that COX non-selective drugs cause more damage to the gastric mucosa than the selective COX-2 inhibitors.

#### **125. A Histomorphometric Study Of The Trochlear Nerve Nucleus In The Albino Rat**

**Anudeep Singh**, J. Khanna, V. Bharihoke  
University College Of Medical Sciences And Guru Teg Bahadur Hospital, Shahdara, Delhi

The trochlear nerve nucleus is a small dense group of multipolar neurons in the ventral part of the periaqueductal gray of the midbrain at the level of the inferior

colliculus. Its axons supply the superior oblique muscle after decussating in the superior medullary vellum. The trochlear nerve is also the only motor nerve which emerges from the dorsal side of the midbrain. The histomorphometric analysis of the nucleus was done as a prelude to the study of the disposition of the neurons in each nerve. The nucleus has been studied by many workers in different animals. The available literature on the histomorphometric characteristics of this nucleus are at variance with each other. As the rat is the most frequently studied experimental animal it was thought that the nucleus needs a review in order to formulate standard histomorphometric parameters.

The present work was conducted on inbred adult Wistar albino rats weighing between 150 to 250 gm of either sex. The midbrains of the animals were removed after perfusion with formal saline. The sections were studied under the light microscope after staining with H&E, Cresyl violet, Glee's silver stain & Kluver Barrera stain.

The trochlear nerve nucleus extends rostrocaudally for a mean length of  $451.11 \pm 20.55$  and the right nucleus occupies a mean area of  $39267.62 \mu^2 \pm 2616.34$  and the left nucleus an area of  $39152.59 \mu^2 \pm 2648.33$ . The density of the neurons in the trochlear nucleus is  $6.5 \text{ cells}/\mu^3 \pm 0.564$  and  $6.7 \text{ cells}/\mu^3 \pm 1.08$  in the right and in the left nucleus respectively. The volume of the right nucleus is  $16894566 \mu^3 \pm 1814526.916$  and the left nucleus is  $16724201 \mu^3 \pm 1610497.566$ .

#### **126. A Histomorphological Study Of Human Liver In Northeastern Population**

**Tribeni Medhi**, K.L.Talukdar  
Gauhati Medical College and Hospital, Guwahati, Assam

Liver transplantation nowadays is a well accepted treatment option for end-stage liver disease and acute liver failure. The increasing number of patients listed for transplantation and the persistent shortage of potential donors have led to a mortality rate close to 20% per year. An immediate and realistic policy to expand the donor pool is to transplant livers from older donors who were previously discarded. Keeping this concept in view, a study was conducted in the Guwahati Zone of Northeast India, to compare the histomorphological features of the human liver in different age groups.

Apparently healthy livers were obtained from 21 subjects on whom medicolegal post-mortems had been performed. Their ages varied from newborn to 90 years. Subjects were divided into 3 groups (1) Pediatric (2) Adult (3) Old age.

In all the above age groups, immediately after removal of the livers, they were washed in normal saline, dried with blotting paper and weighed in an electronic weighing machine. Then slices of liver were obtained and they were fixed, processed and slides prepared using the standard laboratory procedures of H and E staining.

The average liver weight increased gradually from the pediatric age group to the adult age group. Subsequently, it decreased in the old age group. In histology, the liver lobules in different age groups were measured. In the cyto-architecture of the liver, the liver cell plates are

found to be two cell thick in pediatric age group, whereas single cell plates are found in adults and old age.

**127. A Histological Study Of Acute Rhino-Sinusitis In Rabbit.**

**Farhan Kirmani**, Naresh Kumar, Ghaus Farah, Faruqi. N. A., M. Aslam  
J.N.M.C., A.M.U., Aligarh

The study was conducted with an aim to see the histological changes in case of rhinogenic sinusitis. Twenty four rabbits were used for this study. All the animals were kept in isolation in animal house and were allowed to feed and drink at will. The animals were divided into control and experimental groups. The osteum of maxillary antrum was blocked by local implant and infection was produced by inoculating pathogenic pneumococci into the maxillary sinus.

Observations were made at week 1, 2, 3 and 4 for assessment of the degree of inflammation in maxillary and ethmoidal sinuses by histopathology. Significant changes were noticed in about 80% of the cases which were more marked in 2nd week, and subsequently subsided with some evidence of long term changes like polyp formation.

**128. Neoplastic Potential of Aspartame**

**A. M. Tarnekar**, S. J. Kakde, A. D. Kannamwar, V.K. Gujar, I.V. Ingole  
MGIMS, Sevagram

A study was carried out to see the effects of neonatal exposure of Aspartame on testicular tissue of adult male Swiss Albino mice. We used 26 male mice, 13 as experimental and 13 as controls. Intraperitoneal injections of Aspartame were given in experimental neonatal mice and at 75 days age mice were sacrificed. Histological findings of testes in four animals were suggestive of neoplastic changes or dysplasia. Detailed report with review of relevant literatures will be presented in conference.

**129. A Gross And Histological Study Of Human Thyroid Gland In Different Age Groups In Kamrup District Of Assam.**

**Debabani Borah**, K.L. Talukdar  
Gauhati Medical College, Guwahati

The diseases of the thyroid gland have assumed great importance nowadays due to high incidence of cases. This is very much evident in the population of Assam where thyroid disorders are endemic. A research work was carried out in the department of Anatomy, Gauhati Medical College where the morphological and histological characteristics of the human thyroid gland was studied in different age groups. The specimens of thyroid gland, ranging from one day old cadaver of a child to an eighty year old cadaver were collected after autopsies were conducted. The cadavers were brought from various parts of Kamrup district.

After collection of specimen their weights were taken using electronic weighing machine. The tissues were fixed, processed and slides prepared using the standard

laboratory procedure of H & E staining. In all the glands the right lobe was found to have greater dimensions than left. Gradual increase in weight was observed and a decrease in old age due to fibrosis was noted. Histological picture also showed changes. Details of the study will be presented in my paper. Further studies using higher techniques will probably throw light on more changes in the thyroid glands of different age groups.

**130. Micronucleus (MN) Assay In Urothelial Cells As A Diagnostic Indicator In Carcinoma Cervix**

**Jayasabarinathan M.**, Sohinder Kaur, Reddy Rani, Sathyanarayana Reddy  
JIPEMR, Pondicherry

Cervical carcinoma is the second commonest malignancy in the world amongst women first being breast carcinoma. In India it accounts for 24% of total female cancers. The ratio between the cervical cancer and the breast cancer is 1:3 in the world but in India it is just the reverse. Predisposing factors for the cervical cancer are low socio-economic status, early menarche, early marriage and nulliparity. Leucorrhoea, pelvic pain and post coital bleeding have been found to be commonly associated with carcinoma cervix. Studies from various parts of the world revealed that out of all cervical cancers 80% are ectodermal & rest 20% are endodermal in origin. The present study was undertaken to assess & compare the Micronucleus frequencies in cervical smear with those of urine samples amongst premalignant and malignant cases. The cervical smears and urine samples were collected & processed and observed under light microscope for MN index. The MN index was more in stage II & III as compared to stage I. The significant number of micronuclei were observed in the urine samples as well as in cervical smear. So this can be used as a simpler screening test than cervical smear in the community.

**131. Stress-Induced Changes in the Stomach of Adult Albino Rats**

Nazim Nasir, **Monisha Bansal**, M N Dilkash, Aijaz A Khan  
JN Medical College, AMU, Aligarh-202002, (UP)

Stress is known to affect many systems simultaneously but information regarding the extent of stress-induced effects on the stomach of albino rat remains fragmentary. In the present study two experimental groups of five rats each of either sex received immobilization-stress for a period of 3 weeks (acute) and 6 weeks (chronic), for 30 minutes three times a day. Control group did not receive similar stress. At the end of experiment all animals were euthanized and perfusion fixed in buffered formalin. Tissue samples from different parts of stomach were processed for paraffin sections and haematoxylin & eosin staining. It was observed that as compared to control, stomachs in experimental groups were large and distended and their proximal part appeared translucent. Area of proximal non-glandular part was 70-75% in experimental groups as compared to 55-60% in control. Microscopic examination showed thinning of muscularis externa, vascular congestion



and hypertrophy of whole glandular mucosa. Parietal cells' encroachment over the cardiac region and their marked hyperplasia, hypertrophy, granularity and binuclearity were noticed in the body region. In the chronic group, vessels of lamina propria showed congestion and erosion into the cavity of stomach. Pyloric glands also showed hyperplasia and hypertrophy. It was concluded that stress had wide range of effects on stomach which could in part be correlated with the duration of stress.

### 132. Comparative Study Of Sperm Concentration In Fertile And Infertile Males

**Joy Ajoykumar Ghoshal**, V.G. Sawant, P. H. Shingare\*  
Padmashree Dr. D.Y. Patil Medical College, Hospital And Research Centre, Nerul, Navi-Mumbai, Maharashtra, \*Joint Director D.M.E.R., Maharashtra

**Aim:** To study sperm concentration in fertile and infertile males, analyze and correlate.

**Materials And Methods:** Total 100 semen samples were studied in each of the experimental and control groups. Smear slides were stained by modified Papanicolaou method for spermatozoa. All the slides were examined under the binocular research microscope, having photo micrographic attachment.

**Results:** The lowest sperm concentration in the control group was 40 million per ml while that in the experimental group was 14 million per ml. Highest sperm concentration in the control group was 106 million per ml and that in the experimental group 92 million per ml. Both the mode and median values in the control were same ( $80 \times 10^6/\text{ml}$ ) but they were 38 and 61 ( $\times 10^6/\text{ml}$ ) for experimental group respectively. Highly significant statistical difference was noted when the mean sperm concentration ( $77.4 \pm 1.11$ ) of the control group was compared with that of the experimental group ( $57.6 \pm 20.6$ )

**Conclusion:** Sperm concentration was highly significantly more in semen samples of fertile than those of infertile males.

### 133. Study Of Measurements Of Acetabular Dimensions In 100 Hip Bones

**Archana R**, T.Rajini, Jayanthi V, S.R. Sharma,  
Jayashree.S. Seeri, Sridevi, Nirmla Devi,  
Narayanswamy.

Vydehi Institute of Medical Sciences and Research Centre, Whitefield, Bangalore.

Acetabulum is a cup shaped depression on the outer surface of the constricted central part of hip bone where all its 3 components meet and subsequently fuse. In the surgical procedure of the acetabulum especially in total hip arthroplasty, it is necessary to evaluate the diameter of the acetabulum in both males and females as a part of pre-operative planning in order to estimate the size of the acetabular cup. Sex can also be determined from the acetabulum by using various parameters. About 100 hip bones from the Department of Anatomy VIMS & RC were taken and parameters such as maximum depth, Maximum transverse diameter, acetabular notch were measured by

using vernier callipers and measuring tape. The side of each hip bone was determined before measuring tape. The side of hip bone was determined before measuring these parameters. Statistical analysis were done and calculated. There was significant correlation between chilotic line and maximum depth about 0.42 in female bones and also correlation between greater sciatic notch and maximum depth about 0.42 in male bones. Details will be discussed in the conference.

### 134. Morphological Variability Of Pterion & Epipetric Bones In The Human Skull

**Ambali M. P.**, Jadhav S. D, Patil R. J, Umarji B. N.,  
Doshi M. A.  
KMSU, Karad, Dist. Satara, Maharashtra

The pterion is a craniometric point present on the norma lateralis of the skull. It is formed by an irregular 'H' shaped sutural confluences where frontal, parietal sphenoid & temporal bones meet. Important structures are related to pterion therefore anatomic location of pterion is important in surgical intervention especially in neurosurgery. So we studied the morphological variability of pterion & epipteric bones in human skull.

We studied 86 adult dried skulls (Male-60-Female-26) Epipteric bones were present in 15.11% skulls. Three types of pterion variants were present in our study. Sphenoparietal -84.8% (m-83.3% -88.5%) Stellate -11.62% (m-11.7%; f-9.6%) & Frontotemporal was present only in 1.9% female skull. We also calculated the distance from the centre of the pterion to fronto-zygomatic (F-Z) suture & distance from the centre of pterion to upper margin of zygomatic arch. Most of the pterions were at higher level only one pterion was at the level of F-Z suture & one was below the F-Z sutures. Details of our findings will be discussed during presentation.

### 135. The Superior Peroneal Tunnel: A Bony and Cadaveric Study

Athavale S A, **Swati**, Vangara S V\*  
KVGMC Sullia, DK District, \* Kasturba Medical College Manipal.

**Aim:** Superior peroneal retinaculum is described as a band of deep fascia extending from the back of the lateral malleolus to the lateral surface of the calcaneus and the deep transverse fascia of the leg. Tendons of peroneus longus and brevis are strapped to the lower end of fibula by this retinaculum. Standard texts of anatomy provide cursory and varied descriptions of this retinaculum. Available literature also does not elaborate upon the boundaries and contents of the tunnel formed by the retinaculum.

**Material & Methods:** Fifty eight lower limbs (30 right and 28 left) were utilized for the present study. Lower part of the lateral compartment of the leg was dissected and boundaries and contents of the superior peroneal tunnel were ascertained. Sixty dry fibulas were also studied to observe the contour of the retromalleolar groove which forms a part of the floor of the tunnel.

Results: The tunnel was found to be spacious with superior peroneal retinaculum, retromalleolar groove and lateral intermuscular septum forming its boundaries. Presence of muscle fibres of peroneus brevis, tendon and muscle belly of an aberrant muscle peroneus quartus, ruptured peroneus brevis tendon and double peroneus longus tendon were some of the variants observed in the study.

Conclusions: Knowledge of boundaries and contents of this tunnel assume significance in the context of lateral ankle instability and peroneal tendinopathies. Detailed findings will be presented and will be correlated to above mentioned clinical conditions.

### 136. Morphometric Analysis Of The Socket For The Second Upper Temporary Molar Tooth In Human Foetuses

Ghaus Farah, Faruqi N.A.  
J.N.M.C., A.M.U., Aligarh

Foetal anatomy will be a promising field in future due to success in foetal therapy in the past. Importance of alveolar arches has further enhanced due to its handling by dentists. Twenty nine human foetuses were grouped into three groups I, II and III whose gestational ages were < 24 wks, 25-30 wks and > 30 wks respectively. Maxillae were dissected out and socket for second temporary molar which also holds second permanent premolar was thoroughly cleaned. Its maximum mesiodistal and transverse diameters and depth were measured and analysed statistically. Some of the interesting conclusions were, 1. High rate of growth in group II foetuses, 2. Lower value of mesiodistal diameter compared to transverse one, 3. No difference between readings of two sides, 4. Larger socket in late male foetuses.

### 137. Morphometry Of Second Metacarpal Bone

Premalatha Gogi, Muralidhar. P. Shepur, B. Nanjundappa.  
J. J. M. Medical College, Davanagere

Second metacarpal bone is longest metacarpal having a large base and is less mobile. It is often used to take vascularised bone graft to treat scaphoid nonunion, Keinboch's disease, carpal pathology, persistent nonunion of distal end of radius, for the defect of proximal phalanx of the index finger. To take vascularised bone graft from the second metacarpal and to treat the fractures of second metacarpal a sound knowledge of anatomic features, variations and measurements of second metacarpal is essential to orthopedic and reconstructive surgeons. Hence an attempt is made to study the anatomic features, variations and measurements of second metacarpal bones.

In this study it was noted that second metacarpal showed variations in its articular facets, position of nutrient foramen. Dimensions of second metacarpal such as length and transverse and anteroposterior diameters at base, midshaft and head were measured. Other details of this study will be presented during conference.

### 138. A Morphometrical Study Of Variations In Sacral Hiatus Of Dry Unknown Human Sacra In North Interior

### Karnataka Region

S. D. Desai, Sunkeswari Sreepadma  
Shri B.M Patil Medical College, Hospital and Research Centre, Sholapur Road, Bijapur.

The sacral hiatus which represents the caudal opening of the sacral canal contains lower sacral and coccygeal nerve roots, filum terminale and fibrofatty tissue. The morphometrical study of sacral hiatus is of great relevance since this route is very commonly used for caudal anesthesia for various purposes. For the study 100 dry unknown human sacra were obtained from the department of Anatomy of BLDEA's Shri B.M. Patil Medical College Hospital and Research Centre Bijapur and were studied under various parameters. There are many variations in sacral hiatus, the anatomical knowledge of which is helpful to the anesthetists to increase the success rate of caudal anesthesia.

### 139. Precondylar Tubercles of Basiocciput of Human Skulls

Avinash Abhaya, Mahesh K. Sharma  
Govt. Medical College & Hospital, Chandigarh

Cranio-vertebral junction comprising of occiput and upper cervical spine is the region of interest to Anatomists, Radiologists & other Clinicians as not only for its congenital and acquired bony abnormalities which may result in compression and distortion of the neural structures, vertebro-basilar vascular system, and cerebrospinal fluid channels but also as it may cause misinterpretation of radiological findings. The study of the anomalies of the cranio-vertebral junction of 232 adult dry macerated skeletons of unknown sex revealed the presence of 5.17 % (12/232) cases of the pre-condylar tubercles. The bony elevations range from crest, spines, tubercle & processes of different variety. Their location, size, no, shape and other details were noted and will be presented.

### 140. Sacralization Of Lumbar Vertebra

B.R.Zambare, Bhaskar.B.Reddy, B.N.Umarji\*,  
Santosh.V.Shinde  
P.D.V.V.P.F's Medical college & Hospital, Ahmednagar,  
\*KIMS University, Karad.

Sacralization means addition of sacral elements by the incorporation of Fifth lumbar vertebra. Sometimes the transverse process become unduly elongated and fuse with ileum or sacrum or both. The incorporation of the fifth lumbar vertebra with the sacrum may be unilateral or bilateral producing partial or complete sacralization. Complete sacralization consists of complete bony union between the abnormal transverse process and the sacrum. Incomplete sacralization shows a well defined joint line between the process and the sacrum.

The present study is under taken because of its clinical significance due to the following reasons. In sacralization, the fifth lumbar nerve may be compressed

resulting in pain along the distribution of sciatic nerve. Back pain also reported in sacralization, possibly due to pressure on nerves or nerve trunks, or ligamentous strain, or compression of soft tissue between joints. Degenerative spondylolisthesis commonly develops at L4-L5. Sacralization of L5 is thought to cause stress concentration at this level, which accentuates degenerative changes and promotes development of degenerative spondylolisthesis.

In the present study 120 sacra were examined. For this study only non pathological sacra of both the sexes were included. Statistical analysis is done and complete sacralization was found in 5 cases or 4.16 percent. The anomaly was unilateral in one case and bilateral in 4 cases. Unilateral specimen shows complete sacralization on right side. The transverse process on this side is of large butterfly type while on the right side it is about the usual size. Remaining four cases shows complete sacralization bilaterally.

#### **141. The Anatomical Basis of Cerebral Language Dominance in Humans**

**Ushadevi K. B**, K.Chandra Kumari, P.A. Suresh  
Govt Medical College, Thiruvananthapuram

Cerebral asymmetry and dominance are well established entities. The gross and microscopic differences in the language areas of both sides in different age groups were studied.

Gross anatomical & Light microscopic post mortem study of the language areas of right and left hemispheres in different age groups was done in 65 post mortem samples in Govt Medical College Hospital, Thiruvananthapuram. The post central horizontal segment was measured and early bending of the posterior ramus studied. Number and size of the Heschl's gyrus was noted. Sections for light microscopy were taken from area 45 and 22 of both hemispheres and stained with H&E and special stains.

Early bending of Right lateral sulcus was noted in 90% specimens Planum temporale was larger on the left in 90% specimens. Layer III & V pyramidal neurons of the Left area 45 were larger than the corresponding areas on the right. Cerebral asymmetry with regard to language areas confirmed. Observations suggest that there is an anatomical basis for language dominance to the left side. The study shows that a child is born with a preprogrammed dominance and that the number of neurons remain unchanged after birth.

#### **142. A Study Of Multiple Renal Arteries And Its Surgical Importance**

**P. Sasikala**, V.S.Anandarani<sup>2</sup>, K.Udhaya<sup>3</sup>, Melani Rajendran<sup>2</sup>. Aarupadai Veedu Medical College, Pondicherry, <sup>2</sup>SRMC&RI, Chennai, <sup>3</sup>VMKVMC, Salem.

Aim of the study: To study the presence of accessory renal artery and its mode of termination into the kidney.

Materials and methods: 25 dissected cadavers and 25 patients who underwent renal angiography were used.

In cadavers, dissection was done and accessory renal artery was photographed. In patients, CT angiogram was done after injecting dye and images were viewed.

Results: The average incidence of the accessory renal artery in the studied population was found to be 24%. In 58% it was on the left side and its termination was noted to be hilar in 60%, superior polar in 30%, and inferior polar in 10%.

Conclusion: The results of this study will provide a wide knowledge of accessory renal artery which is very important for surgeons in planning treatment strategies. Also it is useful to identify a satisfactory donor for renal transplantation to avoid vascular related complications.

Details of these variations will be discussed during presentation.

#### **143. Variations In The Liver – A Case Report**

**Abhishek Prasad Sinha**, Meera Jacob, Aarathi Venunadan, Zameera Banu J  
Yenepoya Medical College, Deralakatte, Mangalore

Liver is a largest gland in our body. The gross features of the liver are well documented in text books of Anatomy. Liver normally has a larger right lobe and a smaller left lobe. There are few reports available mentioning about hypoplasia of left lobe of liver. But it is very rarely seen in any literature mentioning about elongation of left lobe of liver.

However, During routine dissection of Abdomen a male cadaver for undergraduate teaching, in Anatomy dissection hall of Yenepoya medical college, Mangalore, the following variations were observed.

1. Elongated left lobe extending till the spleen in the left hypochondrium and elongated part of left lobe is flattened above-downwards.
2. The gall bladder is small in size and does not reach the inferior border of liver.
3. Quadrate lobe is not well defined and caudate process is thick.

#### **144. An Anatomical Study Of First Dorsal Compartment :In South Indian Cadavers**

**Suhani S**, Bhaskaranad Kumar, Shakunthala R Pai, Saraswathi, Kumar M R, Melanie  
Kasturba Medical College, Manipal University, Manipal

The extensor retinaculum, a thickening of the deep fascia, bridging the grooves on the dorsal aspects of the lower ends of the radius and the ulna. Being attached to the deep process to the ridges of the radius and ulna, it converts these ridges into six osteofibrous canals for the extensor tendons of the forearm. The first dorsal compartment of this retinaculum usually contains the tendons of abductor pollicis longus (APL) and extensor pollicis brevis (EPB). It has been shown that this compartment may contain 1 to 7 tendons of APL and 1-2 tendons of EPB. Thus, over crowding of the tendons and entrapment of these tendons in the first dorsal compartment of the wrist is shown to cause pain and disability of the hand. Further, presence of the septum that divides this

compartment into two subunits is also associated with de Quervain's disease. Therefore, present study is designed to document all possible variations in the anatomy of the first dorsal compartment. To achieve this, we have dissected 40 upper limbs and variations in the number of tendons, thickness of tendons, intervening septum and presence of any additional structures in the first dorsal compartment was documented. Here we discuss the findings emphasizing its clinical relevance.

**145. Paraduodenal Recesses And Their Clinical Significance**

Shivpal Tambe, **Kumkum Rana**  
Maulana Azad Medical College, New Delhi.

The detailed knowledge of the peritoneal recesses has great significance with respect to the internal hernias. The peritoneal folds may create recesses or fossae within the peritoneal cavity and a part of the length of intestine may enter into it and be constricted by the folds at the entrance to the recesses; it may subsequently become a site of internal herniation. Surgery may be required to reduce such hernia and obliterate the recess. The present study has been conducted on duodenal peritoneal recesses in 100 cases including 10 cadavers, 45 post mortem cases and 45 cases undergoing laparotomy in the departments of General and Paediatric Surgery. In the present study the incidence of superior and inferior duodenal recesses was found to be 28 % and 52% respectively. Very high incidence of paraduodenal recess [12%] was observed whereas that of mesentericoparietal recess was only 3%. The duodenojejunal recess was observed in 18% of cases. Two abnormal duodenojejunal recesses were found; one on the right (instead of left) of the abdominal aorta and this may be due to malrotation of gut, and in the other the opening was directed upward instead of downward. Retroduodenal recess was observed in 2% of cases. The incidence of internal hernias was found to be high (3%). The relative frequency of paraduodenal hernia was 17%.

**146. Anomalous Variations In The Branching Pattern Of External Carotid Artery**

**Padmalatha K**, B.R.Ramesh  
Dr. B. R. Ambedkar Medical College, K.G.Halli,  
Bengaluru, Karnataka.

External carotid arteries provide the major source of blood to the head and neck. A study of twenty cadavers was conducted to study the branching pattern of external carotid artery. Certain variations were observed in the branching pattern of external carotid artery in an adult male cadaver on the right side. The superior laryngeal artery took its origin directly from the main trunk of external carotid artery between the common linguo-facial trunk and superior thyroid artery. The superior laryngeal artery was looped by a loop of nerve extending from superior cervical ganglion towards the periarterial plexus around the lingual artery. Further high level of origin of ascending pharyngeal artery above the level of common linguofacial trunk was noticed. Direct muscular branch from the main trunk to the

sternocleidomastoid muscle was seen below the level of occipital Artery. The Embryological Significance and Clinical importance will be discussed in detail during the presentation.

**147. Assessment Of The Depth Of Sphenopalatine Foramen From Anterior Nasal Aperture**

**Lakshana S**, P.Saraswathi  
Saveetha Medical College & Hospital,  
Thandalam, Chennai

**Aim:** To assess the depth of sphenopalatine foramen from anterior nasal aperture in endoscopic ligation of the sphenopalatine artery.

**Materials & Methods:** 40 dry cranium, measuring probes, scale

**Result:** The average depth of sphenopalatine foramen from anterior nasal aperture is found to be 5.5 cms

**Conclusion:** Assessment of the depth of the foramen may be useful for ENT & other surgeons in endoscopic ligation of sphenopalatine artery in severe posterior epistaxis patient.

**148. Morphometric Study Of Placenta In Normal And Complicated Pregnancies**

**Sudha R**, Christilda Felicia Jebakani\*  
VMKV Medical College, Salem, \* Madras Medical  
College, Chennai

To study the morphometry of placenta in normal and complicated pregnancies and to correlate their clinical significance. 100 freshly delivered placentae obtained post normal and caesarean section deliveries (which includes both normal and complicated pregnancies) got from the Obstetrics and Gynaecology department of Madras Medical College, Chennai between the period 2006 & 2009 were used for this study. Shape of the placenta, diameter, thickness, maternal surface including cotyledons and the weight were studied. The shape of the placentae in normal and complicated pregnancies were analysed and found to show statistically significant varied pattern. The diameter was found to be the least in severe pregnancy induced hypertension and the maximum in case of Twin deliveries. The thickness was found to be more than the average in cases of maternal diabetes, post maturity and twin pregnancies and less in case of severe pregnancy induced hypertension, anemia and prematurity. In complicated pregnancies the placentae showed a reduced number of cotyledons and also a reduction in the weight. The study of morphometry of the placentae including shape, diameter, thickness, maternal surface and weight in complicated and uncomplicated pregnancies showed a significant variation the reason for which is further elaborated and discussed.

**149. Effectiveness of Case Based Learning in Anatomy**

**G. Amudha**

PSG Inst. of Med. Sc. & Res., Coimbatore

Teaching is an art. Like any art it too needs periodic improvement and innovations.

Duration given for studying Anatomy is short, but the subject is vast. The student needs are multifaceted. Learning Anatomy is always a hard task for under graduate students. Better understanding of the subject makes the learning process easy. Introducing clinical applications early will stimulate interest in the students. Keeping this in mind, Case Based Learning sessions were conducted while teaching lower limb to first year MBBS students. 100 students and eight faculty members participated. Students are divided into smaller batches of 20 each. They were given summary of a clinical case to solve and to learn anatomy behind that. Each group was asked to discuss the clinical features and the anatomy behind it. The opinion regarding the case based learning programme was taken in the end of sessions from the students and faculty members and analysis was done.

**150. Maceration of Formalin Fixed Cadavers by Potassium Hydroxide**

**Dilip D. Ksheersagar**, R. K. Deshpande

NKP Salve Inst. of Med. Sc. & R.C. Nagpur

Generally the Formalin fixed dissected cadavers are incinerated & there is shortage of human bones for the Medical students. The formalin fixed cadavers do not macerate easily hence this study is aimed to recover skeleton for the study purposes. The dissected cadavers are obtained from Dissection hall of NKP Salve Institute of Medical Sciences Nagpur.

The joints of upper & lower limbs were disarticulated & the bones were dissected to remove attached fascia & muscles as much as possible. These bones were immersed in 1 % potassium hydroxide solution. The KOH solution was changed weekly & the progress of the maceration was observed. With in 2 – 4 weeks all the attached fascia & muscles get separated & then the bones are immersed in water for 6 – 12 hrs & washed in running water. These bones are dipped in 10 % solution of Hydrogen peroxide for 4 – 6 hrs. for bleaching & then washed & dried. The carpal bones require less time.

The bones of the Axial skeleton as skull, vertebral column were similarly treated but as the inter vertebral joints & Temporomandibular joint were not disarticulated hence it required about 6 – 10 weeks to isolate all the vertebrae, mandible & loose skull bones. Under controlled maceration the joints can be kept intact as the articular capsule requires a longer time for maceration and articulated skeleton of Vertebral column & ribs, hand & foot was obtained.

In nut shell all the bones from the dissected formalin fixed cadavers can be easily obtained by this procedure.

**150. An Insight To Clinical Anatomy Of Ear**

**Jyothi K. C**, N. M. Shama sundar, G. Saraswathi, C. M. Nanjaiah.

J S S Medical College, Mysore.

Teaching and understanding the structure and function of ear is difficult. Ear is one of the most complex regions to demonstrate by our routine dissection method, as it has minute structure in the middle and inner ear, incorporated within the petrous temporal bone.

Teaching anatomy of ear using macro models will help the learner to understand and reproduce it in a better way than by our conventional class room teaching. The macro models and life size models are prepared by using plaster of Paris, thermacole, thermof foam, silicone rubber, which are readily available in the department, inexpensive, unbreakable, and portable and can be easily handled.

Along with anatomy they can also be briefed about the clinical aspects using the models assisted by pictures. While teaching the external ear the wax impaction, lodging of foreign body and its effects can be easily demonstrated. Ossicular chain and its movements can also be demonstrated. A unique, inexpensive life size luminal cast of bony labyrinth prepared by Plastination technique using polymers can be used for teaching purpose.

This method of teaching is not only helpful for the medical students, but also can be easily understood by the school teachers, students and to give health education to the public.

**152. Organ Donation –The Gift That Lives On**  
**M. B. Ramannavar**

KLE University's Shri B.M.Kakanawadi Ayurvedic College, Shahapur, Belgaum.

Organ donation is a gracious act; it reaffirms our faith in humanity. Organs you can donate include internal organs: Kidneys, heart, liver, pancreas, intestines, lungs, Skin Bone and bone marrow & Cornea. Organ donation is a wonderful legacy we can leave behind.

Normally in death as we understand, the heart comes to a stop first and the brain cells die within a few minutes due to lack of blood circulation but in brain death the reverse takes place. Brain death is not the same as a coma. A person can recover from a coma, but brain death is death.

However if the body is to be buried or cremated some of the organs can be donated to give a critically ill organ failure patients a second chance in life. Shankaracharya firmly believed in the concept of organ donation and said - **Iddham Shariram Paropkarum** (This body is for the use of others).

Success of organ donation programme reflects a society's triumph and its attitude towards fellow human beings. It is an act of giving, recycling and rebirth. This is the law of our universe, atoms are never destroyed - whatever perishes is borne again in some form. Death is not the end it is a new beginning. We need to understand and accept this philosophy.

**153. Histology Charts For Students**

**Kishor D. Khushale**

Seth GS Medical College, Parel, Mumbai

Aim : Preparing the histology charts for students.

Material used: Regular drawing texture paper (A3 size), Calligraphy pen (1.2.3 size), Haematoxylin and Eosin pencil, Blue pen Black sketch pen and Pencil

Observations: The students felt better while drawing the diagrams in the journal with the help of charts. At the end questionnaire was given to 1<sup>st</sup> MBBS students, PG students and teachers to get the feed back.

Results: 87% 1<sup>st</sup> MBBS students, 75% PG students and 60 % teachers say that the department should provide the hand book of histology diagrams from the charts to the students.

**154. Teaching Osteology — A Newer Approach**

**Indira C K**, Antony L Arakkal

Govt Medical College, Thrissur

Osteology is a relevant part of Anatomy with wide application in the fields of Orthopaedics, Forensic medicine, ENT, Obstetrics and Gynaecology. The only opportunity to study osteology in detail is during 1 MBBS course and a through knowledge of the bone is essential for the students. Efforts are being made by faculties to improve the learning strategy and to facilitate students learn osteology for better performance in examination and its applicability in other medical speciality. Regarding teaching method of Osteology students of 2007 and 2008 admissions Osteology was taught by two methods. In one method group of 40-50 students were taught by a faculty in the demonstration hall with 4-5 students sharing a single bone (Conventional method).

In the the newer method 150 students , with two students sharing a bone . Each group is taught by faculty. After completing 1 MBBS course opinion regarding both methods were collected from the students. The aim of present study is to find the effective teaching – leaning method for osteology.

Materials and methods: The first MBBS students of Thrissur Government College were subjected to the study by the methods: Conventional Method and Newer Method.

Prefest and post-test based on the concerned topic was conducted which included ossification and applied anatomy. The mean of scores obtained in each test was analysed.

Observation: It was found that newer method was preferred and superior to conventional method. More details will be presented at the conference.

**155. Health Care Practices In The Rural Areas Of Bangalore And Kolare Districts of Karnataka**

**Arun Kumar S. Bilodi**, \* M. R. Gangadhar

Hassan Institute Medical Sciences, Hassan, Manasagangotri, University of Mysore, Mysore, Karnataka

Medical system refers to all scientific knowledge, beliefs, action, and skills, which are utilized for health promotion, treatment, and disease cure. Medical

anthropology has a biocultural discipline studies biological and cultural aspects of human behavior and interaction of culture, health, and disease. Rural populations are receiving significant attention due to millennium development goals. In the present study an attempt has been made to know the belief and health care practices in the rural areas of a Bangalore and Kolar districts of Karnataka in South India. The study was conducted during the month of January to December 2008. Anomalies that were found 401 patients (the day one new born child to adult age group of both sexes) constituted the materials for the present study. Patients were examined from various departments at Sree Raja Rajeswari Medical College Teaching Hospital, Bangalore and Sree Devraj Urs Medical University, Kolar, Karnataka, India. They were treated by surgical line of treatment in 70% of cases, but in 30% these patients did not undergo any surgery because they were inoperable. Before going to the above major hospitals in Bangalore and Kolar districts, these patients under went various types of treatment like native medicines, witchcrafts or both native medicines and witchcrafts. After the failure from the above treatment they were referred by the health volunteers/workers to major hospitals to undergo treatment for the anomalies in modern medicine. False belief, superstitions, poverty, ignorance, and lack of education were the main causative factors.

**156. Case Based Learning For Teaching Anatomy To Undergraduates**

**Praveen R Singh**, Raksha Bhatt, Suman Singh

Pramukhswami Medical College, Karamsad District – (Anand) Gujarat.

Anatomy is a difficult but important subject full of facts. To make the subject interesting, student centred & clinically oriented, we introduced Case based learning (CBL) by formulating a module with focussed questions containing specific learning objectives.

Paper based clinical scenario CBL modules were prepared for different regions of the body. 100 students of first MBBS were given introduction and concept of CBL. Informed consent was taken. First, the whole class dissected a particular region with demonstration of important related concepts. Then they were given paper based clinical scenario and went through group discussion with a facilitator. In the next session, they elaborated their learning objectives & answered questions and the session ended with a wrap up lecture. Total five modules of CBL were given to them. Feedback was taken in the form of filled up questionnaire form from the students & faculty.

On doing descriptive analysis, based on feedback questionnaire; 69% found it useful, 04% were undecided, 10%-did not find it useful and 17% had not mentioned it clearly. 87% of students agreed for CBL helping them to perform better in latter clinical days, while 51% agreed that CBL will help them perform better in Summative examinations.

Majority of the students and faculty found it very interesting & useful and want to continue it for further

batches. Our basic aim of making the subject simple, interesting and contextual was achieved.

**157. Acardia Acephalus Twin – A Case Report**

**Mangala S.**, K. R. Dakshayani

Mysore Medical College and Research Institute, Mysore

During routine fetal autopsies conducted in the department of Anatomy, a rare case of fullterm female Acardia Acephalus twin was observed. The autopsy findings revealed acardiac twin showing right sided diaphragmatic hernia, absence of brain, spinal cord, respiratory system, upper limb Amelia with rudiments of heart and urogenital system, partially developed GIT and syndactyly of right foot.

Fetal acardia is a rare dysmorphic problem which is unique to Monochorionic pregnancies with vascular anastomoses. It is due to a sequence described as TRAP – Twin Reversed Arterial Perfusion, with an incidence of 1 in 35,000 births.

The present case gains significance because of its pattern of haemodynamically significant anastomotic circulations in monochorionic, monozygotic multiple gestation. In the light of above findings, the details of the case will be presented.

**158. Unascended Left Kidney With Malrotation – A Case Report**

**Syed Nazeer Ahmed**, P. Satyavathi Devi, M.J. Phukon, Rupshikha Dutta.

PIMS, Nagnor, Karimnagar, A.P

Introduction: - In a male cadaver about 65 years age an ectopic left kidney was observed during routine dissection for year 2008-2009.

Observations: - the case showed an unascended left kidney with malrotation at the level of pelvic brim. Its hilum was directed anteriorly with dilation. The left renal artery arose from abdominal aorta just above its bifurcation laterally. No other aberrant artery was seen. The left renal vein draining the kidney passed posterior to the left renal artery to open into the inferior venacava. The right kidney and right renal vessels were morphologically normal.

Discussion: - It is a rare anomaly of about 1:2500 live births left side being common usually associated with malrotation the reason for this is unknown. Probably the umbilical arteries comes in the way of ascent the kidney may remain in the sacral region.

Conclusion: - The unascended kidney is functional, but sometimes may present diagnostic problems when renal disease develops. An unwary surgeon may mistake it for pelvic mass.

**159. Morphological Variations In Placenta And Their Clinical Background**

**Pretty R.**, U. R. B. Sheikh, S. D. Desai

Shri B.M.Patil Medical College Hospital and Research Centre, Bijapur

Placenta reflects the morphological changes due to maternal disorder. The study was done on 100 placentae from patients of obstetrics and gynaecology department of Shri B.M.Patil Medical College and Research Centre. Out of which, 50 mothers were with uncomplicated pregnancy and 50 with pregnancy induced hypertension. The present study is to identify the morphological variations of placenta like size, shape, weight, attachment of umbilical cord and number of cotyledons and its correlation to neonatal weight, changes in normal pregnancy and pregnancy induced hypertension.

During the study the morphometry of placenta and neonatal weight showed significantly lower values in study group than the control group.

Clinical importance will be discussed in detail.

**160. Holoprosencephaly (UPE) – A Case Report**

**Deepali U. Kulkarni**, Umesh K. Kulkarni

BIMS, Belgaum,

Aim: To study the congenital anomalies in aborted fetuses in BIMS Hospital, Belgaum.

Materials and Method: Abnormal aborted fetuses received from BIMS District Hospital Belgaum, were obtained for different anomalies. Necessary photographs were taken.

Results and Conclusion: During such routine study of abnormal fetuses, we found a foetus with Holoprosencephaly. The details of this anomaly will be discussed with emphasis on its etiology, embryological basis, and clinical features during presentation.

**161. Hamular Distance In Sexes: An Anatomical Reference For Esthetic Restoration.**

**Agnihotri G.** Capt. Agnihotri V\* ,Col(Retd) Agnihotri S.K. Govt. Medical College, Amritsar, Punjab, India.

\*14 Corps Dental Unit c/o 56 APO.

Introduction: Esthetics is an important issue for clinicians and patients. Without pre-extraction photographs / casts, it is never easy to select suitable artificial teeth. The study determines the relationship between width of frontal maxillary teeth and hamular distance. It also examines the possibility of reconstructing maxillary frontal teeth, based on hard palate dimensions.

Material and Methods: Teeth and hard palate dimensions were measured on maxillary casts of 200 subjects (100 males ; 100 females) in age group of 17-21 years with class one occlusal relationship. Hamular distance was measured between most medial demarcation points of left and the right hamular notch. The distance between disto-proximal contact points of left and right maxillary canines was measured with flexible tape (placed over vestibular side of maxillary teeth).

Results: There was no significant difference between hamular distance/palatal width and sum of contact-point widths of all maxillary frontal teeth ( $p>0.05$ ) in both sexes. When parameters, as measured for males and females were compared, they were found to be statistically significant ( $p<0.01$ ).



Conclusion: After extraction distal maxillary width is lost and it is not possible to reconstruct it because of individual rate of alveolar bone resorption. Hamular distance does not change during lifetime and is not determined by teeth position, but by anatomical structures. Consequently, hamular distance is a suitable reference for maxillary frontal teeth width selection.

**162. Double Left Renal Vein.**

**Rupshikha Dutta**, P. Satyavathi Devi.

Prathima Institute of Medical Sciences, Karimnagar, Andhra Pradesh

Introduction: Double left renal vein is a rare congenital anomaly, amounting to 1.5%-8.7% in the world.

The case: During cadaveric dissection for the year 2008-09, an adult male cadaver revealed double left renal vein. One preaortic, & the other being postaortic, forms a ring around the Aorta, then drains separately into the Inferior Vena Cava (IVC).

The left suprarenal vein joins the preaortic, while the left gonadal vein appears to drain into the postaortic channel. Multiple veins draining the left kidney are seen to join the 'ring'.

Discussion: The primitive dorsal aorta is encircled by a circumaortic venous anastomosis, or the 'renal collar' that drains the permanent kidney. Normally, the preaortic subcardinal anastomosis persist, develops into the left renal vein. It thus, pass in front of the aorta & renal arteries to open into the IVC. The persistence of the 'renal collar' results into double left renal vein, with a preaortic & postaortic channels both opening into the IVC.

Conclusion: 'Persistent renal collar' stands as a surgical challenge. Injury of retroaortic channel may lead to severe haemorrhage. Proper knowledge of anatomical variations help in reducing the mortality and morbidity of the patients.

**163. Right Lumbo-pelvic, Non Rotated Kidney With Extra Renal Calyces – A Case Report**

**Vinay G**, Imtiazul haq, Gurushanthaiah.

B.M.C & R.I, Bangalore

During routine dissection practice, an unascended non rotated kidney with extra renal calyces was found on the right side in the female cadaver. The right kidney was found to be smaller and at a much lower level compared to the left kidney. The right kidney also showed non rotation with the hilum facing anteriorly. It derived blood supply from the lower part of aorta just above the bifurcation and the common ileac artery.

An attempt has been made to systematically document these variations and give possible explanations for the same on the basis of ontogeny and for its surgical importance.

**164. Unilateral Absence Of Foramen Transversarium In Atlas Vertebra – A Rare Case Report**

**Sunkeswari Sreepadma**, S.

D. Desai

Shri B.M.Patil Medical College  
Hospital and Research Centre,  
Bijapur

Atlas is the first cervical vertebra which holds the globe of the skull. Presence of Foramen transversarium is the characteristic feature of the cervical vertebra through which the second part of the vertebral artery passes along with sympathetic nerve trunk. During osteology classes we noticed absence of foramen transversarium in an atlas vertebra on left side. The Foramen transversarium and transverse process are taken as landmarks for surgeries in that region for Orthopedicians, Neurosurgeons and Otorhinolaryngologists. This case is being reported in view of the knowledge of variation of atlas so as to prevent devastating vascular complications which are likely to happen during the surgeries as many vital structures lie in the vicinity of the foramen transversarium of atlas.

**165. An Accessory Head Of Biceps Brachii Muscle**

**Nilam K Meghatar**, Padma Varlekar, C.D.Mehta.

Government Medical College, Surat, Gujarat.

Introduction: - The Biceps brachii is one of the muscle of the flexor compartment of the arm. It is characteristically described as a two headed muscle that short head & long head. A present case report was carried out during routine dissection for the medical students. We found occurrence of the third head of biceps brachii in a 55 year old male cadaver.

Materials & Methods:-The study was conducted in cadaver dissected by the undergraduate students of Govt. Medical College Surat. The cadaver was embalmed using 10% formaldehyde solution and preserved in weak formalin solution. The arms of cadaver were dissected and observed for variations in the origin and insertion of biceps brachii muscle bilaterally.

Result: We observed three heads of Biceps brachii on both sides of a male cadaver, aged 55 years. The two heads of Biceps arose from its usual position but the anomalous third head arose from the distal part of the pectoralis minor muscle. The third head was found to fuse with the common belly of the muscle well before the bicipital tendon and its aponeurosis. This third head was supplied by musculocutaneous nerve. No other abnormalities relating to the Biceps were observed in any of the sides of the other cadavers.

Conclusion: The third head of Biceps Brachii may be an incidental finding at autopsy or during routine anatomical dissection. Unless symptomatic, the third head of Biceps Brachii may not be detected in clinical studies. It may become significant in preoperative diagnostic procedure and during surgery of the upper limb.

**166. Chondrohumeralis And Axillary Arch Of Langer - A Rare Combination With Unique Insertion**

Polly Lama<sup>1</sup>, Naveen Kumar<sup>2</sup>, Honne Gowda T M, Kumar M R Bhat

Kasturba Medical Collage, Manipal University, <sup>1</sup>Manipal-Sikkim University, Gangtok, Sikkim. <sup>2</sup>Melaka-Manipal Medical College, Manipal

Accessory slips of muscles from the muscles of the axillary region are rare. During routine dissection, we found a rare case of aberrant muscular slips originating from the pectoralis major called "Chondroepitrochlearis/thoracoepicondylaris/costohumeralis" and an anomalous slip from the latissimus dorsi called "axillary arch of Langer/musculus dorsoepitrochlearis" in the same axilla. Interestingly, these two slips found to have a common insertion after arching superficial to the axillary neurovascular bundle into the fascia covering the biceps brachii muscle and to the lateral lip of intertubercular sulcus of the humerus. The rare combination of these two variant muscles in the same axilla and their unique insertion pattern has not been reported earlier. However, the presence of this variant muscle slips separately, and their insertions to different parts of the humerus have been reported. These aberrant muscle slips may cause axillary neurovascular entrapment syndromes. The knowledge of the present variation may help during lymph node staging and lymphadectomy, radical mastectomy, cannulation of axillary vessels, while using the latissimus dorsi muscle flap to treat traumatic wounds of antecubital fossa, treating shoulder displacement, fracture of humerus, nerve block and to treat the functional limitations in the range of shoulder movement. Further, knowledge of these muscular variations is important for diagnosis of unexpected and uncommon clinical conditions. These anomalies therefore attract clinical attention because of its potential to cause significant functional defects and surgical importance. It may be of particular interests to orthopedic surgeons, neurologist and cosmetic surgeons.

**167. Anomalous origin of Ascending Pharyngeal Artery from Internal carotid Artery – A Case Report.**

Sandhya B, Balachandra N, B.R.Ramesh

Dr. B. R. Ambedkar Medical College, K.G.Halli, Bengaluru, Karnataka

Ascending pharyngeal artery is a main source of blood to pharynx which normally arises as a medial branch from proximal part of external carotid artery, internal carotid artery is the main artery supplying the interior of cranial cavity, and normally it does not give any branches in the cervical region. During the routine dissection of an adult male cadaver the ascending pharyngeal artery was found arising from proximal part of internal carotid artery, the rest of the course of the artery was found to be normal. The clinical implication and embryological significance of such variations will be discussed

**168. Arterial, Muscular And Neural Variations In The Upper Limb Of A**

**South Indian Cadaver – Case study.**

P. Sudharani, Brijesh Kumar, Soumya, Mohanteja.

Kasturba Medical College, Manipal University, Manipal, Karnataka, India.

In our routine dissection, we found multiple variations in upper limb of a male cadaver. The superficial ulnar artery was arising from brachial artery in the middle of the arm. After its origin, it courses towards the medial aspect of the arm, passes underneath the median nerve and runs on the medial aspect of the median nerve till the cubital fossa. In the forearm it courses superficial to the flexor muscles, and in the middle of the forearm, it is crossed by tendon of Palmaris longus, proximal to the flexor retinaculum the artery has a loop superficial to the ulnar artery, then it enters the hand by passing through the Guyon's canal and divides in to superficial and Deep branches, and forms superficial and deep palmar arch. The median nerve is formed by the union of the two roots coming from the lateral cord and one root coming from the medial cord of the brachial plexus. An accessory belly common for pronator teres and flexor carpi radialis muscle was present, which was proximally attached to bicipital aponeurosis. The Development and clinical significance of these anomalies are to be discussed in the presentation.

**169. An Abnormal Course, Relation And Distribution Of Posterior Tibial Artery-A Case Report.**

Santanu Bhattacharya, Pit Baran Chakraborty, Sumita Dutta.

Medical College, Kolkata.

Various vascular abnormalities are of interest to anatomists, surgeons and anaesthesiologists. The aim of our study is to provide additional information about abnormalities of Posterior Tibial artery.

An unusual course and distribution of Posterior Tibial artery was encountered during routine dissection of a 65 years old male cadaver in Kolkata Medical College.

It was found that the Tibial nerve crossed deep to the Posterior Tibial artery in lower part of right leg and was medial to the artery in its subsequent course. So, deep to the flexor retinaculum the neurovascular relation was altered. Posterior Tibial artery entered into the sole lateral to Lateral Planter nerve. But soon it gave few small branches which crossed both Lateral & Medial planter nerve superficially and distributed as Medial Planter artery and the main artery is continued as Lateral Planter artery in along normal course.

During nerve block, surgical procedures like fixation of fractures with external nailing, medial displacement osteotomies and decompression in tarsal tunnel syndrome necessitate a proper understanding of detailed anatomy and possible variations of tarsal tunnel.

**170. Accessory Splenic Artery from Left Gastroepiploic Artery**

Padmalatha K, B. R. Ramesh

Dr. B. R. Ambedkar Medical College, K.G.Halli, Bengaluru, Karnataka.

During the routine dissection of cadavers allotted for I MBBS students, we came across certain variations in the branching pattern of splenic artery in an Adult male cadaver aged about 50 years. The splenic artery divided into two segmental branches before reaching the hilum and each segmental branch further gave branches separately. The upper segmental branch gave about four branches and lower segmental branch gave two branches. Further an accessory splenic artery to the lateral end of the spleen was noticed, which took origin from left gastroepiploic artery. The clinical significance and embryological significance will be discussed in detail during the presentation.

**171. Gender Difference in Human Corneal Endothelial Density**

**Umesan K.G.**, Shobha Ramnarayan, Anand H Govt Medical College, Thiruvananthapuram

The corneal endothelium is the vital layer of cornea maintaining the corneal deturgescence responsible for the corneal transparency. Direct visualization of the live human corneal endothelium is possible using the Specular microscope. Cell count and morphological analysis are possible with this instrument.

The study was done to look for the pattern of cell density in corneal endothelium in males and females of different age groups.

Central Corneal endotheliums of 358 disease free corneae from volunteers from the population of Trivandrum city were studied. 192 of the eyes examined belonged to females [53.6%] and 166 were of males (46.4%).

After informed consent, the volunteer's eyes were viewed through the Haag Strait slit lamp biomicroscope, Heinz ophthalmoscope to rule out eye pathology. Using the Topcon Specular microscope SP2000P, Central corneal endothelial cell density was calculated and the cell morphology studied. Statistical analysis was done with the SPSS 15 programme.

The study showed a higher cell density in men. The study provides baseline data on age & genderwise endothelial cell count in the population screened.

**172. Structural Changes In Placentas Of Preeclamptic Patients**

**Neerja Rani**, Renu Dhingra, Neerja Bhatla, Dharamveer Singh Arya, Rani Kumar.

All India Institute of Medical Sciences, New Delhi

Preeclampsia is one of the major causes of perinatal and neonatal mortality and morbidity affecting 2.6% to 7.3% of gestations. The pathological changes of the placenta in preeclampsia can contribute to the clinical understanding of premature delivery, fetal growth restriction and neonatal morbidity. It has been demonstrated that placental pathological findings correlate strongly with the

initiator of preterm delivery, which is either premature rupture of membranes or pregnancy-induced hypertension. Placental vasculopathy is also known to be associated with decreased baby's birth weight. Therefore, we planned to study the histological features of the normal placenta and compare these changes with the placenta of preeclamptic patients.

A total of forty placentas were collected immediately after delivery. Of these twenty were obtained from normotensive pregnancies and rest twenty from pregnancies with preeclampsia (according to ISSHP criteria). Each placental tissue was immediately fixed in 10% buffered neutral formalin solution and processed for paraffin embedding. 5-7µm thick sections were cut and stained with hematoxylin and eosin (H and E). Sections were then visualized under light microscope for its histological architecture.

Baby's birth weight and placental weight of preeclamptic patients was reduced as compared to normal and were statistically significant ( $p < 0.0001$ ). The histology of normal placentas consisted of Chorionic villi, their branching, extracytotrophoblastic matrix, connective tissue and fetal vessels. In preeclamptic placenta the stem and intermediate villi had lots of apoptotic bodies and blood vessels, the smaller villi were scattered and instead of being covered by a single layer of cells, were covered with syncytiotrophoblastic and cytotrophoblastic layers thereby reducing the exchange surface area. Thus the reduced baby's birth weight and placental weight accompanied by histological changes of placenta such as small villi being placed distance apart and being covered with trophoblast reduced the exchange surface. As a result of this reduced fetoplacental circulation a state of hypoxia may have been produced which led to increased apoptotic bodies and blood vessels in stem and intermediate villi. These changes in tern may affect the growth and development of fetus.

**173. Role Of Nitric Oxide In Reproductive Regulation Of Male Mice**

**Madhu Yashpal**, Pankaj Kumar\*, Gajendra Singh Institute of Medical Sciences, Banaras Hindu University, Varanasi, Uttar Pradesh.

\*Colorado State University, College of Veterinary Medicine and Biomedical Sciences, Department of Biomedical Sciences, Fort Collins, CO 80523-1617, USA

Nitric oxide (NO), one of the most studied molecules in biomedical sciences, plays roles in various physiological functions and has a prospect of developing new therapeutic drugs aimed at curing important diseases.

The present investigation was planned to evaluate the role of NO in reproductive regulation of male mice. Experiments were carried out on pre-pubertal (3 weeks) and post-pubertal (10-weeks old) mice. In the first set of experiments, testes were quickly removed under ether anesthesia and stored at -20°C until assayed for total nitrate-nitrite concentration by copper-cadmium alloy method. Blood was also collected and serum separated for

radioimmunoassay for testosterone as per the RIA kit (Immunotech, France). In the second set of experiment, 8 weeks old mice were intraperitoneally injected with nonspecific pharmacological NOS blockers N-omega-L-arginine methyl ester (L-NAME) and NO donor Sodium Nitroprusside (SNP) for 2 weeks under 12L: 12D light dark cycle and sacrificed as above 5 weeks after the last treatment and testes and serum collected.

Results indicate that in pre-pubertal male mice, testicular tissue nitrate/nitrite level (measured in nMoles/mg Protein) increased (17.58±2.03) significantly than in the post-pubertal mice (7.08±0.98). The level of testosterone in pre-pubertal mice was significantly low (0.04±0.002 ng/mL) compared to the post-pubertal mice (3.48±0.65 ng/mL). However, the adult mice when treated with SNP showed no significant change in body weight compared to the control, but there was a significant decrease in body weight of mice when treated with NOS inhibitor L-NAME. The nitrate-nitrite level significantly increased in testis (1.29±0.32) of mice treated with L-NAME while there was no significant change in the level of NO content in SNP treated mice compared to control (0.54±0.09). The study also revealed significant histological differences in testes after the treatment of SNP and L-NAME. It is concluded that activity of the reproductive system and NO activity following the administration of NO modulator or inhibitor waxes and wanes simultaneously in male mice.

#### **174. Diclofenac Induced Side Effects On Various Organs of albino rat: An Experimental Study**

**Niranjan Richa**, Manik Punita, Srivastava A.K.  
U.F.H.Trust Medical College, Haldwani, CSM Medical University Lucknow

Diclofenac is contraindicated in gastric ulceration, liver dysfunction and dosage should be minimized in elderly and patient with renal impairment since diclofenac is extensively used in treatment of arthritis, pain and headache.

Present study was undertaken to see the effect of diclofenac for short duration (i.e. 1 month) on different organ at therapeutic and sub therapeutic doses. This study was conducted on 30 DR strain albino rats, weighing 180-200 gm of which 25 were female and 25 males. The animals were equally divided into 3 groups of 10 each (5 M & 5F) and were labeled as A, B & C. Group A served as control, B & C were given diclofenac in 5 & 10 mg/kg body wt/day orally for 1 month. After 1 month of treatment animals was sacrificed, mucosal lesion in stomach was observed in unperfused rats. Liver and kidney tissue was processed to see the histopathological changes. On naked eye examination of stomach mucosa showed no epithelial shedding & hemorrhagic lesion seen as compared to control group. Liver section of gp B showed enlarged hepatocyte with vacuolations in cytoplasm. Sinusoidal space was reduced. Thinning of bile canaliculi was observed.

#### **175. Histogenesis Of Pancreas In Human Fetuses.**

**A. S. Dhende**, D. S. Joshi  
Government Medical College, Miraj

The pancreas is an organ containing two distinct population of cells, the exocrine cells that secrete enzymes into the digestive tract, and the endocrine cells that secrete hormones into the bloodstream. The secretions of the pancreas play an important role in the homeostasis of carbohydrate metabolism, regulating the glucose level in the blood. It arises from the endoderm as a dorsal and a ventral bud which fuse together to form the single organ.

Very few studies have been done on the development of human fetal pancreas at various gestational age, thus leaving gaps in the knowledge of the histogenesis of pancreas.

Forty aborted human fetuses (25 male, 15 female) of 12-40 weeks gestational age with no obvious congenital abnormality were obtained from the Department of Obstetrics and Gynaecology of GMC, Miraj and prior consent of the parents. The study was approved by the Ethical Committee of our college. These fetuses included spontaneous abortions and stillborns.

Fetuses were weighed and subjected for careful dissection to remove entire pancreas. Pancreas were weighed and kept in 10% formalin for 3 days. Thereafter the pancreas were embedded in paraffin and thin 5-8µm sections were cut. These sections were stained with H & E and microscopic structure was studied.

The other parameters studied were the body weight of fetus, crown-rump length, pancreas weight, its length and the height of its head. All these parameters were compared with the crown-rump length and the gestational age.

Renal section of gp B showed no significant changes whereas gp C showed increase in cellularity of glomerulus with thickening of glomerular membrane degenerative changes in proximal and distal convoluted tubule. Congested and dilated vessels were seen in interstitium. Tubules in medulla showed degenerative changes with intraluminal protein exudates.

Thus from this study it can be concluded that if required diclofenac can be given in sub therapeutic doses in hepatic & renal compromised patients.

#### **176. Lymphoid Follicles Of Appendix** **Swayam Jothi Dorai Raj. S**

SMIMS South Local Street, Kottur, Chennai

Introduction: - Lymphoid aggregation is present at the beginning of G.I.T tract as Waldeyer's ring and towards the terminal part of G.I.T in the appendix. Though appendix was considered as a vestigial organ there must be definite significance of the structure present.

Aim: - The presence of lymphoid aggregation in the wall of appendix was studied.

Materials and Methods:-

- 1) Histological study of Appendix of 10 Normal fetuses and 10 normal adult cadavers were utilized for the study.
- 2) Histological study of Appendix of 10 patients who under went operation for acute appendicitis and chronic appendicitis were carried out.

Observation: - Lymphoid aggregation in the foetus was less than that of the adult. The lymphoid follicles in the adult ranged from 5 to 6 follicles the maximum diameter was 90 to 100 microns each. In chronic appendicitis the lymphoid aggregation extended from the submucosa to mucosa reaching the lumen of the appendix. In acute appendicitis the lymphoid follicles extended into the muscle and serosal coat.

Conclusion: - The lymphoid aggregation which had a protective role was defeated by the cause in acute inflammation and hence infection extended to the periphery and in chronic inflammation it was confined to the interior.

**177. Effect Of Drug Pantoprazole On Small Intestine Of Rat- A Histological Study**

**Singh Deepa**, Mehrotra Namita, Dass Praveen Kumar, Jethani S.L.  
HIHT University, Dehradun, Uttarakhand

Present study is based upon histopathological effect of Pantoprazole (proton pump inhibitor) on Small Intestine of albino rats. Pantoprazole was administered intraperitoneally to rats for 4 weeks. Rats were divided into 4 groups -1 control & 3 study groups (mild, moderate & severe dose of Pantoprazole). Control group (15 rats) was administered with vehicle (normal saline). After 3 wks rats were sacrificed with ether anaesthesia & tissue were procured. After tissue processing histological slides were made with H&E staining. On examination, In duodenum and jejunum -increase length of villi and marked hyperplasia of Brunner's gland in duodenum, in Ileum hyperplasia of lymphoid follicle were found in study group in comparison to control. Details of observation will be presented in conference.

**178. Occipitalization Of The Atlas**

**Sheeja Balakrishnan**, P.K.Ramakrishnan, M. A. Elezy  
Karuna Medical College, Villayodi, Palakkad, Kerala

Occipitalization of the Atlas is an important Congenital malformation of Craniovertebral region. In a sample of 62 Human adult skull of Karuna medical college examined for the fusion of Atlas and Occipital bone, only one specimen exhibited total Occipitalization in which the atlas was totally synostosed with the occipital bone with multiple bony defects. The embryological basis of this congenital abnormality and its clinical relevance is discussed.

**179. Gender Wise Study On Sacral Hiatus In Dry Sacra And Its Clinical Relevance**

**K. P. Bharath**, Janaki.C.S., Usha Kothandaraman.  
Meenakshi Medical College & Research Institute, Enathur, Kanchipuram.

Aim: To study all the different features of sacral hiatus among the sacrum in the Department of Anatomy, Meenakshi medical college & RI, Kanchipuram.

Importance: Sacral hiatus has been utilized for administration of epidural anaesthesia in obstetrics (Edward

et al 1942) as well as in orthopedic practice for treatment and diagnosis, Sekiguchi M et al (2004).

Materials And Methods: This study was conducted in 150 sacra. Grouped gender wise, there were 97 Male and 53 female sacra for the following different features of sacral hiatus.

Results: The shape of the sacral hiatus was classified into five types as follows-Type 1: Inverted U, Type 2: Inverted V, Type 3: dumbbell, Type 4: bifid, Type 5: Irregular. The most common was Type 1- Male (32%) Female (9.3%). The apex of the sacral hiatus was seen most commonly at the level of 4<sup>th</sup> sacral vertebra- male (45.3%) and female (21.3%). The base of the sacral hiatus was seen at the level of 5<sup>th</sup> sacral vertebra in male (61.3%) and female (24%). Various measurements were taken which included, 1. The length of the sacral hiatus from apex to mid point of base- 11-20 mm, Male (27%), Female (21%). 2. Antero posterior diameter of sacral canal at the level of apex- 4-6 mm Male (41%), Female (21%). 3. Distance between the sacral cornua at base of sacral hiatus-10-15 mm Male (37%), Female (20%) respectively.

**180. Accessory Foramen in Atlas Vertebra**

Ashwini H, **Sarita Sylvia**, K Sandhya, V B Nandyal.  
M R Medical College, Gulbarga.

The posterior arch of the atlas forms about 2/5<sup>th</sup> of the atlantal ring. The upper border of this posterior arch, behind the lateral mass has a wide neurovascular groove. This groove lodges the 3<sup>rd</sup> part of the vertebral artery and the dorsal rami of the first cervical nerve. Occasionally this groove is converted into a foramen and a bony canal called as "retro-articular canal".

In the department of Anatomy, M. R. Medical College, Gulbarga, out of 50 dried adult human atlas vertebrae, two vertebrae with such an anomaly on both sides were found.

**181. Morphometric Study Of Foramen Ovale & Spinosum**

Patil R. J., Ambali M.P., Jadhav S. D., Umarji B. N., **Khairnar K. B.**  
KMSU, Karad, Dist. Satara, Maharashtra

An anatomical study was undertaken to measure the dimension, shape of the two & presence or absence of canalis innominatus. Foramen ovale is of great surgical & diagnostic importance in procedures like percutaneous trigeminal rhizotomy in trigeminal neuralgia, transfacial fine needle aspiration technique etc.

We studied 100 human skulls available in the Department of Anatomy, KMSU, Karad. We found oval shaped foramen in 74.28% on right side & 72.85% on left side, round in 14.28% on right & 12.85% on left side, almond in 11.42% on right side & 11.42% on left side, triangular shape in 1.42% on right & 2.85% on left side. Morphometric measurements of foramen ovale & spinosum were taken in male & female skulls. Our finding will be discussed in details during presentation.

**182. Supra Condylar Process**

**K. Hema Sreenivas**

Narayana Medical College, CRNP, Nellore – A.P.

Introduction: Supra trochlear spur. (or) Supra condylar process is a spine like process above the trochlear process of humerus.

Aim: Present immediately above the medial condyle during routine Osteology of Osteology of humerus classes humerus bone. Showed this spinous process. So as an interesting feature study was done on skull bones of our Dept.

Material and Methods: Loo bones were taken for study from the department of Anatomy NMC.

Observations: 20 bones showed a beak like process on the anterior surface of humerus 3-4 cms above the trochlear process of the lower condyle of humerus.

Discussion and Conclusion: It is a common feature along with the struther's ligament in animals. This feature is quite a rare entity in humans.

It is of great clinical importance as it may cause compression of median nerve and leading to pronator teres brachial artery entrapment neuropathy.

**183. Morphometry And Variations Of Foramen Spinosum**

**Bhawani.V**, Biswabina Ray, Chandra Philip X, Kasturba Medical College, Manipal, Karnataka

The Foramen Spinosum is located postero lateral to foramen Ovale at the posterior border of greater wing of sphenoid. This foramen transmits the middle meningeal artery, meningeal branch of mandibular nerve/Nervous spinosus and posterior trunk of the middle meningeal vein. Knowledge about anatomy of foramen spinosum will be helpful during mandibular nerve block, surgical repair of meningeal cyst and repair of fistula formation in traumatic pseudo aneurysm between the middle meningeal artery & middle meningeal vein. 200 Sides of 100 human dry skulls were studied In Which 72 is male & 28 is female in the Department of Anatomy, Kasturba medical college Manipal & Mangalore and the Melaka medical college, Manipal. Antero-posterior & transverse diameter of foramen spinosum was measured with digital caliper. Variation in anatomy around the foramen spinosum was noted. Anatomical variations of foramen spinosum can be explained by developmental reasons. These study not only help the anatomist but also Neurosurgeons in the performance of micro vascular surgery. Knowledge acquired from the present study may improve the identification & preservation of the neurovascular structure during the surgical approach of the middle cranial fossa.

**184. Morphology Of Metatarsal Bones**

**Muralidhar P. Shepur**, B. Nanjundappa  
J. J. M. Medical College, Davanagere

The normal characteristics, variations and morphometry of metatarsal bones are essential for orthopedic and reconstructive surgeons. There are few studies on anatomic features of metatarsal bones. In them only few important variations are mentioned and measurements of metatarsal bones are not mentioned, hence this study is undertaken to study the normal features, variations and measurements of the metatarsal bones.

In addition to the variations mentioned in previous studies, this paper presents other variations of the metatarsal bones.

In our study metatarsal bones showed variations in articular facets. First metatarsal lateral surface of base showed distinct facet for second metatarsal, but it was a smooth area with indistinct margin in few and few specimens showed no facet.

The nutrient foramen was present in the plantar surface of metatarsal in few specimens and it was absent in few specimens. Other variations and measurements of few metatarsal bones will be presented during the conference.

**185. Study Of Interparietal Bone In The Adult Human Skulls Of North India**

**Anjoo Yadav**, Vinod Kumar, R. K. Srivastava

Rama Medical College-Hospital & Research Centre, Kanpur (U.P.)

As far as the Occipital ossification is concerned, the Squamous Occipital bone consists of 2 parts – Supra-occipital and Interparietal. The Supra-occipital part develops both in cartilage and membrane, while the Interparietal part, lying above the highest nuchal lines, develops in membrane by 2 pairs of centers.

Failure of fusion between these centers or their nuclei with each other and the Supra-occipital may give rise to various anomalies in the Interparietal region – as in the form of an independent separate bone – often termed Inca or Interparietal bone, which needs to be distinguished from sutural bones, developing in the region of Lambda and Lambdoid suture.

The present study was undertaken to observe the various types of Interparietals, commonly seen as well as their incidence in the adult human skulls of North India.

For this purpose, 1020 skulls were observed, belonging to the Anthropology Museum of Department of Anatomy, GSVM Medical College, Kanpur - which revealed Interparietal bone to be present in altogether 28 skulls (i.e. 2.75%) and their shape, size and number varied – all of which has been reported and discussed, in detail, in this study.

**186. Anatomical Variations Of Venous Drainage Of Heart – A Study On Cadaveric Specimens**

**Mahesh Sharma**, Devinder Kumar, Kanchan Kapoor, Balbir Singh  
Government Medical College, Sector 32, Chandigarh.

In recent times the veins of the heart have gained importance as a treatment modality for the ischaemic myocardium and carry great importance in cardiac surgery. Anatomic mapping of the cardiac veins is important to guide transvenous procedure such as biventricular pacing. The coronary sinus can be used for retrograde perfusion of the myocardium to salvage the ischaemic myocardium. This treatment became possible because of the presence of intramyocardial collateral venous circulation. So a detailed knowledge of cardiac venous anatomy is necessary for a successful catheterization of the coronary sinus and cardiac veins.

The dissection of the cardiac veins was carried out on 30 preparations of formalin fixed hearts obtained from cadavers. The opening of coronary sinus was approached through the opening of inferior vena cava and a 18G veinflow introduced into it. About 10 ml of 10% mixture of coloured CAB (Cellulose Acetate Buterite) crystals in acetone was injected into the coronary sinus. The specimens were left overnight and then placed into the 4% formalin solution. The specimen was dissected for the coronary sinus with its tributaries carefully and the following points were noted:

1. Tributaries of coronary sinus
2. Length of coronary sinus.
3. Caliber of coronary sinus and its tributaries.
4. Muscle bridges.

Various measurements of coronary sinus and its tributaries with other findings were taken and will be discussed in detail during the presentation.

#### 187. Cisterna Chyli

**Srinivas Rao. Y**, Thirupathi Rao. V, Ch.N.V. Bharath, Hemanth, Bapuji. P,  
Swayam Jothi Dorai. S.  
Asram, Eluru.

Introduction: - Normally cisterna chyli is the "abdominal confluence of the lymph trunks". It continues upwards as the thoracic duct. Cisterna chyli is formed by the two ascending lumbar lymph trunks and one intestinal lymph trunk. It is related to vertebral column L2 – L1 in the posterior abdominal wall.

Aim: - Usually cisterna chyli may be present or absent and also varies in its position, length and hence the study was carried out.

Materials and Methods: - During routine dissection of the posterior abdominal wall careful dissection and observations were made in 18 cadavers (15 male and 3 female).

Observations:-

§ In 8 cadavers cisterna chyli was absent and was present in 10 cadavers.

§ In 6 cadavers position of the cisterna chyli was at L2 – L1 vertebrae and in 4 it was at T12 – T11 vertebrae.

§ In 8 cadavers the length of the cisterna chyli was 4 – 5 cm. and in 2 cadavers it was 7 cm.

Discussion: - According to Kubik (1978) absence of cisterna chyli in 70 dissections was in 56 cadavers (80%). In our observation it was absent in 44% of cadavers. Their position and size also showed variations.

#### 188. Variation In Course Of Radial Nerve In Lower 1/3<sup>rd</sup> Of Arm – A Quantative Study

**B. Narasinga Rao, N. B. Devi, Sidharth Sankar**

**Maharana**

MIMS, Vizianagaram, Andhra Pradesh.

Knowledge in course of radial nerve is very important to the surgeons because of its vicinity in its course in the lower 1/3<sup>rd</sup> of the arm and frequency of surgical complications in supracondylar fractures of humerus. 20 upper limbs were dissected to quantitate course of radial nerve in the lower 1/3<sup>rd</sup> of arm. The distance between lateral epicondyle and the point where the radial nerve pierces the lateral intermuscular septum has been measured and the number of branches that are given by the radial nerve before piercing the lateral intermuscular septum have been noted.

The study is compared with the study of earlier authors. On an average the radial nerve crosses anteriorly 14 to 18 cm proximal to lateral epicondyle of humerus in the present study.

The details will be discussed during the presentation.

#### 189. Effect Of Myofascial Release Technique In Treatment Of Plantar Fasciitis – Case Series Study

**Parvatha Priya**, Balaji T.K. And S. Aruna

Chettinad Hospital and Research Institute, Kelambakkam, Kanchipuram Dist.

Plantar fasciitis refers to inflammation of plantar fascia, the most common cause of inferior heel pain. This condition is commonly seen in weight bearing and athletic populations. Plantar fasciitis leads to compression of perivascular structures and alteration of gait. Though, many therapeutic methods are in practice, the study focuses on effectiveness of myofascial technique in the treatment of plantar fasciitis. 10 subjects with the clinical diagnosis of chronic plantar fasciitis were selected. The patients received myofascial release for 15 minutes for 10 consecutive days. The outcome was assessed in terms of VAS & Dorsiflexion of big toe. Myofascial technique tends to change the viscosity of ground substance to more fluid state thereby eliminates pressure on the pain sensitive and per fascial structure and restores proper alignment. The result of the study was significant & thus concluded that myofascial release is an effective therapeutic option in the treatment of plantar fasciitis.

#### 190. Comparative Morphometric Analysis of Atrioventricular Valve in Vertebrates (Goat, Sheep and Human)

**Anandaramajayan N**, Sundarapandian S, Radhika Krishnan J, Mohammed Noorullah, Vedhanayagam D.



S.R.M. Medical College Hospital and Research Center, SRM Nagar,  
Kattankolathur, Kancheepuram District, Tamilnadu

**Purpose Of The Study:** To observe the morphometric analysis of Atrioventricular Valve in sheep, goat and human hearts.

**Materials And Methods:** 65 hearts were dissected (30 goat, 30 sheep & 5 human hearts). The tricuspid & mitral valve were then visualized cutting through the annulus fibrosis in between anterior and posterior leaflet. The height, length of the attached border and free border of the leaflet were measured and statistical analysis using t-test using SPSS program.

**Result:** The atrioventricular valve in human were almost the same as that of goat (i.e. the posterior leaflet of goat ( $x=30.17$ ) was equal to that of anterior leaflet of human ( $x=36.20$ ))

The attached border of left atrioventricular valve was insignificant with goat & sheep ( $P<0.400$ )

The attached border of right atrioventricular valve was significant with goat & sheep ( $P<0.011$ )

**Conclusion:** Artificial valves (synthetic valves) are used during rupture of AV valve which lets way to irregular heart beat, thrombosis, embolism leading to further complication. To minimize this, goat AV valve can be used as bioprosthesis in human atrioventricular valve replacement.

**191. Morphology of the Fibularis Tertius Muscle and its Clinical Correlation**  
**Praveen B Iyer.**

Seth GS Medical College, Mumbai

**Background:** Variations regarding site of attachments and morphology of the fibularis tertius (FT) have been studied in the past and reported but in the Indian context, such studies have been far and few. Moreover the muscle has important clinical applications in reconstructive surgeries like transposition with retention of function.

**Aims and Objectives:**

1. To determine the incidence of the muscle
2. To measure the length and width of the muscle and the tendon
3. To measure the proportion of the fibula occupied by the origin of the muscle

**Material and Methods:** The morphology of the FT muscle was studied 60 lower limbs by thorough dissection. Measurements were taken using divider, thread, metric scale and a Vernier caliper.

**Results:** FT was absent in seven (11.6%) lower limbs. The average length and width of the FT muscle was 65.32 mm and 22.28 mm respectively. FT arose from the distal fibula and on average occupied 17.51 + 5.26 % (mean + S. D). The average length and width of the FT tendon was 58.73 mm and 3.57 mm respectively. FT was inserted on the base of the fifth metatarsal in 45% of limbs, on the base of the fourth metatarsal in 11.6% limbs and on the base of both the fourth and fifth metatarsals in 30% limbs.

**Conclusion:** Variations in the morphology and attachments of the FT muscle must be mentioned in

textbooks of anatomy.

**192.**

**Bony Abnormalities Predisposing To Thoracic Outlet Obstruction**  
**V. Lokanayaki,** Christilda Felicia  
Madras Medical College, Chennai.

Aim of this study is to highlight the anatomical variations which are both clinically and surgically significant than being anatomical curiosities alone which predisposes to neurovascular compression at thoracic outlet.

Hence the contributory factor leading to thoracic outlet syndrome (TOS) is studied in detail from the collection of bones in The Institute of Anatomy Madras Medical College. In two specimens cervical ribs were present bilaterally. Rudimentary Accessory Fused First rib was present on both sides in one specimen..Fused First rib with Second rib present in three specimens.Further details of observation will be discussed at the time of presentation along with its clinical correlation.

**193. Anatomical Variations Of Vermiform Appendix**  
**Shashikala Patel,** A. N. Wanjari, R. R. Fulzele  
Jawaharlal Nehru Medical College, Sawangi (Meghe) Wardha

Vermiform appendix is an organ with immunological function in the abdominal cavity which is variable in position and length. It is important in different disease processes, such as appendicitis, carcinoma and diverticulitis. Appendicitis is the most important clinical condition that needs emergency surgery. Variations in anatomical positions cause different clinical presentation. The aim of this study is to determine length, width, variations of the positions and extent of mesoappendix of vermiform appendix. Appropriate anatomical knowledge about vermiform appendix is important for surgeons, pathologist and other physician for proper diagnosis and management of appendicitis. The study is going on department of anatomy, Jawaharlal Nehru medical college, sawangi (meghe), wardha. Fifty (50) human postmortem vermiform appendixes will be studied. Samples were observed in situ in the unclaimed dead bodies. Observations and result will be discussed during paper presentation.

**194. Absence Of Isthmus Of Thyroid**  
**Shabana Sultana,** Neelee Jayasree, G. Narasimha Reddy, Md.Younus, Neeraja, Srinu, Naresh.  
Chalmeda Anand Rao Institute of Medical Sciences, Bommakal, Karimnagar

During routine dissection of the cadaver by students in dissection hall one rare anomaly was observed i.e. absence of isthmus of thyroid.

A detailed description will be presented and discussed.

**195. Embalming Techniques**

**Asha S. Deshpande**, A.V. Kulkarni, R.N. Kalghatagi, S. K. Deshpande  
SDM College of Medical Sciences And Hospital, Sattur, Dharwad

The process of embalming has a very long history dating back to Egyptian process of mummification.

Embalming is meant to preserve the body for long duration with different chemicals for study and other purposes embalming and the techniques used in our department and institution will be dealt in my presentation.

#### 196. **Plastination Of Bony Labyrinth**

**N. M. Shama Sundar**, Asharani S. K  
JSS Medical College, JSS University, Mysore

Structure of cochlea and the spatial relationship of three semicircular canals are very difficult to understand. Use of a cast makes the task much easier. Use of a cast will supplement better understanding. In this context, a Luminal cast of bony labyrinth has been attempted by Plastination technique.

The cast is made using dry/wet temporal bones. The collected specimen is kept in 1% Potassium hydroxide solution to dissolve the soft tissues present in the bony labyrinth. The cleaned specimen is filled with a mixture of Polyester resin, hardener and catalyst (colours if necessary) through the oval window using a syringe. The bone is kept undisturbed for about a day. Then the cast of bony labyrinth is obtained by demineralising the bone using 10% hydrochloric acid.

Thus resin cast method helps in the better understanding of the complex structure of bony labyrinth and helps in teaching students and clinicians.

#### 197. **Sheet Plastination For Preserving Cross-Sections Of Upper Limb – Technique And Advantages**

**K. Shanmuganathan**, U. Sembian, S. Roy, K. R. Srinivasan, N. M. Shamasundar\*  
AVMC, Puducherry, \*JSSMC, Mysore.

**Introduction:** This era being dominated by many imaging modalities, demands a thorough knowledge of sectional anatomy. Sectional study using formalin preserved cross-sectional specimens get damaged with repeated handling. This fact and the disadvantages of formalin can be alleviated by PLASTINATION, a new technique for preserving perishable biological specimens. A variation of this technique to preserve cross-sectional specimens is SHEET PLASTINATION.

**Aim of study:** To prepare permanent cross-sectional specimens using the technique of sheet plastination. To compare and correlate them with corresponding MRI images.

**Materials used:** Sections of fresh formalin fixed upper limb specimen, acetone, general - purpose resin, resin hardeners, glass sheets and rubber tubing.

**Results:** The plastinates (finished specimens) were dry, odorless, handable, portable, need nil maintenance and are associated with high teaching value.

**Conclusion:** These plastinates are an excellent tool for learning sectional anatomy. The various uses of these plastinates will be elaborated on the dias.

#### 198. **Presentation of Anatomy Museum of Kasturba Medical College, Manipal**

**Venkatesh G. Kamath**, Sneha G. Kalthur, Sharada R, Shakunthala R. Pai  
Kasturba Medical College, Manipal

Museum is a place where the various parts of the human body as well as parts of bodies of other related species are preserved and displayed for understanding the interior of the body. Our Anatomy Museum is one of the best in Asia, with a large display of specimens. This is a poster presentation of our museum showing the sectional arrangement of specimens and their preservation. It also shows some of the special features of Museum, like catalogues for each specimen etc.

The Aim of the presentation is to provide an idea of construction of an Anatomical Museum.

#### 199. **Chiari Type II Malformation - A Case Report**

**Vijay Shinde**, Virupaxi Hattiholi, Mahesh Kamate, Daksha Dixit, Virupaxi RD, Shilpa Bhimalli  
KLE University's JNMC, Belgaum

The Chiari II malformation is a complex congenital malformation of the brain, nearly always associated with myelomeningocele. This condition includes downward displacement of the medulla, fourth ventricle, and cerebellum into the cervical spinal canal, as well as elongation of the pons and fourth ventricle, probably due to a relatively small posterior fossa. We here report a child with this rare malformation. A 22 days old child was referred to KLE Hospital with swelling in the nape of neck. On examination the baby had cervico-meningocele. There were no other dysmorphic features and the systemic examination was within normal limits. Magnetic resonance imaging (MRI) of the brain and cervical spine revealed mild to moderate degree dilatation of lateral and third ventricles with thinned out corpus callosum. The fourth ventricle was normal and there was herniation of cerebellar tonsils into foramen magnum. The central spinal canal was widened with CSF values from lower cervical region till conus medullaris suggestive of syringohydromyelia. Herniation of thecal sac with meninges & nerve roots was noted at the level of C2 suggestive of meningomyelocele. These findings gave the diagnosis of ACM type II. The details of this condition is briefly reviewed.

#### 200. **Assessment Of Normal And Variation Of Foramen Spinosum With High – Resolution CT**

**Bhawani.V.**, Shakunthala.R.Pai, V. R. K. Rao  
Kasturba Medical College, Manipal, Karnataka

The Foramen Spinosum is located postero lateral to foramen Ovale at the posterior border of greater wing of sphenoid. The foramen transmits middle meningeal artery, meningeal branch of mandibular nerve / Nervus Spinosus

and posterior trunk of the middle meningeal vein. Knowledge about anatomy of foramen spinosum will be helpful during mandibular nerve block, surgical repair of meningeal cyst and repair of fistula formation in traumatic pseudo aneurysm between the middle meningeal artery & middle meningeal vein. This study proposes to identify anatomical variation of the foramen in human using high resolution CT Scan (HRCT). 200 Sides of 100 High-resolution CT images were obtained in which 67 are From Male patients & 33 are From Female patients of different age varying from 21 to 65. The Transverse & anterioposterior diameter is measured directly from working area of CT equipment by means of cursor measuring of the computer. Variations in size, Shapes, orientation of the foramen spinosum were noted. Images of three subjects were excluded from the study because of movement blurring during scanning.

**201. A Radiological Study Of The Trabecular Pattern In The Upper End Of Femur In Post-Menopausal Women.**

**Veena Vidya Shankar**, Jayanthi V\*, M. G. Srinath, Roopa R Kulkarni.

M. S. Ramaiah Medical College, Bangalore, \* Vaidehi Institute of Medical Sciences, Bangalore.

**Aim:** Anatomically, the upper end of the femur is a common site for osteoporosis. Therefore, the trabecular pattern in the upper end of femur is analyzed on the basis of the presence or absence, the relative number and density of the trabeculae, trabecular group and also by grading of trabeculae.

**Materials & Methods:** 200 frontal projection pelvis radiographs of women between 18-100 years of age have been studied. In this study, attempt has been made to test presence, pattern & grading of trabecular pattern in pre and post-menopausal females and to find out the influence of age and post menopausal age on trabecular patterns.

**Results:** All the readings were tabulated and subjected to analysis.

**Conclusion:** This study will be useful for anatomists, radiologists and clinicians to recognize the trabecular pattern and possibly help in detecting osteoporosis and limit its progress in early stages.

**202. Unilateral Phocomelia – A Study Report**

**Vidya R.**, Rajila R, Balaji T K, Aruna S  
Chettinad Hospital and Research Institute, Padur,  
Kanchipuram Dt., Tamilnadu

Phocomelia is a defective limb reduction disorder characterized by the presence of rudimentary limbs attached to the body. The forelimb and hindlimb buds develop during the fourth week of intrauterine life. Although limb reduction deformities occur rarely, it is usually hereditary or more commonly caused by harmful drugs taken by the mother especially during first trimester of pregnancy. Bilateral phocomelia has been frequently reported, where as, unilateral phocomelia is a rare entity with no known specific external factors influencing it. A full term stillborn foetus with unilateral phocomelia was delivered to our department.

It had defective left upper and lower limb. Both the defective limbs were rudimentary and attached to the trunk. The detailed description of the anomaly, causative factors, associated anomalies, diagnostic techniques, preventive methods and clinical implications are discussed.

**203. Median Cleft Of Lower Lip With Cleft Mandible And Double Tongue: A Case Study**

**Malabika Debi**, Roonmoni Deka, H. Bayan  
Gauhati Medical College, Guwahati

**Aim of study:** To correlate above mentioned congenital malformations with developmental pathology and genotype of the individual.

**Introduction:** Median cleft of lower lip and mandible is a rare anomaly. This Cleft has also been described as Cleft No.30 of Tessier's classification. The earliest report of this anomaly was by Couronne' in 1819. Since then very few cases have been reported in literature with variations.

**Materials and methods:** We describe a first born male baby who presented at the age of 5 months with median cleft of lower lip extending upto symphysis ment'. It was associated with cleft mandible and two completely separated well formed tongues since birth. The child had no respiratory problems but was unable to take breast milk adequately, eventually requiring formula feeding by spoon from the first day of life. Other associated visible anomalies not reported. No significant antenatal history of drug intake, radiation exposure, major illness, etc. of the mother during her pregnancy could be elicited.

However, positive family history from patient's paternal lineage was reported. Routine investigations were found to be normal. X ray mandible and skull revealed midline mandibular defect with cleft lower lip with skeletal dysplasia. Echocardiography revealed normal biventricular function. Sample for karyotyping sent and result of report awaited. The patient underwent first phase of reconstructive surgery and is planned for further operative repair at later stage.

**Discussion:** The literature for this case is collected. An attempt to correlate the developmental pathology and genetic significance of the mentioned condition is under process and the detail study results can be displayed and discussed at the time of conference.

**204. Involted Complete Remnant Of Thymus In A Cadaver – A Case Report**

**M. V. Ravishankar**, P. S. Jevoor, V. S. Shirol, S. P. Desai  
J.N.Medical College, Belgaum.

Thymus is a lymphoid organ situated in the superior mediastinum, behind the sternum and in front of the pericardium. Thymus under goes involution usually after the puberty.

During the dissection of the male cadaver aged around 55 years, in the thoracic cavity in the mediastinal area we have noticed two bluish brown coloured mass, having spindle lobulated appearance, connected with each other in the middle.

The location and morphology of mass was resembling the thymus gland. The mass was collected and subjected to the histological sectioning and staining, then we could recognize the majority of the mass was filled with fatty lobules, it is suggestive of involuted remnant of thymus gland. Such complete thymic remnants were reported in the literature. The details of this remnant and its clinical importance will be considered during the presentation.

**205. Cephalad Renal Ectopia**

**Shajin T.**, Deepti Shastri, Rajesh N. A.  
VMKVMC, Salem

Abnormal locations of kidneys are well known but the incidence of high ectopic kidneys is not well documented. We present a case of a high ectopic right kidney which was identified as an incidental finding in a patient admitted to VMKVMC & H, Salem with pyrexia of unknown origin. The patient underwent an intravenous pyelography (IVP) following an abdominal USG report of an empty right renal fossa. The inferior border of the right kidney was found to be at T10 level on IVP and a repeat abdominal USG. The kidney was intra-abdominal, below the right dome of diaphragm. The left kidney was located in the normal anatomical position. The patient has been advised to undergo a CT scan to accurately localize the position of both the kidneys and to note the relations of adjacent structures to the anomalous kidney including its blood supply. This condition is of special interest to all medical professionals as the right kidney usually does not rise as high as the left kidney because of presence of the liver (Schoenwolf et al, 2009).

**206. Thoracic Kidney**

**Sai Karthik J.**, P. Saraswathi  
Saveetha Medical College & Hospital, Chennai

**Aim:** To discuss the cause of Thoracic kidney which is one of the rarest of rarest anomaly to occur in Kidney development.

**Materials:**

Computed Tomography (P&C) scan with 3D imaging software, Omnipaque contrast, Pressure injector.

**Methods:**

50 CT- Abdomen cases were evaluated in Saveetha medical college hospital, Thandalam, for various reasons, out of which one female aged 55yrs had absence of right kidney in the right renal fossa with history of breathlessness. The investigation of the case was further carried out to find the missing right kidney.

**Result:** The missing right kidney was found in posterior mediastinum.

**Conclusion:** The Embryological, Genetic defect & Radiological features of this rarest anomaly will be discussed in the venue.

**207. Placental Dimensions – An Index To Foetal Viability**

**Arathi M. S.**, Vathsala Venkatesan, Johnson W.M.S.  
Sree Balaji Medical College And Hospital, Chennai

Size of the placenta can determine whether the fetus will survive or not. In the present study 30 unfixed freshly delivered placentae of both preterm and full term fetuses were used, to determine the correlation between placental volume and baby weight. Volume of the placenta was calculated using water displacement method and by using the gross parameters length, breadth and thickness. Results were tabulated and analyzed for correlation between placental size and baby weight. Thus calculation of placental volume by ultrasound can be an accurate method of predicting the viability of foetus.

**208. An Unusual Case of Unilateral Renal Agenesis with Bilateral Ureteric Openings in Urinary Bladder**

**S. J. Kakde**, A. D. Kannamwar, P. Bokariya A. M. Tarnekar, I. V. Ingole.  
MGIMS Sevagram Wardha.

During routine dissection in a 60 year old male cadaver we found an empty left renal fossa. The right kidney was found to be enlarged with multiple cysts on its surface along with dilated renal pelvis and ureter. Left ureter could not be traced in abdomen however it was seen as a small fibrotic chord like structure in the vicinity of urinary bladder. On opening the urinary bladder we noticed normal trigone with two ureteric openings. Details of our findings, other associated features, developmental aspects, clinical significance along with relevant review will be discussed.

**209. Anencephaly – A Case Report**

**Ashwini Markod**  
S. N. Medical College, Bagalkot.

A 22 year old female with a history of months amenorrhoea was advised for ultrasound examination. She was diagnosed having an anencephalic fetus of 28 weeks gestation.

It was her first pregnancy i.e. Gravida one. Labor was induced and female fetus of 900 gms along with placenta were removed.

Anomalies resulting from fracture of neurulation are quite common, although neural folds may fail to neurulate in almost any region the most frequent site is craniorachischisis or anencephaly.

Further details of the case will be discussed during presentation.

**210. Variant Course Of Left Gonadal Artery**

**Mamatha Y.**, B. R. Ramesh  
Dr. B. R. Ambedkar Medical College, K.G.Halli, Bengaluru, Karnataka.

During routine dissection of 20 cadavers (40 sides) in Dr.B.R.A.M.C, in an adult male cadaver it was observed that the left gonadal artery took origin at the same level as of Renal Artery(L-1) and then traversed superiorly and found arching Renal vessel anteriorly and then terminated

normally supplying Gonadal organ. Embryological and clinical aspects of such variation will be discussed.

**211. A Rare Case Of Unilateral Absence Of Right Lower Limb In Aborted Fetus From An Hypertensive Mother – (Robert's Syndrome)**

**Arun Kumar S. Bilodi**

HIMS, Hassan

**Aim:** To report a rare case of unilateral absence of right lower limb in aborted fetus.

**Place of Study:** In the labor ward of Narayana Medical College Hospital, Nellore, A.P.

**Period of Study:** The aborted fetus was studied in the month of February 2009.

**Case Report:** A mother of age 23 years old aborted a fetus of 24 weeks size in the labor ward of Narayana Medical College Hospital, Nellore, A.P.

**Observation:** On observation fetus had absence of right lower limb. Others were normal. There was no other anomalies were seen in the fetus.

**Conclusion:** This congenital absence of lower limb, was of embryological and genetically importance, hence it was studied, and reported.

**212. Palmar Dermatoglyphics In Patients With Sputum Positive Pulmonary Tuberculosis In Age Group Between 20 – 60 Years.**

**Gayatri, S. D. Desai**

Shri B.M.Patil Medical College Hospital and Research Centre, Bijapur

Dermatoglyphics is a branch of science which deals with the study of ridge patterns on finger tips, palms, soles and toes. Dermatoglyphic traits are formed under genetic control early in the development, thus represent the genetic makeup and predisposition to certain diseases. By analyzing various parameters, it is possible to certain extent to predict chance of acquiring pulmonary tuberculosis.

The prints of 100 diagnosed patients from Shri B.M.Patil Medical College Hospital were compared with controls. The quantitative study included TFRC, AFRC, mean 'atd' angle. The quantitative study included finger print patterns, palmar patterns. The significant parameters found in the study group are, Lower mean 'atd' angle, Higher mean AFRC, Higher mean TFRC. These parameters found in the study may be used to predict individual's chance of acquiring pulmonary tuberculosis.

**213. Genetic Study Of Atopic Asthma**

**Vasanti Arole, Jasbir Kaur**

Pad. Dr. D. Y. Patil Medical College, Pimpri, Pune.

Atopic Asthma is a hereditary disease. Since chromosomal constitution of the individual is decided by heredity, the chromosomal study of Atopic Asthma patients has been undertaken. Also the 1<sup>st</sup> & 2<sup>nd</sup> degree relatives of the patients have been studied to know if they are showing

similar chromosomal patterns as that of the patients, even if they are not suffering from the disease today. 25 patients of Atopic asthma have been studied so far with their available relatives.

The clinically diagnosed patients of Atopic Asthma were selected after testing for IgE levels since the IgE levels are known to increase in Atopia. It was confirmed that these patients were not suffering from any other lung ailments.

2 ccs of blood of the subjects under study was collected in heparinized syringe & was cultured for 68 hrs at 37 ° C.

The cells were captured in premetaphase or early metaphase stage to study the Banding pattern clearly. Chromosomes were identified & Karyotype was prepared. Chromosomes were photographed by digital camera & transferred to computer. Chromosomal bands were studied in details.

It was observed that there was deletion of Bands on chromosome nos. 2, 7,10,11,12 & 'X'.

Details will be discussed in the full Paper.

**214. Genetic Basis Of A Case Of Congenital Bone Fragility Syndrome**

**Sheetal Prabhu (Pattanshetti), P. S. Jevoor, S. M. Antin, V. S. Shirol, V. M. Pattanshetti.**

KLE University's J. N. Medical College, Belgaum

A female child aged 14 years was brought to the hospital with presenting complaints of swelling and pain at old operated site on the left femur since two days. Swelling was sudden in onset and progressive in nature. Pain aggravated while walking and was relieved on taking rest. The child had a past history of repeated trauma while playing in school. There was history of fracture of left femur 4 years back and was operated on left femur thrice in the past. There was history of road traffic accident on left tibia which was operated 2 years back.

The child was diagnosed as a case of Osteogenesis Imperfecta. The clinical manifestations, differential diagnosis and genetic basis of the same will be discussed during the presentation.

**215. Age At Diagnosis In Turner (TS) And Klinefelter Syndrome (KFS): Correlation With Karyotype.**

**Ranganath V, Rajangam S, Roopa R**

St. John's Medical College, Bangalore

**Aim of the study:** The aim of the study is to correlate the age, chief complaints at the time of referral and with the determined karyotype in TS and KFS.

**Material and method:** Data on 181 TS females and 72 KFS males are obtained both retrospectively and prospectively. With informed consent, the proforma for TS females and KFS males were taken and based on routine cytogenetic banding techniques, the metaphase spreads were prepared. 15 to 20 metaphase spreads were analyzed; the karyotype was determined and documented based on ISCN nomenclature.

**Results:** In TS, the chief complaints at the time of referral are primary amenorrhea (PA), ?TS, secondary

amenorrhoea (SA), bad obstetric history (BOH), primary infertility (PI), growth retardation (GR), multiple congenital abnormalities (MCA), ambiguous genitalia (AG), primary ovarian failure (POF), sexual infantilism (SI) and others such as short stature, absence of secondary sexual characters. In KFS, included in the chief complaints were, KFS, hypogonadism (HG), impotency, bad obstetric history (BOH), infertility, sex determination (SD) and others. In KFS, included in the chief complaints were, KFS, hypogonadism (HG), impotency, bad obstetric history (BOH), infertility, sex determination (SD) and others such as oligospermia, azospermia etc. The mean age of the TS females at the time of referral was  $21.10 \pm 11.78$ . The age at the time of referral was peak at 15, 16 and 18 years with typical 45,X karyotype. In KFS, mean age at the time of referral was  $25.80 \pm 8.14$  and the peak distribution was 28 years of age with typical 47,XXY karyotype. The observations indicated that there exists an association of age at diagnosis with chief complaint at the time of referral.

Conclusion: Significant correlation was observed between probands age in both TS and KFS with observed chief complaints. Genetic counseling had been provided to the parents about the career development of TS and KFS individuals.

#### 216. An Anomalous Liver: A Case Report

**Patil A.R.**, Joshi D.S, Katti A.S.

Govt. Medical College, Miraj (Maharashtra).

Congenital abnormalities of human liver are rare. A possibility of the presence of abnormal liver has to be kept in mind when an unexplained abdominal mass is encountered. There are many kinds of described congenital abnormalities of human liver such as agenesis of its lobe, absence of segments, deformed lobes, decrease in size of lobes, atrophy of lobe, hypoplastic lobes etc. Nevertheless knowledge of such anomalies is important since they do not always remain clinically latent. Following median sagittal section of an 83 year old female cadaver, the liver was eviscerated when multiple grooves on the anterosuperior surface of right lobe of liver were found. We also noticed hypoplasia of left and caudate lobe of liver. The precise knowledge of the accessory sulci may be important for radiologists interpreting CT images of injected veins. The gross anatomical findings of anomalous liver and its clinical implications are being highlighted in the present study.

#### 217. Accessory Renal Veins With Unilateral Atrophy Of Kidney – A Case Study

B.R.Zambare, **Bhaskar.B.Reddy**, B.N.Umarji\*, Santosh.V.Shinde

P.D.V.V.P.F's Medical College & Hospital, Ahmednagar, \* KIMS University, Karad.

Accessory renal veins are less common when compared to the accessory renal arteries. Major advances in the field of urology, nephrology and kidney transplantation surgery have increased the curiosity and significance to study the various normal and abnormal patterns of the renal vessels in a greater detail. The development of the renal

veins is a complex process with many possible alternative patterns of formation. Right renal vein develops from upper part of right sub cardinal vein and left renal vein develops from pre aortic anastomosis between right and left sub cardinal veins.

During routine dissection procedure, in a male cadaver, accessory renal veins with unilateral atrophy of kidney are found. Three accessory renal veins are found on right side and all of them are independently opening into the inferior vena cava. On the left side, kidney size is greatly reduced (atrophy) and the size of the left renal artery is also smaller.

#### 218. Tubular Stomach - A Case Report

**Panjala Bhargavi**, P. Satyavathi Devi, M. J. Phukon, Rupshikha Dutta.

PIMS, Nagunor, Karimnagar, A.P.

The knowledge of anatomical variations and abnormalities in the size and shape of the stomach are important, whether they are congenital or acquired. Due to modern investigative procedures like ultrasound scanning, endoscopy, C.T scan, M.R.I etc many variations in the human body are coming to light. The different shapes of the stomach described in the standard text books are Hourglass type, Steerhorn type (acquired), Hypertrophic pyloric stenosis (congenital), etc

Aim:- To study the variation of gross features of the specimen i.e. stomach by correlating with the available literature.

Materials And Methods:- During routine dissections of 2008-2009 undergraduates batch, a small tube like stomach was observed in the left hypochondrium, in a middle aged male cadaver. The stomach was dissected out and studied.

Observations:- The measurements and photographs are taken and the histopathology reports are also noted down.

Conclusion:- Tubular stomach may be included as one of the rare variations of stomach. As this particular gross feature have not been mentioned in any standard textbooks it will be of interest to the medical fraternity. The findings will be discussed at the time of paper presentation.

#### 219. Unusual Origin Of The Radial Artery

**Balachandra N**, Prakash B. S., Padmalatha.K, B. R. Ramesh

Dr. B. R. Ambedkar Medical College, K.G.Halli, Bengaluru, Karnataka

During routine dissection of cadavers allotted to MBBS students, a rare variation in the origin of Radial Artery was found. It was seen to be arising from the third part of the axillary artery, in the axilla, emerging between the two roots of the median nerve. In the cubital fossa, it is seen giving off a communicating artery to the ulnar artery. Its clinical importance will be discussed.

#### 220. An Abnormal Communication Between Median Nerve And Musculocutaneous Nerve – A Case Report

**Manjunath. S. Halagatti**, C. M. Ramesh, B. Nanjundappa, Muralidhar. P. Shepur, Mutyalapti Venkata Ramulu  
JJM Medical College, Davangere

Median nerve and musculocutaneous nerve are important nerves of the upper limb. Median nerve is the nerve for the anterior compartment of forearm and the thenar muscles. During routine dissection, we have found an abnormal communication between the median and musculocutaneous nerves in the left arm of a 65yr old male cadaver. The lateral and medial roots of median nerve joined lateral to the 3<sup>rd</sup> part of axillary artery. This common trunk further in its course received a communicating branch from musculocutaneous nerve in the middle of the arm. The musculocutaneous nerve was normal in its origin from lateral cord of brachial plexus. Though the variations of this kind are uncommon, general surgeons and orthopaedicians are to be aware of this variation, so as to avoid possible complications during surgeries. The details of the study and the significance will be presented in the conference.

#### 221. Obturator Artery – A Case Report

**Sameen Taj**, A. V. Angadi, V. Ravikumar  
J.J.M. Medical College, Davangere

Aim: To study the course and origin of obturator artery.

Materials and Methods: The present study was conducted on 12 embalmed cadavers in the Department of Anatomy, J.J.M. Medical College, Davangere.

Results: The present study which was conducted on 24 pelvic halves, it was found that in majority of the specimens, obturator artery took its origin from the anterior division, individually or in common with other named branches. It was also observed that the obturator artery took origin from posterior division of internal iliac artery, external iliac artery, and inferior epigastric artery.

Conclusion: The knowledge of such type variations in the origin of the obturator artery is important for surgeons operating on direct, indirect, inguinal hernias, and femoral hernias for vascular surgeons and radiologists.

The details of which will be discussed at the time of presentation.

#### 222. Additional Slip From Clavicular Head Of Sternocleidomastoid - A Case Report

**Dil Islam Mansur**, Ganesh Kumar C, Ashwin Krishnamurthy.  
Kasturba Medical College, Manipal University, Karnataka.

The sternocleidomastoid is present across the side of the neck with two heads of origin, the sternal head arising from the upper part of the anterior surface of the manubrium and sterni, and the clavicular or lateral head arising from the superior surface of the medial third of the clavicle. During routine dissection conducted for the undergraduate students in a 45yr old male cadaver. We encountered an additional fleshy clavicular belly of the SCM muscle on the

right side. The knowledge of this variation is important for surgeons as it covers important neurovascular structures and also because of its importance in reconstructive surgery.

#### 223. Assimilation Of Atlas: A Case Report

**Vinay G**, Imtiazul haq, Usha V.  
B.M.C & R.I, Bangalore.

A case of partial fusion of atlas has been found in a skull during routine study of bones. Atlas is an atypical cervical vertebra; body is absent unlike in other cervical vertebra. It forms ellipsoidal synovial joints with the condyles of the occipital bone. Fusion of atlanto-occipital joint may be complete or partial. Fusion of the atlas to the base of the occiput may be congenital malformation. The knowledge of such a fusion is important for anesthetist, orthopedician, radiologist and neurosurgeon, because the skeletal abnormalities at the cranio-cervical junction may result in sudden unexpected death. It can also result in dysarthria, dysphagia or torticollis due to cranial nerve compression.

#### 224. Unilateral Variation In The Branching Pattern Of Axillary Artery – A Case Report

**Makarand V. Apte**, R. S. Garud  
B. V. U. Medical College, Pune

During routine cadaveric dissection, finding a variation in the normal anatomical structures is of great interest to all the anatomists.

Here, we present a case regarding a unilateral anomalous branching pattern of the Axillary artery, found on the right side in an old male cadaver during a routine cadaveric dissection.

Conventionally, Axillary artery is described as having three parts - first, second, third - with reference to the tendon of insertion of Pectoralis minor muscle. Each part then gives off its own branches as first part one, second part two and third part three.

In the present case, the first part of Axillary artery does not give any branch. The second part is seen to divide into - a) Superficial and b) Deep branches. Both the branches are of equal diameter.

a) The superficial branch after giving Thoracoacromial Artery in second part and Anterior Circumflex Humeral Artery in third part continued in the arm as the brachial artery.

b) The deep (described by many as accessory axillary artery) branch distributed the following branches - i) Superior Thoracic Artery, ii) Lateral Thoracic Artery, iii) Accessory Thoracic Artery, iv) Subscapular Artery and v) Posterior Circumflex Humeral Artery.

This case will be discussed in the presentation with the concerned clinical relevance.

#### 225. Morphometric Analysis Of Foramen Ovale And Its Anatomical Variation: A Dry skull Study.

**Chandra Philip X**, Biswabina Ray, Bhavani  
Kasturba Medical College, Manipal.



**Objectives:** Foramen ovale differs in shape and size through out the natural life. It is situated in the anterior part of the sphenoid bone, posterolateral to the foramen rotundum.

It transmits mandibular nerve, accessory meningeal artery, lesser petrosal nerve and emissary vein. Foramen ovale is of great surgical and diagnostic importance in procedures like percutaneous trigeminal rhizotomy for trigeminal neuralgia, transfacial fine needle aspiration technique in perineural spread of tumour and electroencephalographic analysis for seizure. This study presents the anatomic variations in dimensions, appearance and number of foramen ovale.

**Methods:** We studied 50 dried human skulls available in the Department of Anatomy, KMC Manipal. Variations in appearance and number of foramen ovale were noted. Length and width of foramen ovale was measured by using Digital vernier Caliper.

**Conclusion:** Anatomical variations in size and shape of foramen ovale could be explained by developmental reasons. Considering the immense surgical and diagnostic importance of foramen ovale, this study was worthwhile.

**Results:** Results of the study will be presented at the conference

**226. Specimen Of Proximal Tibiofibular Synostosis**  
**Umesan K.G.**

Medical College, Trivandrum

Tibio fibular synostosis is a condition where there is an osseous continuity between the tibia and fibula of variable etiology. A specimen from the osteology collection of the Department of Anatomy, Medical College, Trivandrum showing a proximal tibio-fibular synostosis is presented here. Most cases of proximal tibiofibular synostosis may be totally asymptomatic, found incidentally on routine radiographs. Sometimes they present with unusual symptoms such as intermittent peroneal neuropathy. Proximal tibiofibular synostosis is rare and is usually associated with multiple hereditary osteochondromatosis. To date only eight cases have been reported without this association. The anatomical features, etiological factors and clinical implications are discussed.

**227. Foramen Magnum And Occipital Condyles In Local Population.**

**Naresh,** Neelee Jayasree, G. Narasimha Reddy, Shabana Sultana, Neeraja, Md.Younus, Srinu. Chalmeda Anand Rao Institute of Medical Sciences, Bommakal, Karimnagar

Randomly collected whole skulls exhumed from department Burial ground required for demonstration to students were considered for the present study. The antero posterior diameter and transverse diameter of occipital condyles and foramen Magnum of all the fifty whole or base of skull were measured. An attempt was made to analyse in different ways

Other features were also considered and analysed for a detailed presentation.

**228. Charcots Elbow-A Case Report.**

**Dnyaneshwar Patil,** S.M. Antin, S. P. Desai, V. S. Shirol, Mahantesh Patil, Ravi Jatti, KLE University's J.N.Medical College, Belgaum

Neuropathic joint disease is a progressive degenerative arthritis with destructive and productive articular abnormalities. There is loss of pain and proprioceptive sensation in neuropathic joint. It was first described by Charcot in tabes dorsalis in 1868. It has subsequently been observed in a variety of conditions including syringomyelia, diabetes mellitus and peripheral nerve disorders.

Only handful of cases of Charcots arthropathy of elbow have been reported. In majority of cases most common joint of upper limb affected was shoulder joint. In this case elbow joint is affected and it is associated with ulnar nerve palsy. Clinical correlation of Charcots elbow and ulnar nerve palsy will be elaborated in presentation.

**229. Styloid Process And Its Variations**

**K. Hema Srivivas**

Narayana Medical College, CRNP, Nellore – A.P.

**Introduction:** Styloid process is a spine like structure present in the temporal bone. On its inferior surface. It is an anchoring point for the muscles ligaments called as Styloid apparatus.

**Aim:** Present immediately above the medial condyle during routine Osteology of Skill Classes skill bone. Showed this spinous process. So as an interesting feature study was done on skill bones of our Dept.

**Material and Methods:** Out of 20 skill bones 5 skill bones showed this Variation.

**Observations:** During observation a long Styloid process, unilateral and agenesis of Styloid process were identified.

**Discussion and Conclusion:** Long Styloid process or eagle's syndrome is an aggregate of symptom that includes recurrent throat pain, foreign body sensation, dysphasia and/or facial pain as a direct result of an elongated Styloid process or calcified Styloid ligament. The absent Styloid process also showed same features whose attachments were taken up by mandibular bone.

The path physiological mechanism of symptoms is debated as well.

**230. Morphometric Analysis Of Human Occipital Condyle**

**Harisudha R.,** Janaki.C.S., Ushakothandaraman Meenakshi Medical College & Research Institute Enathur, Kanchipuram.

**Aim:** Morphometric analysis of human occipital condyle.

**Materials & methods:** This study was done in 420 occipital condyles of 210 dry skulls. Twenty eight parameters were

measured, including length, width and height of occipital condyle, the distances between the occipital condyle and hypoglossal canal, as well as some important condyle related angles.

Results: The length, width and height of the occipital condyle were found to be 24.3, 26.2 and 10.0 mm, respectively. The anterior and posterior intercondylar distances are 20.1 and 35.8 mm, respectively. Sagittal intercondylar angle was 14.0 mm. The intracranial orifice of the hypoglossal canal was found in 4th quarter in more than 59% of specimens. The shape of the occipital condyles was classified into eight types as follows-Type 1: Oval shape, Type 2: Kidney shape, Type3: S shape, Type 4: Eight shape, Type 5: Triangle shape, Type 6: Ring shape, Type 7: Two-portioned condyle, Type 8: Deformed. The most common is Type 1- oval.

Conclusion: Craniovertebral junction requires a careful radiological analysis before surgery.

### 231. Morphometric Study Of Placenta And Its Relation With Low Weight Babies In SRM Hospital

Vaijayanthimala P, Sundarapandian. S, Radhika Krishnan.J

SRM Medical College Hospital & Research Centre, SRM Nagar, Kattankolathur, Kancheepuram District, Tamilnadu

To study the placental morphology and relation of the placental parameters to incidence of low birth weight babies. 100 placentas were collected from SRM Hospital and examined. 73 of them were full term normal babies and 27 were full term low birth weight babies. Placental parameters studied include: measurement of placental weight, placental volume, placental surface area (maternal and fetal), insertion and thickness of umbilical cord, number of cotyledons were examined. Placental weight, placental volume and surface area were significantly smaller in low birth weight babies as compared to full term normal babies. Baby birth weight was related to placental decidual surface area directly in low birth weight babies. The chorionic villus surface area of placenta of low birth weight babies as in fact been shown to be smaller than normal babies of similar gestational age. These finding suggest the placental decidual surface area may be important determinant of birth weight.

### 232. Anatomy Of Extensor Tendons Of Thumb

Joshi S.D, Joshi S. S, \*Kishve P.S, \*Gunnal S.A.

Sri Arbindo Inst. of Med. Sc., Indore, \*Rural Medical College, Loni.

Pravara Institute of Medical Sciences, Loni, Maharashtra.

The muscles of the thumb can be compared to the stays attached to a mobile articulated mast. They are in a state of balance from which movements are carried out by contraction of some and relaxation of others. This complexity is well reflected in an extensive representation of the thumb in the brain. The extensor pollicis longus (EPL)

is the most mobile of the digital extensors and has a great range of excursion with the movements at the wrist, metacarpo-phalangeal and interphalangeal joints. Although there is presence of dorsal digital expansion of thumb the two extensor tendons may run separately and show a number of variations which may have an effect on the dynamics of the thumb movements. The present study has been carried out on 160 thumbs (Right-80: Left-80). The tendons of extensor pollicis longus and extensor pollicis brevis (EPB) were dissected and displayed distal to the wrist up their insertion and the variations in the number of slips and their attachment were noted and recorded. In 72.78% EPL bilaterally continued as single unsplit tendon upto its insertion on the terminal phalanx. In 23.41% it was divided into two slips and in 3.79% into three slips. In 96.19% EPL was inserted into distal phalanx. Variations were also observed in the insertion of EPB. In 58.85% EPB was inserted on the proximal phalanx and in 26.58% into the distal phalanx.

The findings of the present work shall be presented and discussed.

### 233. Study Of Fibular Attachment Of Popliteus Muscle.

Sharadkumar P. Sawant

Bharathi Vidyapeeth Medical College, Pune.

Aim: To study an anomalous proximal attachment of popliteus muscle on the head of fibula.

Material and Methods: 50 embalmed specimens were dissected and various sites of proximal attachments of popliteus muscle were observed.

Conclusion and Result: It was observed that out of 50 specimens an anomalous proximal attachment of popliteus muscle on the head of fibula.

### 234. Brachialis Muscle Anatomy – A Study In Cadaver

Shalini Chaudhary, A. D. Patil, V. R. Nikam  
Padm. Dr. D. Y. Patil Medical College, Kolhapur

There have been conflicting description of brachialis muscle anatomy in literature. Present study is done to clarify brachialis muscle anatomy in order to refine surgical techniques around the elbow.

Sixteen cadaveric upper limb were dissected. The brachialis muscle was seen uniformly to consist of 2 heads. Details of the study will be discussed at the time of presentation.

### 235. Abnormal Origin Of Obturator Artery

Thirupathi Rao. V, Srinivasa Fiao.Y, Ch. N.V. Bharath, Hemanth.K,  
Swayam Jothi Dorai Raj. S.  
Asram, Eluru.

Introduction: - Obturator artery is one of the medium sized parietal branches of the anterior division of internal iliac artery and it supplies the medial side of thigh.

**Aim:** - Since the variations in the origin of the Obturator artery are of great surgical and radiological importance this present study was undertaken.

**Materials and Methods:** - A total 45 pelvic halves were studied, of which 12 pelvis were examined completely (i.e., 24 pelvic halves), the remaining 20 being single sides. 5 pelvic halves were from female and 40 were from male. The material consisted of adult subjects between ages of 35 and 85 from the dissection hall of department of anatomy, ASRAM medical college, Eluru.

**Observations:** - In 16 specimens Obturator artery was arising from anterior division of internal iliac artery and in 4 specimens it was from external iliac artery. In 12 specimens it was arising from inferior epigastric artery, in 2 specimens from superior gluteal artery, in 2 other specimens from inferior gluteal artery and internal pudendal artery each. In 1 specimen it was arising from iliolumbar artery. In 6 specimens it was arising from common trunk formed by inferior gluteal and internal pudendal arteries

**Discussion:** - All investigators have agreed that the most common site of origin is from the anterior division of the internal iliac artery as a direct branch. The incidence of the above origin (35.6%) noted in the present study is in agreement with the percentage of incidence (39.3%) of Parsons and Keeth (1897).

### **236. Luminal Broncho-Tracheal Cast Plastination**

**Dimple S. Patel**, Bharat D. Trivedi

Smt. NHL Municipality Medical College, Ahmedabad.

Plastination is a technique used in anatomy to preserve bodies or body parts it is a process at the interface of the anatomy. The water and fat are replaced by certain plastics (silicon) yielding specimens that can be touched, do not smell even retain most properties and original; sample which are subsequently hardened results in dry and odourless and durable specimens.

### **237. Assessment of Knowledge with Essay Questions in Written Examination.**

**V. S. Shirol**, Daksha Dixit, R. D. Virupaxi

J. N. Medical College, Belgaum.

Written examination is an appropriate modality to test the cognitive knowledge of students. Constructed response formats and selected response formats are the two major types of written assessment. Long and short essays are the examples of constructed response formats.

Essay questions can evaluate the thought, logic or reasoning processes of the students in answering. With these questions, it is possible to assess the students' ability to organize and express the ideas. Essays also help to evaluate the writing skill of students. The role of essay questions and their various strengths and limitations in the assessment of knowledge will be discussed.

### **238. The Medical Education Aim & Object**

**K. P. S. Adinarayana**

Andhra Medical College, Visakhapatnam

**Aim:-** The Aim in Medical Education is always Meaning full and purpose full.

**Materials:** The students (learners) and teachers, their resources, teaching techniques.

**Methods:** Medical education is a system of learners and teachers. In medical education teacher plays an important role to prepare complete health professional from students under his care. It is a process encouraging students to think, feel and practice it. It must bring changes in the student at thinking level, Acquisition of right knowledge and efficiency of skills at acting level. Comprehensive plan is essential to achieve this. Whether these objectives are achieved or not is known only by the performance of the student at the end of the session.

**Result:** At the end of M.B.B.S Course the student should be able to

- a) provide basic health services to people.
- b) manage emergencies efficiently
- c) achieve targets of all national programs
- d) maintain medical ethics which raise the status of profession.
- e) Should be an active member for the welfare of the society
- f) Acquire scientific knowledge and skills to participate in research programs
- a. He should be a medical teacher to promote complete health professional to the society.

**Conclusion:** The aim and object of medical education is to prepare a medical teacher. Who will promote complete health professional to the society.

### **239. Demystifying Anatomy**

**M. Natarajan**

Seth G. S. Medical College, Mumbai

Anatomy is a subject which is feared by most medicos. The root cause of the fear is the volume of the subject matter in the first year of learning medicine. The volume just does not seem to decrease with progressive anatomization of data. However the course duration seems to be progressively getting curtailed adding to the problem further. For a student anatomy seems to end with the end of first year where as truly speaking it is just the beginning. Memorization, an art learnt in the earlier years is unflinchingly continued through the first year. Memorization never promotes understanding. Ideally anatomy of the human body should be permanently etched in the brain of the medical student through out the career. The path which will facilitate this is to synthesize the knowledge of anatomy with all other subjects as need be to facilitate embracing a concept. This paper is an attempt to achieve the same with the help of some examples which will be enunciated at the time of oral presentation of the paper.

### **240. The Use of a Computer Based Teaching Module to Enhance Understanding of Gross and Applied Anatomy among Medical Students**

**Lt Col M S Ahuja**, Lt Col R Bhatnagar, Lt Col Sushil Kumar, Lt Col B K Mishra

Lt Col S Ghatak, Lt Col A Tandon, Lt Col P Haresh Kumar  
AFMC, Pune, \*Army College of Medical Sciences, Delhi Cantt

Gross and applied anatomy form a major portion of anatomy curriculum for I MBBS. This study examines the effectiveness of an interactive HTML - based teaching module on gross anatomy in improving grasp of the subject.

The population comprised students of I MBBS who were randomly allocated into test and control groups. After conclusion of the curriculum, an MCQ based pre test was conducted to assess the students understanding of the subject. The test group then underwent revision through the prepared software, while control group revised it through conventional teaching. A post-test was conducted to assess the enhancement of grasp of the subject among both groups.

There was no statistically significant difference between the results of the two groups ( $p > 0.05$ ) in the pre test. In the post test the mean scores for the control group increased marginally while the mean scores of the study group increased significantly. The test group thus showed a statistically highly significant improvement in score as compared to the control group.

#### 241. OSCE in Living Anatomy – A Pilot Study

**R S Pandey**, P B Iyer, Y J Bhosale, K Shyam Kishore, P S Bhuiyan.

Seth GS Medical College & KEM Hospital, Mumbai

Background: Practical examination in anatomy consists of spotters and table vivas where specimens to be identified are mere initiators of the discussion. Thereafter the exam is completely based on the whims and fancies of the examiner. Hence the scores obtained by the students vary considerably. To eliminate this examiner bias and subjectivity of the practical examinations, it is necessary to have a method where the student can be objectively assessed. One such area of assessment where objectivity can be introduced is the subdivision of Living Anatomy. Overall goal: Introduction of OSCE as an evaluation method for Living Anatomy

Objectives: To sensitize students and faculty members about OSCE in Living Anatomy

- To compare results of Living Anatomy exam conducted by traditional method and OSCE
- To identify the merits and demerits of OSCE in Living Anatomy based on perception of students and faculty members

Methodology:

- Faculty members were oriented to OSCE
- By Universal sampling technique all 180 students were enrolled for the study
- The students were divided into two groups of 90 each, Group A was designated as OSCE group and Group B was designated as traditional group
- Group A was composed of students bearing odd roll nos. and Group B had students with even roll nos.

- Group A was taught Living Anatomy of Upper Limb and Lower Limb by explaining them the checklist to various items of the syllabus on Living Anatomy
  - Group B was taught by traditional method
  - Group A was examined by OSCE style of exam, where there were 8 stations (4 from upper limb and 4 from lower limb)
  - There were four activity stations and four response stations, the time for each station was two minutes
  - Checklist was prepared and prevalidated by faculty members
  - Prevalidated checklist was given to observers of the activity station
  - Group B was examined by traditional method where same activity was asked but examiners did not have the checklist
  - Scores of group A and group B were compared
  - The consistency of the performance of high achievers will be checked in both the methods
  - A prevalidated feedback questionnaire was administered to students and faculty
  - Merits and demerits of OSCE in Living Anatomy were identified based on the results obtained from the analysis of the questionnaire
  - Scores of students were compared statistically by paired t test and significance was found out at 95 % confidence limits. A p-value of  $< 0.05$  was considered significant
- The results of this study will be discussed in the paper.

#### 242. Plastination Of Ventricles Of Brain

**Ashwini C**, N. M. Shama Sundar  
JSS Medical College, Mysore.

Brain ventricle size known to be altered in clinical conditions where there is reduction of brain tissue like bipolar affective disorders, depression, obstruction, to CSF flow etc. The size of the ventricle can be studied by the MRI and it can also be studied by a plastination technique.

Plastination technique is a method which will preserve the specimen similar to natural one. Plastinated specimens will be dry, non – toxic, odorless, cost effective and durable for long time. For this study of ventricular Anatomy silicone polymer is used.

This method helps in the comparing the size of ventricles to the normal and others clinical conditions. It can also be used as a teaching cast

#### 243. Students Taste and Preference About Anatomy Viva

**Amar Jayanthi**, Jeemon. K. Sam\*

Govt. Medical College, Thrissur, \*T. D. M. C, Alappuzha

Viva evaluation aims at assessing whether a student is competent enough for certification. By oral examination the depth of knowledge, the ability to discuss and defend once decisions, attitudes, alertness, ability to perform under stress and professional competency are tested. Some times the number of questions asked to a

candidate is reduced to one. Is it possible to achieve the aim by asking one/ two questions?

Students take viva lightly as their fate is decided by practicals and no separate pass mark is needed for oral. Marks for oral examination is only 20% and these marks are needed to theory marks. They spend only little time for preparing for viva. The present system is that 4 stations are set and each candidate is examined by an examiner in each station for few minutes.

The present study was undertaken to get the opinion of the students in the present method of Anatomy evaluation. The study was conducted by answering a proforma and by interview with / by the students of Alappuzha Medical College. It is observed that the students like to assess their depth of knowledge in 3 to 5 minutes time. More number of questions to be asked. There should be some gap between two stations for evaluation. A smile on the face of examiner relieves tension. Students believe that the present viva is not a real assessment of their knowledge in Anatomy. They prefer viva after their practical examination and in the afternoon.

#### **244. Estimation Of Stature From Various Anthropometric Parameters In Western Rajasthan Population**

**Taruna Chowdhary**

Dr. S. N. Medical College, Jodhpur, Rajasthan

Personal identification is an integral part of investigation in cases of mass disasters where disintegrated and amputated body organs are found very frequently. Estimating stature from various parameters based on above mentioned evidences becomes one of the most important and essential exercise for personal identification.

The present study has been conducted on 100 male individuals in Western Rajasthan population. The various anthropometric parameters of individual have been taken. The data's obtained for all the parameters were subjected to statistical analysis to calculate multiplication factor, correlation coefficient and linear regression equation by using a statistical computer software. The multiple regression equation has also been laid down b step down regression analysis. Overall stature is significantly related with head circumference, width of thumb, length of palm, length of leg without foot, length of second toe.

#### **245. Morphometric Analysis of Base of Orbit And its Evaluation in Sexual Dimorphism: A Study in 60 Indian Punjab Crania**

**Shveta Swami**, Patnaik VVG, Subhash Kaushal

M.M.I.M.S.R. Mullana (Ambala), GMC, Patiala.

The cranium ranks amongst the foremost as the classical, most studied and informative subject of examination in physical anthropology. Sex determination is one of the essential prerequisites for identification of an individual. The skull is probably the second best area of the skeleton for determining sex following pelvis. Diverse techniques for sexing crania are based either on visually determinable descriptive features of the cranium or on exact

measurements of various parts of cranium and their ratios. Metric analysis allows less error even in the hands of less experienced with skeletal morphology. In the present study, skulls of 60 individuals of known sex (30 of either) of Indian Punjab region were studied. A series of five metric variants were studied (orbit height, orbit breadth, orbital index, interorbital breadth, biorbital breadth). Population specific craniometric standards were established for sex assessment from the skulls of Punjabi population. Upon statistical analysis, orbital index and biorbital breadth were found to be the best sex discriminants and these were able to classify 61.7% of the skulls correctly.

#### **246. Digit Ratio – Marker Of Sexual Dimorphism And Handedness.**

**Viveka S**, Ramakrishna Avadhani, Suresh B. Bidarkotimath, Meera Joe.

AJ Institute of Medical Sciences, Mangalore

The digit ratio is thought to be established during early prenatal development under the influence of prenatal sex hormones. Evidence suggested that the ratio between the length of the second and fourth digits (2D:4D) is related to prenatal testosterone exposure. Also the prenatal effects of testosterone on the development of brain hemispheres are considered as a key factor in the etiology of left-handedness. The ratio between the length of the second and fourth digits seems to increase after birth in both men and women, with the second digit growing faster than the fourth digit more so in women than in men indicating that sexual dimorphism is probably determined by both prenatal as well as by postnatal developmental processes. We tested whether ratio 2D:4D correlates with the sexual dimorphism and type of handedness by taking measurements in 100 male and 100 female medical students. Right hand 2D:4D, left hand 2D:4D, average 2D:4D and the difference between right and left 2D:4D were compared. The digit ratios are lateralized and sexually dimorphic.

#### **247. A Novel Method Of Estimating Angle Of Humeral Torsion**

**Manjunath M**, Nachiket S, Roopa R

St. John's Medical College, Bangalore

Aim of the study: Previously described methods to measure the angle of humeral torsion (AHT) were either cumbersome or required special investigations such as CT scan. The aims of the present study were, to estimate the AHT using a novel method, to document bilateral differences in the AHT if any, and finally to assess both inter and intra-observer variability.

Material and methods: One hundred and eighty five (101 right and 84 left) dried humeri from the Department of Anatomy at St. John's Medical College were studied. Reference points for the long axis of the head were marked. An end-on digital photograph of the articular surface of the head was taken. Using appropriate software lines were drawn to define the AHT. Printouts of the above images were taken and the AHT measured with a protractor. The mean and standard deviation of the AHT were calculated

for all the humeri and separately for each side. The unpaired t-test was used to check for significant bilateral difference ( $p < 0.05$ ) in the AHT. Inter- and intra-observer variability were estimated using Pearson's correlation coefficient.

Results: The mean AHT considering all the humeri was  $59.65^\circ \pm 10.97$ . The corresponding values on the right and left side were  $57.85^\circ \pm 9.80$  and  $61.83^\circ \pm 11.93$  respectively. A significantly greater value of the mean AHT was noted on the left side. Good inter and intra-observer correlation was observed, with values of 0.83 and 0.95 respectively.

Conclusion: The mean values of the AHT fall within the range previously described, with significantly greater values on the left side. The method described is reliable.

#### **248. Study of Lip Print Pattern**

**Londhe P.S.**, Takalkar A

Kamineni Institute of medical sciences, Narketpally, Nalgonda (A.P)

Aims and objective: To study lip print pattern.

Materials and methods: Hospital based cross-sectional observational study including 200 subjects (100 males and 100 females) was done with the help of systemic random sampling method. Subjects were assessed using dark colored frosted lip stick. The lip prints were taken on photo copy paper and observed by using magnified lens and linen tester.

Lip print pattern was observed by dividing lip print in 4 quadrants and each quadrant in again 3 sub quadrants (total 12 quadrants).

With the help of pretested and predesigned proforma, findings were recorded. Data thus collected and analyzed by using statistical tools like percentages, mean and standard deviation (SD) Predicted variables: age, sex, lip pattern, lip length etc.

Results: Maximum study population i.e. 45.5% were from 21 – 30 yrs of age group, followed by 19% from 31- 40 years of age group.

1. Type II was most commonly observed lip print pattern in 41.08% with 22.08% males and 19.0% females, followed by type – I in 27-2% subjects with 16% males 11.2% females.

2. Least observed was type – III pattern in 9.08% subjects.

3. Mean horizontal lip length in females was 4.35cm with standard deviation 0.45 cm and in case of males 5.1cm with standard deviation of 0.6cm.

Conclusion: Type – II was most commonly observed lip print pattern. Thus we can say that lip print pattern is unique of an individual and hence behold the potential for personal identity along with finger print.

#### **249. Study Of Dental Traits Of Skulls In Western Indian Population**

**Pushpa Potaliya**, Sushma.K.Kataria, Anju Choudhary, Savita

Dr. S. N. Medical College, Jodhpur, Rajasthan

Aim: To study the dental traits both in living and dead individuals of Western Indian population and to study the relationship, if there, between tooth size and an individuals ethnic origin.

Materials And Methods: Dental characteristics were studied on 94 adult skulls. Traits analyzed in this study were tooth size, the incidence of the shovel shape of the incisor and carabelli's cusp.

Result And Conclusion: Mesiodistal crown diameters of permanent teeth were reported. Data obtained were compared with various other populations and with results of other workers too. Frequency of shovel shaped incisors and carabelli's cusp were also reported.

#### **250. Estimation of Height from Measurements of Foot Length in Andhra Pradesh Region**

**Sherke A.R.**, Ramchandran G.

Kamineni Institute of Medical Sciences, Narketpally, Nalgonda (A.P.)

The present study was conducted among 500 students between the age group of 17 to 22 years. We measured foot length and height of the body in anatomical standing erect position. Foot length was measured by spreading caliper and height was measured by height measuring scale. The data was analyzed statistically to find out the correlation between height and foot length. Good correlation was observed which was statistically significant. The present study may be useful for Anthropologists and Forensic science experts in their field.

#### **251. Importance Of Surgical Management In Children With Hypospadias**

**Bindhu S Nair**

Yenepoya Medical College Mangalore

Hypospadias is a condition in which urethra is on the ventral side of the penis instead of the tip. It has got profound surgical and psychological implications. This disorder results from partial or complete failure of fusion of urethral fold. Here it is intended to discuss about the surgical need in children with hypospadias presenting as ambiguous genitalia have serious and potentially lifelong consequences for affected individuals. Details will be discussed during presentation.

#### **252. Congenital Anomalies Of G.I. Tract Presenting In Adulthood - A Report Of Five Cases**

P. S. Jevoor, A. S. Godhi, **S. C. Metgud**, V.M. Pattanshetti. J.N. Medical College, Belgaum.

Congenital anomalies of the G.I. tract usually present during childhood. The management of these anomalies in children is well established. However few of these anomalies present in adulthood. Anomalies of the G.I. tract presenting in adulthood apart from causing diagnostic difficulties are difficult to manage. The reason for late presentation of these anomalies is not very well established.

We present two cases of annular pancreas, one case of ectopic pancreas and two cases of mal rotation of gut which presented to us in adulthood. Four of these five patients presented with history of chronic abdominal pain and unexplained vomiting. They had received treatment from local doctors. They were investigated and the anomalies were detected. They underwent surgery and postoperative recovery was uneventful. The fifth patient presented to the emergency with history of acute abdominal pain. During exploratory laprotomy the anomalies were diagnosed and corrected.

The true incidence of malrotation of gut is not known. 90% of these anomalies present within one year of life, less than 1% present in adulthood. Incidence of pancreatic anomalies is also postulated to be one in 5000 to 12000 births. A brief note of the anomalies will be presented along with relevant photographs, diagrams and x-rays.

**253. Absence Of Isthmus In Thyroid Gland**

**M. Janardhana Rao**, M. Chandra Mohan, B. Bhagya Lakshmi  
Mamata Medical College Khammam.

During routine dissection of head and neck at Mamata Medical College Khammam, an adult male cadaver showed absence of Isthmus in Thyroid gland, Details will be discussed at the time of presentation.

**254. True Hermaphrodite – A Case Report**

**Aruna Jyothi**  
Kakatiya Medical College, Secunderabad

A case report of a male true hermaphrodite brought to urology department of college hospital. Aged 18 years, phenotypically male short statured, with decreased skeletal growth having low levels of S.testosterone, FSH, LH.

O/E: showing secondary male sexual characteristics, with small phallus scrotal sacs resembling labia.

C/O: supra pubic pain at monthly intervals

MRI shows streaky uterus with blind vagina.

Chromosome studies: 46XX/46XY karyotype.

H/O: Lap Ova-testes removal.

When patient came to know about the presence of uterus he wanted to under go Lap. Vaginal Hysterectomy as he was brought up as a male since his childhood.

Surgeon opines inter sex is psycho social emergency. The longer you wait the greater the trauma

Inter sex is a rare anatomical abnormality which is likely to cause great distress for the person.

Inter sex is pathological and requires immediate attention

Various aspects of inter sex will be discussed during the presentation.

**255. Study Of Correlation Between Neonatal And Placental Parameters And CR Length**

**Anju Choudhary**, D. S. Chowdhary, Sushma K. Kataria, Pushpa Potaliya

Dr S.N. Medical College, Jodhpur, Rajasthan

Fetal growth seems to be determined by a number of additive factors. The aim of this study was to find out various correlations between CR lengths, period of gestation, weight of child, head circumference, placental circumference.

Study has been conducted on a total of 200 male and female neonates. All were normal in appearance. The following measurements were taken: fronto- occipital head circumference with a tape, placental weight with in 6 hour after delivery, CR length by calliper and circumference of placenta by thread and scale, gestational age.

The result obtained showed significant correlation between CR length and circumference of placenta in the neonates of both sexes, correlation between CR length and head circumference and weight of placenta was significant only in female neonates; the correlation between CR length and period of gestation was significant only in male neonates.

**256. Searching For The Baby With The Vanishing Brain**

**P. K. Ramakrishnan**, C. D. Selvarasu M.A. Elezy  
Karuna Medical College, Palakkad, Kerala.

Hydranencephaly is the most severe form of bilateral cerebral cortical destruction. It occurs after the brain & ventricles are formed, usually in the late first or early second trimester. The condition is usually diagnosed by prenatal ultrasonography, confirmed by postmortem examination. The objectives of the present study are 1) to note the frequency of hydranencephaly among fetuses with sonographic evidence of major cranial anomalies, 2) to correlate prenatal sonographic findings with postnatal anatomic findings in neonates with hydranencephaly, 3) to establish a possible etiopathogenesis and 4) to note whether it is associated with any chromosomal abnormalities. Twenty fetuses with evidence of major cranial anomalies in a second trimester USG constituted the study group. Those fetuses with sonographic evidence of hydranencephaly were followed up to their birth and early neonatal period. If they died in the early neonatal period, a postmortem examination was done. One of the 20 fetuses studied had evidence of hydranencephaly in the prenatal ultrasound. Prenatal sonographic findings were confirmed by a postmortem examination following death in the early neonatal stage. A high incidence of hydranencephaly among fetuses with CNS anomalies was noted in the present study. Prenatal sonological features have to be correlated with postnatal pathological & genetic studies to establish a possible etiopathogenesis. The sonographic and pathological features of this devastating condition are of use to radiologists, obstetricians and pediatricians.

**257. Accessory Belly Of First Lumbrical Muscle - A Case Report**

**Pramod Rangasubhe**, H. V. Rajasekhar, Mallikarjun Adibatti  
JJMMC, Davangere.



Lumbrical muscles play a vital role in the precision movements of the hand, along with the thenar, hypothenar and interossei muscles. These are quite unique as they connect the flexors of the digits to the extensors and that both of its attachments are mobile. Variations from complete absence to the presence of an accessory belly of lumbricals have been described in the literature.

During routine dissection of an adult male cadaver, an accessory belly of first lumbrical muscle was observed to arise from the deep part of the tendon of flexor digitorum superficialis, which coursed forwards within the carpal tunnel deep to the flexor tendons. This accessory muscle belly was fleshy in middle but tendinous both proximally and distally. The distal end merged with the first lumbrical muscle for insertion into the dorsal digital expansion on the radial side of index finger. Such accessory muscle belly can play a considerable role in the aetiology of carpal tunnel syndrome.

The clinical significance of this variation will be discussed during the presentation.

#### **258. Coeliac Trunk Variation- A Case Report**

**U K Dandekar**, S K Chavan, R N Wabale  
Rural Medical College, PIMS, Loni, Tal- Rahata, Dist- Ahmednagar (M.S.)

Variations of arteries from abdominal aorta are very common. The frequent variations are seen in coeliac, renal and gonadal arteries. These anatomic variations are often responsible for variety of clinical conditions; therefore thorough knowledge of normal and variant anatomy of major unpaired arteries originating from the abdominal aorta is necessary for successful and uncomplicated abdominal operations. During routine dissection we came across the variation related to coeliac trunk branches. Instead of normal trifurcation of the coeliac trunk, we observed three separate trunks arising from the abdominal aorta replacing the coeliac trunk- gastrophrenic trunk, hepatosplenic trunk and aberrant right hepatic artery. The gastrophrenic trunk and hepatosplenic trunk were arising from anterolateral aspect of the abdominal aorta and the aberrant right hepatic artery was originating from anterior aspect of abdominal aorta. The developmental anatomy of coeliac trunk and the clinical relevance of its variation shall be discussed in detail.

#### **259. Bilateral Duplex Ureter – A Case Report.**

**Dinanath K. Pujari**

M. R. Medical College, Gulbarga.

During U.G. dissection (2008 – 2009 batch) in a female cadaver of about 40 years old it was found that there was right small lobulated kidney compared to that of left kidney and bilateral double ureters running separately from the kidney to the urinary bladder – which is a rare anomaly. Its morphological, embryological and applied aspect will be discussed during the paper presentation.

#### **260. Incidence of Third Head of Biceps Brachii – A Case Report**

**Cilwyn Shalitha Braganza**, Jerry George, Sylvia Sequeira, Surekha D Shetty, Seetharam Bhat  
KMC-International Center, Manipal University, Manipal.  
MMMC (Manipal Campus), Manipal University, Manipal.

**Aim:** To evaluate the incidence of third head of biceps in the Indian population and present a case report.

**Introduction:** The biceps brachii muscle belongs to the flexor group of muscles in the arm. It is the only flexor of the arm crossing the shoulder joint as well as the elbow joint, thereby acting on both the joints. The biceps brachii muscle usually has two heads, one originating from coracoid process (Short head) and one originating from supraglenoid tubercle (Long head). The muscle is one of the most variable in the human body in terms of number, origin and morphology of its heads.

**Materials and Methods:** 28 dissected upper limb specimens stored in 10 percent formalin were observed bilaterally for variations in the origin of biceps brachii muscle.

**Results:** Among 56 arms studied one showed biceps brachii with three heads with the origin of the third head from proximal one-third of humeral shaft. The results of the present study was compared with that of previous studies from medical literature shows that the occurrence of a third head of the biceps brachii muscle is relatively rare in Indian population

**Conclusion:** Knowledge of the existence of the third head of biceps brachii may become significant in preoperative, academic, surgical and clinical purpose.

#### **261. Anatomical Variation In Course And Distribution Of The Anterior Tibial Artery: A Case Report**

**M. K. Pant**, S. K. Pandey

Institute of Medical Sciences, Banaras Hindu University, Varanasi.

Anatomical variation in origin course and distribution, of the anterior tibial artery has been observed in the left leg of a 55 year old male cadaver, in the dissection hall of the department of anatomy, IMS, BHU, Varanasi, during routine dissection.

It was observed that the anterior tibial artery (ATA) was not found in normal neurovascular plane position. The artery was emerged in the anterior compartment just above the ankle joint between the extensor hallucis and peroneus tertius muscle. The artery was originated at its normal position from the popliteal artery along with the posterior tibial artery. In its course the artery was traveled in the posterior compartment of the leg on the introsseous membrane between tibialis posterior and flexor digitorum longus muscles. The peroneal branches of the posterior tibial artery was replaced by the two branches of the A.T.A. that supply to the peroneal compartment of the leg. At the junction of upper 3/4<sup>th</sup> and lower 1/4<sup>th</sup> of the posterior compartment of leg, the artery was pierced the interosseous membrane and then traveled to the lower part of the anterior compartment of leg between the extensor hallucis longus and peroneus tertius. It reached deep to the extensor

retinaculum between the tendon of peroneus tertius muscle and lateral maleolus, where it becomes dorsalis pedis artery.

Such variation might be due to the abnormal developmental vascular pattern in the region. The presence of such variation of the peripheral vascular system is often used to explain unexpected clinical signs and symptoms. The abstract is presented as a part of the study of the peripheral arterial variation with respect to their origin, course, relations and distribution.

#### 262. Reverse Palmaris Longus Muscle: A Case Report

**Jain Amit**, Patil Manish, Gupta Jitendra  
R D Gardi Medical College, Ujjain (M.P.)

This article describes the concomitant presence of normal and reverse variant of Palmaris longus muscle in a 80-year-old male cadaver, discovered during routine dissection of left forearm. The first one was normal palmaris longus muscle originated from the medial epicondyle by the common tendon, from adjacent intermuscular septa, and antebrachial fascia. Its long slender tendon passes anterior to the flexor retinaculum and is attached to the distal half of its anterior surface and centrally to the palmar aponeurosis. The second one was reverse Palmaris longus muscle originated from the posterior aspect of the flexor retinaculum and was innervated by the ulnar nerve. The tendon of palmaris longus is often harvested for use as a graft in many surgical procedures such as tendon interpositions and ligament repairs. The hand surgery practice requires familiarity with its variations.

#### 263. Anomalous Origin Of Common Interosseous, Anterior And Posterior Ulnar Recurrents As a Common Trunk From Radial Artery – A Case Report

**B. Prakash Babu**

Kasturba Medical College, Manipal

This is a case report in which there is an anomalous origin of common interosseous, anterior and posterior ulnar recurrent arteries arising by a common trunk from the radial artery on the right side. Radial artery is one of the terminal branches of the brachial artery given off 1cm below the bend of elbow. Normally radial artery in the upper part of the forearm gives off radial recurrent artery. In the present case, 'common interosseous', anterior and posterior ulnar recurrent arteries were originating from a common arterial trunk arising from the radial artery on the right side. On the left side no such arteries were found arising from radial artery. There are reports in the available literature of higher origin of the radial artery in one out of eight cases. There are also reports of origin of anterior and posterior interosseous arteries arising by a common trunk or one or both ulnar recurrents have been seen to arise from the brachial artery. The above variation is reported on account of its rarity.

#### 264. Anatomical Variations Of Lateral Femoral Cutaneous Nerve In South Indian Population And Its Applied Importance

**Buddhadeb Ghosh**, Biswabina Ray, Brijesh Kumar, Chakravarthy Marx.

Kasturba medical College, Manipal University, Manipal, Karnataka

The lateral femoral cutaneous nerve (LFCN) originates directly from the lumbar plexus and has root innervations from dorsal branches of the ventral rami of second and third lumbar nerves (L2-L3). It passes to the thigh in a variable course either through a tunnel formed by the lateral attachment of the inguinal ligament and the anterior superior iliac spine or deep or superficial to inguinal ligament. This is the most common site of entrapment. Meralgia paraesthetica is a painful mononeuropathy of the lateral femoral cutaneous nerve (LFCN). It is commonly due to focal entrapment of this nerve as it passes through the inguinal ligament. We studied the location, course and variations of lateral femoral cutaneous nerve (LFCN) and its relation with the neighboring structures as it passes from pelvis to thigh and onwards. Aim of the present study is to establish preliminary data about LFCN in South-Indian population. Observation of the present study helps to understand the etiology and plan surgical treatment of Meralgia paraesthetica.

#### 265. Tributaries Of Azygos System Of Veins

**D. Radhika**, Dr. G. Kanchana Latha

RIMS, Kadapa.

Aim: 1. Complete Presentation of Azygos System is so Variable.

2. To Present Variations of Formation of Azygos System.

Material & Methods: - Azygos System of Veins studied in 100 specimens.

Out of which, Fetuses

- 10, Children - 08, Adults - 52

Results: -1. Azygos Vein Formed by Ascending Lumbar and Sub Costal Vein - 88% of

Subjects, Only Sub Costal Vein - 12% of Subjects.

2. Upto 45 Years Age Group Azygos Vein found Ascending on Antero Lateral

Aspect of Vertebral Column.

3. 45-75 Year Age Group - Crossing Midline Towards Left Side.

4. Termination of Azygos Vein at 4<sup>th</sup> Thoracic Vertebra - 85%, 3<sup>rd</sup> Thoracic

Vertebra - 8%, 5<sup>th</sup> Thoracic Vertebra - 7%.

5. Hemi Azygos Vein ending in Multiple Channels in 15% Subjects associated with Multiple Variations in Accessory Hemi Azygos Vein.

Conclusion: - Whatever may be the Variations they form one of the Alternative Channels to Superior Vena Cava and Inferior Vena Cava.

#### 266. Variable Features In Cadaveric Livers - An Observation.

**Shailaja Shetty**, Lakshmi Kantha B. M., Amar Singh, Sheshgiri.C, Roopa Kulkarni.

M. S. Ramaiah Medical College, Bangalore

Cadaveric livers bearing anterior- posterior grooves or furrows have been described in the available literatures. The prominent very deep indentations or grooves were observed on the antero-superior surface in few liver specimens during dissection of human cadavers selected for teaching programme to MBBS students. Apart from this notable feature, other associated anomalies with regard to the caudate lobe were observed. Accessory lobes were also a notable feature. Associated with these hepatic features was the conspicuous gall bladder mesentery. These interesting multiple features in livers observed will be discussed in detail along with their embryological and clinical significance.

**267. A Study Of Variations In The Number And Position Of Coronary Ostia In Relation With Aortic Sinuses.**

**Vaishaly K Bharambe**, Vasanti Arole  
Padmashree Dr D.Y.Patil Medical College. Pimpri. Pune

Introduction: Coronary angiography is a procedure that began just about a century ago. 1928 saw the first human coronary angiograph when Werner Forssmann inserted a ureteral catheter into his left antecubital vein and advanced it to the heart. Today, selective coronary angiography is being done. The knowledge of position of coronary ostia with respect to aortic sinuses and possible variations in their locations will aid in this procedure. Aim: To study the variations in the number and position of coronary ostia in relation with aortic sinuses.

Materials and Methods: A total of 50 hearts were included in this study irrespective of sex. The hearts were procured from dissection room adult cadavers and were preserved in 10% formalin. The origins of both the coronary arteries were noted while looking out for presence of any extra ostia in either of the three aortic sinuses. Depending on whether the ostia were situated below, at or above the cuspal margin they were classified as those taking origin from the sinus, sinoaortic junction or ascending aorta.

Results: In this study location of ostium was found to be at the sinuaortic junction in 76% of the specimens in both right as well as left coronary arteries (38 cases each). Details will be discussed in the conference.

**268. Bilateral Superficial Brachial Artery – A Rare Variation**

**Praful Nikam**, R. R. Fulzele  
Jawaharlal Nehru Medical College Sawangi (Meghe), Wardha (Maharashtra).

The aim of the study was to detect anatomical variations in the branching pattern of brachial artery so that such variations can help clinicians in different operative as well as investigational procedures of the upper limb.

During the routine cadaveric dissection, we found that axillary artery, below the lower boarder of teres major

muscle divided into superficial and deep arteries. Superficial artery courses anterior to the median nerve and then in the cubital fossa get bifurcated into radial and ulnar arteries. Of these two, ulnar artery was smaller and superficial than radial artery. While deep artery continued in the forearm as common interosseus artery.

**269. Bilateral Absence Of Common Iliac Artery**

**Lakshmi Kantha B. M.**, Shailaja Shetty, Roopa Kulkarni, Sheshgiri.C.  
M.S. Ramaiah Medical College, Bangalore

Vascular anomalies are commonly encountered accidentally during dissections in human cadavers, which may be a rare or a common feature. Besides the academic interest the vascular anomalies observed will be of great clinical importance.

In the present case bilateral absence of common iliac arteries were observed while doing routine dissection teaching programme for medical students. This anomaly was observed in a 60year old human male cadaver. The external and internal iliac arteries which are usually the terminal branches of common iliac arteries were found to be arising directly from the abdominal aorta on both sides. This rare variation has its own embryological and clinical significance which will be presented and discussed in the conference.

**270. To Study Supraorbital Foramen and Notch in Human Skulls in Rajasthan.**

**Anju Choudhary**, D. S. Chowdhary, Sushma K. Kataria, Pushpa Potaliya  
Dr S.N. Medical College, Jodhpur, Rajasthan

The aim of this study is to study details of incidence and shape of supra-orbital notch and foramen and also combinations of it in the same skull and also separately for the right and left side.

Four hundred adult skulls of unknown sex were examined those showing any pathology were not included. Following observations were taken in both right and left side separately for individual skull, notch and foramen and absence of all of the above. Also various types of combinations were noticed among these observations.

Present study revealed that absence of notch; foramen and incomplete foramen were seen 3.25% on the right side and 4 % on the left side. It shows that presence of notch is most common, foramen more rarely and vary rarely absence of both.

**271. Study Of Foramina Of The Human Skull Connecting The Middle Crani: I Fossa With The Human Skull**

**Namita Sharma**, R.S. Garud  
Bharati Vidyapeeth Medical College and Hospital, Pune.

The study of the skull and its foramina is of great importance to anatomists, anthropologists, forensic experts and clinicians. Such a study provides an insight into the

evolutionary history of man. Dimensions of the foramina and variations in the same would be of great clinical significance in view of the delicate neurovascular structures that pass through them. However, the absence of essential anatomic data on normal variations of the foramina is a severe deficiency in modern anatomy text books.

In the present study, variations in the exocranial dimensions, bilateral symmetry and distance from the mid-sagittal plane were noted for paired foramina communicating between the base of the skull and the middle cranial fossa in fifty human dried skulls of Indian origin. Measurements were taken with the help of sliding vernier caliper. The observations were compared with those made by previous researchers. Any gross variations in the observations could be ascribed to racial or geographical differences but cannot be stated with certainty till a larger sample size is studied. One skull showed an ossified pterygospinous ligament and another skull showed a thin bony bar across the foramen ovale. Both findings were unilateral and both would cause pressure on the neurovascular structures traversing the foramen ovale.

**272. Variation In The Position, Shape, Number And Direction Of Mental Foramen In Maharashtra**

**Priya P. Roy**, B.N.Umarji

Krishna Institute of Medical Sciences, Karad.

The mental foramen is found on the antero-lateral aspect of the mandible and transmits mental nerve and vessels. Study of mental foramen is important in administering regional anesthesia and performing periapical surgery in the mental region of the mandible.

Seventy five adult dry mandibles are included in this study. The foramen included in this study are only of all mandibular alveolar sockets properly seen. The most frequent position of mental foramen was in line with the longitudinal axis of the 11<sup>th</sup> premolar tooth. The position varies from 1<sup>st</sup> premolar tooth to 1<sup>st</sup> molar tooth. The long axis of the mental foramen was directed downward and forward. The shape was round in 33.3%, oval in 60% bilaterally and in 6.6% it is not same on both sides. The distance between symphysis menti and anterior margin of the mental foramen was measured. The details of the finding and result will discuss in the conference.

**273. Abnormally Elongated Styloid Process (Eagle's Syndrome)**

B.R.Zambare, **Bhaskar.B.Reddy**, B.N.Umarji\*,

Santosh.V.Shinde

P.D.V.V.P.F's Medical College & Hospital, Ahmednagar, \*KIMS University, Karad.

Styloid process is derived from the Greek word 'Stylos' meaning a pillar. The styloid process is normally a cylindrical bone which arises from the temporal bone in front of the stylo-mastoid foramen. Anatomical variation in the length of the styloid process is of profound anatomical, anthropological as well as clinical importance.

Eagle's syndrome is defined as the symptomatic elongation of the styloid process or mineralization of the

stylo-hyoid ligament complex. This syndrome was first documented by Watt W. Eagle in 1937. Over a twenty-year period, Eagle reported over 200 cases and explained that the normal styloid process is approximately 2.5 centimeters in length. He observed that slight medial deviation of the styloid process, could result in severe symptoms of a typical facial pain. Symptoms of Eagle's syndrome may include recurrent throat pain, foreign body sensation, dysphagia, and/or facial pain.

In the present study a sample of 140 human adult skulls were examined for evidence of elongated styloid process. For the study non pathological adult skulls of both the sexes were included. Length of styloid process on both sides measured with Vernier calipers in mm. the length is measured from base of the temporal bone to the tip of the styloid process. The landmark used as the base was the anatomical base of the styloid process. Out of 140 skulls measured, 6 skulls or 4.2 % showed abnormal length in the styloid process.

**274. Morphometry Of Jugular Foramen In South Indian Population**

**Arun Sharma**, Ashwin Krishnamurthy, Soubhagya R Nayak, Latha V Prabhu.

Kasturba Medical College, Bejai, Mangalore

The present study was conducted on 50 dried adult skulls of unknown sex and of south Indian origin obtained from the Department of Anatomy, Kasturba Medical College, Mangalore. The maximum antero-posterior diameter, transverse diameter and the depth of the bulb of both sides were measured using Vernier calipers. The presence of spicules/ septation of the jugular foramen was also observed on both sides. The mean antero-posterior diameter of the foramen was 1.346 and 1.31 cm on right & left side respectively. The transverse diameter on the right and left side was 0.99 and 0.79 cm respectively. The depth of the bulb of the foramen was 1.308 and 1.154 cm. Complete septation was present in 6% foramen on the right side & 8% on the left side. Jugular foramen transmits a number of important structures including the internal jugular vein and the 9<sup>th</sup>, 10<sup>th</sup> and 11<sup>th</sup> cranial nerves. The present study on the morphometry of the jugular foramen makes us understand that the measurements can be population specific. Advances in microsurgical techniques have made possible the removal of advanced Jugular Foramen lesions, which were once assumed to be inoperable. As neurosurgeons become bolder in approaching this region, so the need for familiarity with the detailed anatomy of this region becomes greater.

**275. Mental Foramen – It's Morphology And Morphometry**

**Abilasha S.**, Janaki.C.S., Usha Kothandaraman, Meenakshi Medical College & Research Institute, Enathur, Kanchipuram.

Aim: To study the morphology and morphometry of mental foramen( MF) in a sample of 205 adult dry mandibles.

Importance of this study: Mental nerve leaving the foramen is anaesthetized during the dental procedures and in the soft tissues of the mouth like suture lacerations or biopsy (Malamed, 2001). Vital importance of mental foramen is in the practice of acupuncture and in modern surgical procedure like anesthesia ( Estudio, 2009)

**Materials & Methods:** All the mandibles were segregated on the basis of gender and age. The morphological configuration of mental foramen was studied in detail. The position of mental foramen from mental symphysis, Alveolar ridge and the Inferior edge of the mandible was measured. The mental foramina were classified based on their shape. Dental relationship of the mental foramen was determined on both the sides.

**Results:** The distance of the mental foramen from mental symphysis, alveolar ridge and the Inferior edge of the mandible were found to be in the range of 1.6-2.9, 0.5-1.9, 0.7-1.9 cm respectively. The maximum horizontal and vertical distance of the mental foramen was 0.2-0.9, 0.2-0.7 cm respectively. The maximum dental relationship of the mental foramen was between 2<sup>nd</sup> premolar and 1<sup>st</sup> molar. The shape of the mental foramen was classified into two types as follows-Type 1: Oval, Type 2: Round. The most common was type 1.

**276. Anatomic Analysis Of Infraorbital Foramen And Variations**

**Parimelazhagan M. A.,** Sundarapandian. S, Radhika Krishnan J., Arudyuti Choudhury.  
SRM Medical College Hospital & Research Centre, SRM Nagar, Kattankolathur, Kancheepuram District, Tamilnadu

**Aim:** The aim of this study is to document morphometrically location of the infraorbital foramen and analyse its variations in adult skulls.

**Materials And Methods:** Morphometric measurements were performed in 100 skulls. Sagittal measure (A) was obtained by the value of the distance between the infraorbital margin and superior border of infraorbital foramen; Transverse measure (B) was obtained by the value of the distance between the medial border of infraorbital foramen and piriform aperture. Vernier caliper was used to measure. Means, standard deviations were determined, and statistical differences were calculated between the right and left infraorbital foramina by use of an unpaired sample t-test ( $p < .05$ ).

**Results:** The infraorbital foramina were present in all the skulls on both sides, on the right side had sagittal measure of  $7.88 \pm 1.6$ mm and transverse measure  $18.15 \pm 2.1$ mm, left side sagittal measure  $7.97 \pm 1.5$ mm and transverse measure  $19.19 \pm 2.6$ mm. Three skulls had infraorbital foramen variation. Double infraorbital foramina were observed bilaterally in one skull and unilaterally in other.

**Conclusion:** A precise knowledge of the anatomic morphometry of infraorbital foramina is necessary for fasciomaxillary surgeons and anesthetists while performing maxillofacial, plastic surgery and regional block anesthesia.

**277. The Skulls That Demolish Darwin**

**Shaikh Siraj Ahmed,** M. Chandramohan, B. Bhagyalakshmi  
Mamata Mamata Medical College ,Khammam.

Darwin's thesis that human and apes are descended from a common ancestor was never supported by any scientific findings, neither when he first proposed it, nor afterward. The assertion is that various transitional forms between the modern man and his supposed forbears have lived during this period, which is assumed to have begun 4 to 5 million years ago. This totally fictitious scenario of coming up with the series Australopithecus>Homo habilis>Homo erectus>Homo sapiens, has been disproved by latest anthropological findings. All the fossils obtained to date have proved that apes have always existed as apes, that human beings have always existed as human beings, that apes did not turned into humans and that apes and humans have no common ancestors. For the last 150 years or so the theory of evolution has been kept alive through speculation and propaganda. People are constantly subjected to subconscious indoctrination. Although evolution is based on no scientific evidence at all, it is still taught in schools, exhibited in museums with imaginative reconstructions and is the subject of frequent reports in press. In our present study we have analyzed the various findings of fossil skulls and their impact on Darwinism. Details of study will be presented at the time of conference.

**278. Comparison Of Arterial Wall Histology Of Human Abdominal And Pelvic Medium Sized Arteries**

**Rashmi Malhotra**  
LLRM Medical College, Meerut

Histological structure of human arteries has been drawing attention of the workers for many years. It has also been reported that the histological structures of all the medium sized human arteries is not similar, and it differs from arteries to arteries. Although medium sized human arteries are mostly muscular arteries but structure of tunica intima, internal elastic lamina, tunica media, external elastic lamina, and tunica adventitia differs from arteries to arteries. Therefore, the structure of various components of arterial wall in medium sized human arteries situated in different parts of human body needs thorough study. The aim of the present study is to compare histological structure of tunica intima, tunica media and tunica adventitia in the human abdominal and pelvic arteries with one another. Tissues of Splenic artery, Common Hepatic artery, Left Gastric artery, Gastro duodenal artery, Superior Mesentery artery, Inferior Mesenteric artery, both Renal arteries, both Internal Iliac arteries and both External Iliac arteries were obtained from 5 dissection room cadavers 1 cm distal to their commencements. Paraffin sections 10 $\mu$ m thickness were cut with the help of rotary microtome and stained with orcein and counterstained with haematoxylin and eosin. Each layer of arterial segment was graded as +, ++, +++, +, +, +, +, for density of elastic fibres and smooth muscle fibres per magnified field with + representing the minimum density and ++++ the maximum. It was seen that the human

abdominal and pelvic medium sized arteries are muscular arteries with varying densities of elastic and smooth muscle fibres in the different layers of their arterial wall. The details of this study will be discussed during the presentation.

**379. Novel Therapeutic Properties Of Nano Silver**

**Gajendra Singh**, Madhu Yashpal  
Institute of Medical Sciences, Banaras Hindu University, Varanasi, Uttar Pradesh

Nanotechnology has been finding increasing applications in biology and medicine. Nano silver has already been known to have antibacterial property. We recently have synthesized highly stable biocompatible nanoparticles of silver (10-15nm diameter) with enhanced antibacterial affect against gram negative organisms<sup>1</sup>. Nano silver equally prevented growth of multi drug-resistant bacteria, which can have useful clinical application. We subsequently discovered that nanoparticles of silver, and not of gold, have innate anti-platelet property<sup>2</sup>. They effectively prevent integrin  $\alpha_{IIb}\beta_3$ -mediated platelet responses (aggregation, adhesion to immobilized matrix, secretion of granule contents, intercellular calcium and F-actin fluxes, flow cytometric evaluation of surface epitopes and changes in tyrosine phosphoproteome) in a concentration-dependent manner. When nanoparticles were intravenously injected into different mice strains, there was dose-specific inhibition of platelet aggregation, without any change in tail bleeding. Electron microscopy shows that nano silver accumulates within platelet granules and reduces inter-platelet proximity. Our findings further suggest that these nanoparticles do not confer any lytic effect on platelets and thus hold immense potential to be promoted as anti-platelet/anti-thrombotic agent. Equipped with dual properties (antibacterial and antiplatelet), nano silver has unique application potentials in situations like coronary stents, where it can prevent bacterial infection while keeping platelets in inhibited state.

**280. A Light Microscopic Study of the Age Related Changes In The Islets Of Langerhans Of The Human Pancreas**

**Latha Sreedhar L. S.**, Aleyamma Fenn T. K., V. M. Kurshid  
Govt. Medical College, Thiruvananthapuram.

Diabetes mellitus is an age old problem for which there is no complete cure. Researchers have reached a stage where Islet cell transplants are being tried.

Post mortem study of 72specimens from different age groups to find out any light microscopic structural changes occurring in the pancreas as age advances was done Govt Medical College Hospital , Thiruvananthapuram.

In this study the Islets appear from the 12<sup>th</sup> week of fetal life. Beta cell granules appear by 28<sup>th</sup> week and alpha cell granules by 32<sup>nd</sup> week of fetal life. There is gradual increase in the number of beta cells upto 25 years.

Regular intake of sugar more than what is required may lead to hyper functioning of the beta cells which lead to their degeneration. Hence reduced intake of sugar in the

younger age group may delay the onset of diabetes especially in persons who have a hereditary tendency.

**281. Long Term Effects Of Monosodium Glutamate On Oogenesis Following Neonatal Exposure - A Histological Study.**

**Das Rajat Subhra\***, Tarneker A.M., Ingole I.V., Ghosh S.K.  
\*Agartala Govt. Medical College, Tripura.

Monosodium Glutamate(MSG), popularly known as Azinomoto has been in use since long as a flavour enhancing substance in cooking. Its widespread use has also earned it bad name as hazardous for human health. It has been incriminated to cause wide range of effects comprising retinal degeneration, metabolic disorders, endocrinal disorders including reduced fertility rate in both male and female experimental mice and rats following neonatal exposure. However there are many contradicting views too regarding the above effects which have prompted us to undertake the present study. For our study ten newborns of Swiss Albino mice were injected subcutaneously with MSG ( 2mg/gm of body weight in a dilution 40 mg of per ml. of distilled water) on completion of 2nd, 4th, 6th, 8th and 10th day of life. Similar number of controls were injected with same volume of distilled water. Ovaries were obtained through dissection on completion of 75 days of life. 5 micron thick sections were cut, stained by H/E, PAS technique and studied under light microscope. It was observed from the quantitative analysis of the ovarian section that there was significant increase in the number of the primary follicle to that of the primordial follicle in the experimental suggesting increase in oogenic activity during the initial stage as increase was not reflected in the graffian follicle stage.

**282. A Study on Histological Structure of Human Uterus in Reproductive and Postmenopausal Age Group**

**Malamoni Dutta**, K. L. Talukdar  
Gauhati Medical College Guwahati, Assam

The "Uterus" or "Womb" is subjected to a wide range of normal variation in both its anatomy and physiology e.g. the changes of childhood to puberty, the variations of menstrual cycle, the changes consequent to pregnancy and parturition and finally regression associated with menopause and postmenopausal years. Neoplasia of uterus (both benign & malignant) and uterine involvement as a cause of infertility are major subjects of research in the present era.

The aim of the study is to ascertain that the research work could be utilized for investigation and guidance for management of infertility cases. The knowledge of normal histological architecture of the uterus will be of help to isolate any pathological changes.

The study was conducted in Deptt. of Anatomy, Gauhati Medical College. 10 samples each from reproductive and postmenopausal group were collected from fresh unembalmed human cadavers. The tissues were fixed, processed and slides prepared using the standard laboratory procedure of H&E staining.

During the study stress was given on the structure of endometrium, cervical mucosa and squamocolumnar junction. Endometrial thickness and cervical mucosal thickness were measured in both the age group and compared.

Significant differences of histological architecture were noted between the two age group. Details of all these changes will be discussed during the presentation in the light of available literature.

**283. Preparation Of Histological Slides By Tissues Obtained From Human Cadavers**

**Veena Kulkarni**, S. K. Deshpande

SDM College Of Medical Sciences And Hospital, Sattur, Dharwad.

For academic purposes each college has to set up histology lab with slides of all the tissues of human body. Earlier animals were sacrificed and tissue specimens were obtained from them for preparation of slides. Once the ethics committee put ban on killing of animals there was shortage of specimens which affected the variety and number of slides being prepared.

Then we started procuring the specimens from human cadavers meant for dissection. The present study emphasizes in detail the advantages of the same. Also the steps involved in preparation of routine histological slides within the given set up will be discussed during the presentation.

**284. Multiple Congenital Anomalies Found in 32 Weeks Female Dead Foetus**

**V. Usha Rani**, J. Vasudeva Reddy, V. Subhadra Devi.

S.V. Medical College, Tirupati – A.P.

A 32 weeks dead female foetus was collected from government maternity hospital, Tirupati, Andhra Pradesh. Mother of that foetus was primi para with history of consanguinity. The foetus was subjected to 1) Gross anatomical examination 2) Dissection method to study internal anomalies and 3) Radiological method to study skeletal anomalies. During the above said studies the anomalies found were 1) Defective calvaria with non formation of left parietal bone 2) Median cleft lip with absence of premaxilla 3) Complete cleft palate 4) Spina bifida at cervical and upper thoracic vertebrae 5) Segmentation anomalies like butterfly vertebrae and 'H' shaped vertebrae seen 6) Internal Genital anomalies such as bicornuate bicollis uterus was found. Digital photos and X-rays were taken. The above said anomalies will be discussed in detail.

**285. Acardiac Monster – A Case Report**

**V. Venkatesh Gobi**, S. Aruna, R. Rajila.

Chettinad Health And Research Institute

A case of an Acardiac Monster is described. Foetus Acardius is a parasite for its vascular circulation from the donor twin. We received an Acardiac Monster in our Department of Anatomy from our Obstetrics Department

which is rare anomaly. Acardiac twinning earlier known as Chorioangiopagus Parasiticus, is probably the most severe malformation occurs in 1:100 of all monozygotic twin pregnancies and about 1:30 of all monozygotic triplets. There are several types of Acardiac Foetuses, Acardiac Anceps, Acardiac Acromus, and Acardiac Amorphous. Arterio-Arterial anastomosis between the umbilical cord of the normal and the Acardiac twin are responsible for the clinical presentation of a twin reversed arterial perfusion (or) TRAP sequence. Possible complication for healthy twin are congestive cardiac failure due to circulatory overload, polyhydramnios (and thus preterm labour) and eventually intra-uterine demise. Several risk factors to estimate the severity of the anomaly and the consequence for the healthy pump twin have been identified. Placenta was monochorionic and diamniotic. A review of the literature including pathogenetic theories, effects on the other twin, and prevention and management are discussed.

**286. Cyclopia With Proboscis – A Case Report**

**Sharada B. Menasinkai**, \*G. S. Saraswathi.

M.M.C. & R.I. Mysore, \*J.S.S. Medical College, Mysore.

Cyclopia is a severe form of Holoprosencephaly caused by failure of embryonic procerebrum cleavage and differentiation. Holoprosencephaly which occurs with a frequency of about 1 : 16000 live births, 1 : 200 spontaneous abortions, is an etiologically heterogeneous entity. This condition is associated with deformation of Frontonasal process, Calvaria, and Mid facial structures resulting in one eye in a single orbit. Cyclopia is characterised by absence of nasal cavity and presence of rudimentary Proboscis above the single orbit.

Etiology is not known, Autosomal dominance was observed in some cases. Consanguinity was seen in some cases reported by Klopstock in 1921, Grebe in 1954, and Cohen & Gorlin in 1969. Association of congenital Cytomegalovirus infections and cyclopia is also described by Byrne et.al in 1987.

The present study was done at Cheluvamba Hospital attached to Mysore Medical College to know the incidence of congenital anomalies. The total number of births during the study period were 3000. There were 61 babies with congenital anomalies includes live births, still births, aborted foetuses. There was one case of cyclopia with proboscis seen. Details of history, etio-pathology, investigations, autopsy reports, literature review will be discussed.

**287. Morphometric Analysis Of The Socket For The First Upper Temporary Molar Teeth In Human Foetuses**

**Nafis Ahmad Faruqi**, Farah Ghaus

J.N.M.C., A.M.U., Aligarh

Foetal therapy has made foetal anatomy a promising field. Alveolar arches became further special due to their importance in dentistry. Twenty nine human foetuses were grouped into I (< 24 wks of IUL), II (25-30 wks of IUL) and III (> 30 wks of IUL). Socket common for 1<sup>st</sup> temporary molar and permanent premolar was cleaned. Three



parameters, i.e. maximum mesiodistal and transverse diameters and depth were analysed statistically. Some of the striking features of our study were, 1. Spurt of growth leading to very high values in group II fetuses, 2. A mesiodistal compression, 3. No bilateral variations, 4. Higher values in males in late foetal group.

**288. Effects of Intrauterine Growth Restriction on Morphology of Liver Lobule - 'A Neonatal Autopsy Study'**  
**Anjali C. Dhamangaonkar**, Sudha Sane, Manisha Khare  
Seth G.S. Medical College, Parel, Mumbai.

Low birth weight is related to 'Metabolic Syndrome' in later life IUGR may bring about permanent alterations in lipid metabolism and fibrinogen levels. Animal studies show altered hepatic morphology and lobule size in IUGR. So, we planned this human neonatal autopsy study to find the difference in hepatic morphology of the normal and IUGR cases.

Forty full term neonates, dying within six days of birth were autopsied during 1996-2001. Fresh full term still births were included and cases of major malformations excluded. Clinical history and all anthropometric measurements were recorded on day one by neonatology unit. Organ weights were recorded at the time of autopsies. Stained sections of liver tissue of forty cases were studied.

This indicated low birth weight babies have smaller liver and small size of lobule.

**289. Ectopic Lingual Thyroid As Unusual Case Of Progressive Dysphagia.**

**Suresh. B. Bidarkotimath**

A. J. Institute of Medical Sciences. Mangalore

Thyroid gland organogenesis results in an organ the shape, size, and position of which are largely conserved among adult individuals of the same species, thus suggesting that genetic factors must be involved in controlling these parameters. In humans, the organogenesis of the thyroid gland is often disturbed, leading to a variety of conditions, such as agenesis, ectopic, and hypoplasia, which are collectively called thyroid dysgenesis. Lingual thyroid gland is a rare clinical entity that is due to failure of descent of the gland analogue early in the course of embryogenesis. Lingual thyroid is an uncommon embryological aberration characterized by the presence of thyroid tissue located in a site different from the normal position. Clinical incidence varies between prevalence of 1 in 100,000. We present the case of a 31-year-old woman who presented progressive dysphasia caused by a mass located on the base of the tongue in the midline with no evidence of thyroid gland in suprasternal area.

**290. Non Cellular Component Of Human Placenta**

**Maitrayee Mondal**, R.Srengupta, K Roy, A. Dey.

R.G. Kar Medical College And Hospital, Kolkata

Placenta is the key organ which establishes a link between mother & foetus. Maternal disorders & diseases brings a change in both morphological & histological level

and there is change in both cellular & non-cellular component of placenta. The two note worthy non-cellular components are Fibrinoid & Fibrin. Our aim of the study is to see the variation of the non-cellular component between non-cellular component of placenta & placenta of patients with history of hypertension & APH. Placenta each of normal & cases of hypertension and APH were collected from Gynae & OBS Department of R.G.K.-MC Kolkata. The tissues were cut processed & stained with H&E Massons & MSB & the changes noted. It was observed that there was increased Fibrin and fibrinoid deposition of placenta between villi in placenta with hypertension.

**291. Study Of Neural Tubal Defects Anomalies And Their Biochemical Studies From The Department Of Obstetrics In The Teaching Hospital Of Sree Raja Rajeshwari Medical College, Bangalore.**

**Arunkumar S. Bilodi**

HIMS, Hassan

Aim: Aim of the present study is to know the types and their percentages of incidences of neural tube defects that came across at teaching hospital of Sree Raja Rajeshwari Medical College, Bangalore.

Place of the study: In the labour ward of obstetrics and gynecology and in pediatrics department of teaching hospital of Sree Raja Rajeshwari Medical College, Bangalore.

Period of the study: From 13.02.2007 to 13.05.2008 - Fifteen months study.

Materials and Methods: The cases for the present study was collected from pediatrics department as well as from the labor ward of obstetrics and gynecology department in the teaching hospital of Sree Raja Rajeshwari Medical College, Bangalore. These cases were studied in detail with proper family history, personal history, obstetrics history. Later they were examined in detail with the proper local examination.

Results: This study showed fifteen cases were observed in this study. Out of these 5 were live births, 2 were male babies, 3 were female babies, 5 were still births - aborted babies, and 7 cases were first child to their parents. Rest were born to non consanguineous. Eleven cases were first child to their parents. This study was later compared and correlated with other workers and with the available literatures.

**292. Effect Of Withania Somnifera L. Alcoholic Root Extracts On Morphological Changes In Male Reproductive Organs Of Streptozotocin Induced Diabetic Rats.**

**Rajashree R.**, Bhat P. P., Jevoor P. S., Ravishankar M. V.  
J. N. Medical College, Belgaum

Introduction: Diabetes mellitus is a group of common metabolic disorders that share the phenotype of hyperglycemia, affecting, therefore, nearly every system in the body. Growing evidence indicates that increased oxidative stress in diabetes may trigger sexual dysfunction. Diabetes is the most common cause of erectile dysfunction in men



along with testicular dysfunction, impotence and decreased fertility potential in males.

**Aim:** The present study is undertaken to test novel therapeutical intervention like *Withania Somnifera* L. (Indian Ginseng) alcoholic root extracts in diabetic rats. Considering that over 170 million diabetic patients and of which 30 million are in India, the diabetes capital of the world, this study highlights the impact of diabetes on male sexual function.

**Materials and Methods:** Two months old, male albino Wistar rats were selected and rendered diabetic by inducing with Streptozotocin (50 mg/kg body weight, ip) *Withania Somnifera* L. alcoholic root extract was given intragastrically at a dose of 500 mg/kg body weight for 30 days.

**Results:** The results suggest that the extract has significant and also improved ( $p < 0.05$ ) on increasing the weight of testis and cauda epididymis and also improved the sperm count. It is also compared to insulin, a conventional treatment

**Conclusion:** *Withania Somnifera* L. has potent, beneficial activity on reproductive system of young diabetic rats. There is a scope for further research to investigate possible role of the herbal medicine in correction of disorders of reproductive health, one of the diabetic complications.

### 293. Anomalies Of Superficial Veins Of The Neck – A Case Report

**Magi. M.**, Muralidhar P. Shepur, Premalatha Gogi, Pavan P. Havaladar.

J. J. M. Medical College, Davanagere

In critical care units external and internal jugular veins are used for central venous catheterization routinely. It is well documented in literature that external, internal, and anterior jugular vein frequently vary in their formation, tributaries, course and termination. Sizes of these veins are interdependent. Hence it is not surprising to come across problems in placing central venous catheter, intravenous procedures and therapies, head and neck surgeries and low tracheostomy. So an attempt is made to present variations in the jugular veins of middle aged male cadaver.

During the routine post graduate dissection of head and neck on a middle aged male cadaver, it was observed that the left retromandibular vein was formed by superficial temporal and maxillary veins in the substance of the parotid gland. It was dividing into a large anterior and a small posterior division. The posterior division was joining with the posterior auricular vein to form the external jugular vein. External jugular vein was opening into subclavian vein at midclavicular level after piercing the deep fascia. The large anterior division joined with the common venous channel formed by facial vein and vein from the submandibular region inturn forming common facial vein which descended and divided into a large anterior division and small posterior division. The anterior division continued downwards as left anterior jugular vein between midline and anterior border of left sternocleidomastoid. It is terminating by passing deep to the sternocleidomastoid and opening into the terminal part of left external jugular vein. The posterior division joined with left lingual vein. The left anterior jugular vein was

connected with left internal jugular vein by a communicating venous channel at the level of cricoid cartilage. Other variations will be described at the time of presentation.

### 294. Bilateral Variation Of Carotid System – A Case Report.

**Hemalatha I.**, Shakunthala.R.Pai, \*Rairam G. B., Sharada R.

Kasturba Medical College, Manipal University, Manipal, \*S. N. Medical College, Bagalkot

During routine dissection of neck region of a formalin fixed 40 year old Male cadaver, variations in the carotid system on both sides were observed, wherein origin was normal, high termination of Common Carotids was observed. Superior thyroid artery originated from Common Carotids bilaterally. Ascending pharyngeal arteries were absent bilaterally. Left Common carotid terminated 0.5 cm below the angle of the mandible. On the right side lingual and facial artery were from linguo-facial trunk. Bilateral variation in branching pattern of axillary artery was also observed. Rest other findings will be discussed during the presentation.

### 29.5 Four Communications between Musculocutaneous Nerve and Median Nerve: A Rare Case Report

**Lovesh Shukla**, Gargi Soni, Neha Gaur  
MAMC, Agroha, Hisar

Communications between the branches of brachial plexus is a common phenomenon that has several clinical and surgical implications. The present article is in reference to a case, encountered in routine dissection displaying four sites of communication between the musculocutaneous nerve and median nerve in the right arm of a 55 year old male cadaver. The musculocutaneous nerve did not pierce coracobrachialis. The distances of these communications from the tip of the coracoid process were 5.5cm, 6.0cm, 6.1cm and 8.1cm respectively.

### 296. Bifid Plantaris - A Case Report.

**Ambekar S.A.**, P. Vatsalaswami, Paranjape V.M.  
D. Y. Patil Medical College, Pimpri, Pune

Plantaris is a rudimentary muscle and is equivalent to palmaris longus of the forearm. Variations in the origin and insertion of plantaris are common. The tendon of plantaris muscle serves as an excellent graft. The anatomical knowledge of plantaris muscle is also important for clinical diagnosis of the muscle rupture and during interpretation of MRI scans.

During routine dissection, two heads of origin of plantaris were observed in a male cadaver on the left side. Upper belly was attached to the lower part of lateral supracondylar line deep to the iliotibial tract, the lower belly was smaller and attached to posterior aspect of lateral condyle of femur just medial to lateral head of gastrocnemius. It was supplied by branch of tibial nerve

dividing into two before entering anterior aspect of the muscle.

Further details of the study will be discussed during paper presentation.

### 297. Aberrant Right Hepatic Artery—A Case Report

**Tejaswi. H. L.**, K. R. Dakshayani.  
Mysore Medical College and Research Institute, Mysore

During routine dissection conducted for the undergraduates in the department of Anatomy, MMC&RI, an aberrant right hepatic artery was found in a male cadaver aged about 45 years.

Right hepatic artery normally arises from hepatic artery proper which is a branch of celiac trunk. In the present case in addition to normal right hepatic artery, another artery was seen arising from superior mesenteric artery which supplied right lobe of the liver along with normal right hepatic artery.

Orthotopic liver transplantation represents an ideal opportunity to study the Surgical Anatomy of blood supply to the liver. Extrahepatic arteries must be identified with precision at the time of liver harvest to avoid injuries that might compromise complete arterialisation of the graft. Aberrant right hepatic artery is closely related to cystic duct and the duct can be injured during surgeries of gall bladder if aberrant arteries are not identified. Thus presence of all arteries including aberrant arteries must be demonstrated.

Other arterial variations were also found in the same cadaver, details and clinical importance of which will be discussed in the scientific session.

### 298. Variations Of Musculocutaneous Nerve - A Case Report

**Jaiprabhu. S. P.**, Priya.G, Sundarapandian. S, Radhika Krishnan. J

SRM Medical College Hospital & Research Centre, SRM Nagar, Kattankolathur, Kancheepuram District, Tamilnadu

During routine dissection, we encountered anomaly of musculocutaneous nerve in a 60 years old embalmed male cadaver. It is observed on the right side. The musculocutaneous nerve after piercing coracobrachialis supplies the muscles of the anterior compartment of the arm and gives off lateral cutaneous nerve of forearm and joins with the median nerve. The surgical complication and embryological basis of this variation will be discussed in detail.

### 299. Unusual Branch of Brachial Artery – A Case Report

**Sreeja. M.T**  
MIMSR Medical College, Latur

A case is reported during routine dissection of the left upper limb of a male cadaver shows an unusual branch

of brachial artery arose 14.5cm above from the cubital fossa. It runs downwards medial to the median nerve on the arm. Then it descends towards medial epicondyle reaches forearm.

Throughout its course in the forearm it runs medially and reaches the hand. Finally it terminates into smaller branches which supply the hand.

The total length of the unusual artery from its origin to hand is 49cm. The terminal branches of brachial artery i.e. the radial and ulnar artery at cubital fossa, other branches such as profunda brachii artery, superior and inferior ulnar collateral arteries etc. and its anastomosis were maintained. The brachial artery and its branches on the right upper limb of same cadaver were found normal.

### 300. Axillary Arch – A Case Report

**Bindurani M. K.**, B. Nanjundappa, Muralidhar P. Shepur, Mutyalapati Venkata Ramulu.  
JJM Medical College, Davangere

Axilla is a pyramidal region between upper thoracic wall and the arm, containing neurovascular bundle. During recent years it has gained much surgical importance due to axillary surgery for breast cancer, reconstruction techniques and axillary bypass operations. Anatomical variations are common in axilla, the most common being the presence of a muscular slip known as Axillary arch. This case report describes such variant muscle in right axilla of a 65 year old male cadaver, found during routine dissection. It was found extending from lateral border of latissimus dorsi muscle, crossing over axillary nerve and thoracodorsal artery to get attached to the coracoid process of the scapula. No separate innervation was found for this muscle. No such variant muscle was found in the left axilla. The close relationship of the variant muscle with vital structures in axilla is of significance for surgeons.

Features of this variant muscle and its significance will be described during the presentation.

### 301. Pes Planus Associated With Accessory Navicular Bone – A Case Report

**Umapathy Sembian**, Muhil M. Thangaraj S. P., Srinivasan K. R.

Aarupadai Veedu Medical College, Pondicherry

In the radiological examination of a 36 year old male patient it was observed that there was an accessory navicular bone present bilaterally, located postero medially to the navicular bone, due to which the medial longitudinal arch appears to be collapsed.

Pes planus is a common condition encountered in the orthopedic department. The arches of the foot is maintained mainly by 3 important factors: close adaptation of the bones, strong ligaments and extrinsic and intrinsic muscles of foot.

It is a known fact that the medial longitudinal arch of the foot is mainly maintained by the spring ligament, which is supported by tibialis posterior tendon.

Usually tibialis posterior tendon during its distal attachment gives slips to all tarsal bone except talus and

mainly gets attached with the navicular bone.

When there is a presence of accessory navicular bone the main slip of tibialis posterior gets attached to the accessory navicular bone, giving comparatively small slip to navicular bone, which later on leads to pes planus.

The bilateral accessory navicular bone present in a 36 year old male patient is a rare entity. Hence it is reported for clinical significance.

### 302. Variations In The Branching Pattern Of External carotid Artery

**Sundeep Kumar. H**, Thirupathi Rao. V, Srinivasa Rao. Y, Deepthi. M.L,  
Swayam Jothi Dorai Raj. S  
Asram, Eluru.

Introduction: - The branches of external carotid artery show variations.

Aim: - To observe the variations in the branching pattern of the external carotid artery.

Materials and Methods: - During routine dissection of head and neck

Care was taken to trace all the branches of external carotid artery. The variations seen in 20 male and 2 female cadavers were reported.

Observation: - Earlier we have reported the origin of superior thyroid artery from common carotid artery and presence of linguo - facial trunk bilaterally in 2 cadavers and on the right alone in 2 cadavers.

Now we observed the following:-

1. Linguo - facial trunk on both the sides in one cadaver.
2. In another cadaver on the right side superior thyroid artery and lingual artery were arising from a common trunk on both the sides.
3. In one female cadaver in addition to linguo - facial trunk, posterior auricular artery and occipital artery were arising by a common trunk on the left side.
4. In one male cadaver on the left side, 2 facial arteries were observed.
5. The branching pattern was normal in other cadavers.

Discussion: - The presence of linguo- facial trunk either bilaterally or unilaterally formed 27% and common origin of superior thyroid and lingual 4.5%, double facial artery 4.5% and common origin of posterior auricular artery and occipital artery 4.5% of variations.

### 303. Accessory Muscles of Hand: Evidence Towards Evolving Hand

Dhananjay K, Vangara S V\*, Athavale S A, Sowmya K K,  
**Vijayalakshmi B N**  
KVGMC Sullia, DK District, \*Kasturba Medical College Manipal.

In the ongoing process of assumption of erect posture and utilization of free upperlimbs for skilled movements by the humans, many morphological changes are taking place. These changes sometimes may have important clinical manifestations.

During the routine dissections of undergraduate students, two cases of accessory bellies of first lumbrical muscle were observed. Both were arising from the fleshy belly of flexor digitorum superficialis, passing through the carpal tunnel they ultimately merged with the first lumbrical muscle, to be inserted into the dorsal digital expansion. We also report a case of an accessory muscle observed on the dorsum of the hand - Extensor digitorum brevis manus muscle. All the three cases described had similar insertion into the dorsal digital expansion of the index finger. Details of these muscles will be presented and evolutionary and clinical significance will be discussed.

The knowledge of these variants is important for clinicians to prevent errors in diagnosis and treatment.

### 304. Variations In The Origin And Colic Branches Of Superior Mesenteric Artery

**M. Nirmaladevi**, Sudha Seshayyan\*  
Vydehi Institute of Medical Sciences & RC, Bangalore,  
\*Stanley Medical College, Chennai

Modern abdominal surgical techniques like oesophago-jejunosomies, intestine transfers, selective arterial chemotherapy in the treatment of liver cancer, liver transplantation, resections of the small and large intestines and appendicectomies depend partly on the knowledge of the normal and partly on the anomalous arterial blood supply. So knowledge of exceedingly variable blood supply of the viscera in the abdomen by the superior mesenteric artery is very important to the operating Surgeon, Radiologist and to the Anatomists as well. A total number of 50 superior mesenteric arteries were studied in the different age group in the south Indian population by Dissection, Angiogram pictures and Surgeries and multiple variations in the origin of superior mesenteric artery, distance between the origins of the coeliac trunk and the superior mesenteric artery, middle colic, right colic and ilio-colic branches of the superior mesenteric artery were found. The observations have been recorded, summarized, reviewed with previous studies and discussed with reference to their surgical applications which will be discussed in detail during oral presentation.

### 305. Incidence of Extensor Medii Proprius Muscle

**Prakash B. S.**, Padmalatha K., Mamatha Y, B. R. Ramesh  
Dr.B.R.Ambedkar Medical College, K.G.Halli, Bengaluru.  
Karnataka.

Additional bellies & tendons of the muscles are surgically noteworthy. Such variant structures can lead to error in both diagnosis & treatment. Forearm extensors are known to exhibit such variations. A study of sixty-six upper limbs (thirty three cadavers) was studied for the variation of extensors. In one of the male cadaver extensor medii proprius was found bilaterally taking origin from the distal end of the ulna with a small muscle belly, tendon passing on to insert extensor expansion of middle finger. Variation is found to be 1.5%. Surgical & morphological importance will be discussed.

**306. Variations In Bifurcation Of Sciatic Nerve**

**S. Savitha**, Sumangala Devi, Saritha, Harikishan, Vitturao, Srinivasa Reddy.  
SVS Medical College, Mehaboobnagar, A.P.

Mononeuropathies are relatively common, specially sciatic nerve. Most of the cases are due to entrapment (or) pelvic fractures or dislocations of hip joint. In the routine cadaveric dissections significant number of variations observed in the origin, course, and bifurcation of sciatic nerve. A frequent variation in this regard, call for surgeon's attention to avoid error in the judgment in entrapment neuropathies. The study was carried out in cadaveric dissection during the course for 1<sup>st</sup> MBBS students. The details of sciatic nerve bifurcation pattern with regard to the incidence, clinical significance and along with the review of literature will be discussed at the time of presentation.

**307. Growth Pattern In School Children Of 9-12 Years Age.**

**Santosh V. Shinde**, A. D. Kundalkar\*, B. R. Zambare, Sudhir E. Pawar, Bhaskar B. Reddy, BagwatV.Shinde\*\*  
P.D.V.V.P.F's Medical college & Hospital, Ahmednagar,  
\* B.J.Medical College, Pune, \*\* N.M.D.V.P. Medical College, Nashik.

The aim of the present study was to investigate the growth characteristics and differences in terms of Anthropometric parameters, among two contrasting socio-economic categories of school boys and girls living in Pune region of Maharashtra.

A defined group of 623 healthy school children of 9-12 years of age (312 boys and 311 girls) from the Pune region of Maharashtra were taken for this study. The study group further divided into Higher Income Group (HIG) and Lower Income Group (LIG). The Anthropometric measurements of height, weight B.M.I, mid arm and mid thigh circumference, mid arm and mid thigh skin fold thickness, in each child were obtained and studied by cross sectional analysis. The mean values for height, weight, and body mass index (BMI) increased with the age for both boys and girls. The maximum growth in arm and thigh circumference is seen at 10-11 years in Higher Income Group (HIG) and at 11-12 years in Lower Income Group (LIG).

From the study, it is observed that values of almost all the parameters were higher in Higher Income Group (HIG) as compared to those of Lower Income Group possibly due to lifestyle changes and better nutritional food intake in higher socio-economic group.

**308. Human Placenta; Changes In Relation To Pregnancy Induced Hypertension And Anaemia.**

**Ambekar S.A.**, Diwan C.V., P Vatsalaswami, Dahiphale V., Kshirsagar S.  
D. Y. Patil Medical College, Pimpri, Pune -411018.

Placenta is a vital organ for developing foetus. Placenta supports growth of the foetus and is also a potent endocrine, immunologic & metabolic organ. Maternal diseases like pregnancy induced hypertension and anaemia in pregnancy attribute to a great degree of morbidity and mortality. Study of Placentae in these cases is very helpful.

Hence the present study was carried out on 300 placentae obtained from obstetrics and gynaecology department of S. R. T. R. medical college, Ambajogai.

The placentae of patients with pregnancy induced hypertension (PIH) and anaemia were studied and compared with placentae of normal pregnant females without any maternofetal complications. The findings of this study were compared with the previous studies.

It was observed that the Placental weight, thickness and circumference decreases significantly in PIH and in anaemia, the placental weight, and circumference increases significantly but thickness of placenta decreases.

Further details of the study will be discussed during the presentation.

**309. Variations Of Renal Artery - A Cadaveric Study**

**Sathiya Narayana Murthy S.**, Sundarapandian S., Arudyuti Choudhry, Radhika Krishnan J.  
SRM Medical College Hospital & Research Centre, SRM Nagar, Kattankolathur,  
Kancheepuram District, Tamilnadu

The conservative renal surgery necessitates a basic anatomical knowledge of renal artery origin and its distribution. Many cases have been reported in the literature in which an aberrant (or) accessory renal artery is found. Hence, an attempt was made to study the renal artery origin and its branches in 15 cadavers. We found three right renal arteries arising from the aorta and supplying the same side kidney. Origin of right testicular artery from the anterior aspect of inferior right renal artery was also noted. According to (Hollingshead 1971) accessory renal arteries found to lie in such a position as to appear to obstruct the outflow of urine at pelvic ureteric junction and may be responsible for hydronephrosis.

The embryological basis and clinical significance of this paper will be discussed during presentation.

**310. Morphological Study Of Placenta In Gestational Diabetes**

**A.S. Nagaliker**  
Belgaum Institute of Medical Sciences, Belgaum.

Aim: To study the morphological changes of placenta in mothers with diabetes mellitus.

Materials & Method: About 100 placentae collected from Cheluvamba Hospital, Mysore Medical College & Research Institute Mysore, were fixed & studied.

Discussion & Conclusion: In present study we found that, in cases of Gestational diabetes, the morphometrical features like weight, volume, diameter, thickness, surface area etc of placenta showed statistically significant difference from the normal.

The details of the same will be discussed during presentation.

**311. Accessory Hepatic Duct**

**N. V. Bharath**, Srinivasa Rao Y, Thirupathi Rao V, Kannan M, Bapuji P, Swayam Jothi Dori Raj S. Asram, Eluru.

**Introduction:** - Accessory hepatic duct variously joins the right hepatic duct, the common hepatic duct, the cystic duct or even the common bile duct. Right accessory hepatic ducts are nine times more common than left accessory hepatic ducts.

**Aim:** - We looked for accessory hepatic ducts at the porta hepatis.

**Materials and Methods:** - During routine dissection of abdomen careful observations were made in 12 cadavers (8 male and 4 female).

**Observations:-**

1) In one male cadaver right and left hepatic ducts were found at the porta hepatis and they joined to form common hepatic duct and it was joined by cystic duct to form common bile duct. In the angle between the common hepatic and cystic ducts accessory hepatic duct emerged from the right lobe to join the common hepatic duct.

2) In another male cadaver accessory hepatic duct arose from non peritoneal surface of gall bladder and drained into gall bladder.

3) In 10 cadavers normal pattern was seen.

**Discussion:** - Michels (1951) found accessory hepatic duct in 18% of 200 bodies. In the present study it formed 26.7%.

**312. A Case Of Double Inferior Vena Cava**

**Sharada R**, Biswabina Ray, Sneha G. K, Shakuntala R. Pai. Kasturba Medical College, Manipal.

The development of inferior vena cava is complex. Due to this complexity the venae cavae may undergo a very large number of congenital anomalies. These congenital anomalies of the inferior vena cava are a relatively rare pathology, usually with an asymptomatic iter. They are usually diagnosed by chance during surgery on the aorta or retroperitoneal surgery. In the present case during routine dissections of the posterior abdominal wall, we observed that there was a double inferior vena cava. The starting of the vein was normal and as we dissected the gonadal & renal veins, we found that there was a double inferior vena cava. It fused at the level of diaphragm, entered the pericardial cavity to form inferior vena cava to drain into the right atrium. Most of the cases of double inferior vena cava were diagnosed either by CT scan or MRI. Embryological basis explained. Knowledge of these variations will serve as a reference for avoiding clinical complications, especially during retroperitoneal surgery in this region.

**313. Congenital Anomaly Of Hand – A Case Report**

**Shilpa. Bhimalli**, S.M. Antin, V.S. Shirol, Daksha Dixit Jawaharlal Nehru Medical College, Belgaum

A rare case of bilateral congenital upper limb anomalies in a 25year male was found. He presented with bilateral absence of carpal and metacarpal bones. A stiffness of elbow joint was also noted. There was no history of maternal illness or drug intake during pregnancy. The upper limb bud develops at about 24 days opposite the pericardial sac and by eight weeks embryogenesis is complete and all limb structures are present. The majority of congenital anomalies of upper extremities occur during this period of limb development.

**314. A Rare Case Of Tetra Amelia – A Case Report**

**Arunkumar S. Bilodi**, \*Gajendra K HIMS, Hassan, \*NMC, Nellor, A.P.

**Aim:** To report a rare case of tetra Amelia studied from a full term aborted foetus.

**Place of Study:** Aborted foetus that was kept in the museum of department of anatomy of Narayana Medical College, A.P.

**Period of Study:** Study was made during March – April 2009.

**Case Report:** This case was studied from a full term aborted foetus that was kept in the museum of department of anatomy of Narayana Medical College, A.P. This foetus had no upper limbs and lower limbs bilaterally. Not have even rudimentary limb buds of both upper and lower limbs were found.

This tetra Amelia was not associated with cleft lip, cleft palate defects in body wall, malformation of head, neural tube defects, diaphragm, facial clefts, facial anomalies like small jaw, missing ears and nose. Diaphragm, kidneys were normal. There was no other associated anomaly. There was no occurrence of benign facial tumors. Anterior abdominal wall was intact.

**Conclusion:** This type of anomaly is said to be extremely rare, hence it has been studied, compared, correlated, and reported.

**315. A Mathematical Model Of The Human Hard Palate**

**Agnihotri G**, \*Sagoo M.G.

Govt. Medical College, Amritsar, Punjab.

\*Division of Basic Medical Science, St. George's University of London, U.K.

**Introduction:** The shape of palate is a morphological entity having significant functional impact. Growth disorders restrict development of palatoalveolar complex and initiate development of jaw and orthodontic anomalies. Deviations in size lead to lack of space for tongue. This along with abnormalities in shape of palate may lead to speech disorders. Despite these consequences, only limited attention has been devoted to the subject, attributable to difficulties associated with quantitative evaluation of palatal surface.

**Material and Methods:** Alginate casts were taken from North Indian subjects in age group of 17-21 years in an attempt to formulate a mathematical model of hard palate. The width was measured between two points taken medially at the mesiopalatal cusp of right and left first molars. The length of palate was measured from incisive papilla to a point exactly at the mid-distance between two points taken for width measurement.

**Results:** There exists a statistically significant sexual dimorphism for the palatal dimensions ( $p < 0.01$ ). The mean length (Males:  $3.83 \pm 0.10$  mms, Females:  $3.68 \pm 0.19$  mms), width (Males:  $3.368 \pm 0.12$  mms, Females:  $3.30 \pm 0.12$  mms) and length/width ratio (1.1) were calculated.

**Conclusions:** The mathematical ratio (length/width ratio of 1.1) is envisaged to be useful in reconstructive surgery and for anthropologists. The study concludes that use of alginate casts is an effective and convenient methodology for measuring palatal dimensions.

**316. Placental Changes Associated With Maternal Anaemia**

**Sharmistha Biswas**, J. C. Chattopadhyay\*, S.K.Ghosh\*\*  
Bankura Sammilani Medical College, Bankura, West Bengal

\* Midnapur Medical College, Midnapur, West Bengal

\*\*Nepal Medical College

The present study aimed to assess the morphological and histological changes of placentas associated with maternal anaemia (mothers with Hb level  $< 10\text{gm}\%$ ).

Macroscopic and microscopic analysis of the placentas of full-term singleton pregnancies delivered both by anaemic mothers as well as healthy mothers (controls) were done and these findings were compared. About 150 placentas were collected.

It was noted that the mean fetal weight of pregnancy with anaemia group (Total number of cases = 80) was 2194.47 gm. This was less than the mean fetal weight of pregnancies without anaemia. The mean placental weight pregnancy with anaemia group was 341.58 gm and mean placental volume was 256.84 ml, both values were more than the control group.

Light microscopy revealed increased intravillous and perivillous fibrin deposition, increased syncytial knotting, more avascular villi and villi without complete trophoblastic lining in placentas of anaemic mothers as compared to those of the controls.

Maternal anaemia resulted into bigger, heavier placentas and smaller fetuses and placental morphological changes show the signs of chronic placental insufficiency.

**317. Very Rare Accessory Head of Flexor Pollicis Longus**

**Prakash B. S.**, Padmalatha K., B. R. Ramesh.  
Dr. B. R. Ambedkar Medical College, K.G. Halli, Bengaluru.  
Karnataka

The presence of accessory head of flexor pollicis longus muscle has been reviewed in the literature. Thirty-six upper limbs were studied for the additional belly of flexor pollicis longus. Two left upper limbs (male) had the accessory head arising from the flexor digitorum superficialis muscle passing downwards & laterally to attach the ulnar side of flexor pollicis longus muscle at the middle of the forearm. The incidence, Clinical & functional significance will be discussed.

**318. A Single Common Cord in the Infraclavicular Part of the Brachial Plexus**

**M. Jamuna**

P. S. G. Institute of Medical Sciences and Research,  
Coimbatore.

Awareness of the numerous anatomical variations in the Brachial plexus is of utmost clinically significant for the surgeons, orthopaedicians, traumatologists, Anaesthetists and neurosurgeons. A single common cord on the left side was noted in the Infraclavicular Part of the Brachial Plexus in one cadaver during the study of 50 cadavers and the branches of the plexus were originating from the common cord. The awareness of this variation is important in giving Brachial plexus block and in anterior surgical approaches to the shoulder.

**319. Surgical Anatomy Of Latissimus Dorsi Myocutaneous Flaps And Its Clinical Applications**

**Sridevi N S**, Anand K, Venkateshu, Sanikop

Sri Devraj Urs University – Kolar, Mallya Hospital- Bangalore

**Introduction-** Latissimus dorsi a flat broad muscle measuring 20 by 40 cm with 2 separate vascular systems – by thoracodorsal artery and by perforating branches of intercostal and lumbar arteries.

**Aim of study-** Latissimus dorsi myocutaneous flap is one of the most reliable and versatile flaps used in reconstructive surgery. The aim is to know how it is used in chest wall, postmastectomy and also in large soft tissue defects in head and neck either as a pedicled or as a microvascular free flap.

**Materials –** About 20 cases will be studied in clinical settings.

**Discussion-** Latissimus dorsi may be transferred as a simple muscle flap, or a myofascial flap, a myocutaneous flap or as a composite osteomyocutaneous flap when harvested with underlying serratus anterior muscle and rib. The significance in detail will be discussed.

**320. Tendocalcaneus – A Morphological Study**

Joshi S S, **Joshi S D**, \*Kishve P S, \*Joshi M M.  
Sri Arbindo Inst. of Med. Sc., Indore, \*Rural Medical College,  
Loni, Dist. Ahmednagar

Tendocalcaneus (TC) is the strongest tendon in the body. During various athletic movements TC may completely rupture about 2-5cms above its insertion. While reviewing the literature we come across the description of spiralling of the fibres of gastrocnemius laterally and soleus medially.

The narrowing of TC has been ascribed to the crossing of tendinous fibres of gastrocnemius in a rope like fashion, the medial fibres passing superficial to the lateral. The tendinous fibres in TC have a very complex spiral arrangement that provides elasticity to this strong tendon which can be stretched upto about 5% of its length. It seems that the strength of TC can be attributed to the spiralization of its tendinous fibres. Precise knowledge of anatomic arrangement of tendinous fibres in TC can help the surgeons in successful correction of talipes equinus; repair of rupture of TC and tendon lengthening procedures. A total of 100 Lower limbs (Right 50, Left 50) were utilized for the present study. The fibres of the two heads of the gastrocnemius and soleus were separated by teasing them upto their insertion. The inter-relationship between the strata of these three muscles were photographed and recorded. In the majority a) The medial border is formed by the soleus, b) The lateral border by lateral head of gastrocnemius. Three distinct strata in the TC were discernible: i. Superficial mostly by medial head, ii. The intermediate by lateral head of gastrocnemius and iii. Thick deepest strata by the soleus. Also observed were some interesting variations in the contribution made by the three components of Triceps surae in the formation of TC.

### **321. Variations in Neurovascular Bundle under Deltoid**

B.Narasinga Rao, **R. Ramana Rao**  
Maharajah's Institute of Medical Sciences, Nellimara.

The location of the axillary neurovascular bundle has been ambiguous. Some authors opined that it is 5cm below acromion process (R.J. Last), while others opined that the axillary nerve and posterior circumflex artery are located at the junction of upper 1/3<sup>rd</sup> and middle 1/3<sup>rd</sup> of deltoid muscle.

The present study is taken up by passing a percutaneous intramuscular needle 5cm below the acromion process into the deltoid muscle and this part is dissected to locate the needle in 15 cadavers (30 upper limbs).

It is noticed that the neurovascular bundle is 6 to 7.5 cm below the acromion process irrespective of the length of upper arm.

The details will be discussed at the time of conference.

### **322. Morphometry And Branching Pattern Of Superior Thyroid Artery In South Karnataka Population**

**Pugazhandhi. B.**, Biswabina Ray  
Kasturba Medical College, Manipal, Karnataka.

Aim: To establish preliminary data on variations superior thyroid artery (STA) and its branches in South Karnataka population.

Materials and methods: The carotid triangles of neck of 11 cadavers (7 males, 4 females) were dissected. The branching pattern, number and length of branches and length of the STA were noted. Length of the external carotid artery from the point of its emergence from the common carotid artery to the point of its branching was noted. Statistical analysis was done by Student T-test. Result: Difference between the mean length of STA on left and right side was statistically not significant.

Similarly, difference between male and female was not statistically significant. Mean number of branches are three. Comparing the length of STA on both the gender revealed that the maximum (6.6cm) and minimum length of STA was seen in male on left side.

Discussion: Thyroid arterial organization is important during surgical approach to avoid unexpected thyroid dysfunction (Toni et al, 2003). Awareness of significant variations of surgical thyroid anatomy of thyroid gland is vital for preserving integrity of important structures (Sherman et al, 2003). The course, length and arterial caliber will serve for determining quantitative effects of superior thyroid artery upon flow patterns and wall shear stress in carotid bifurcation (S.Z Zhao et al, 1999) and also has role in intra-arterial infusion chemotherapy for laryngeal and hypopharyngeal cancers (Noboru Terayama et al, 2006). Observations of present study will serve surgeons for easy approach during thyroid surgeries and interventional techniques.

### **323. Abnormal Distribution of Median Nerve in Arm – A Case Report**

**S. Anjum**, A. M. Tarnekar, A. Shyamal, P. B. Bokariya, I.V. Ingole.  
Mahatma Gandhi Institute of Medical Sciences, Sevagram.

Variations in formation and distribution of infraclavicular part of the brachial plexus are common. Normally the musculocutaneous nerve arises from lateral cord of the brachial plexus. During a routine dissection of the axilla and superior extremity in an adult female cadaver, the musculocutaneous nerve was absent on right side and the two roots of the median nerve united in upper arm in spite of axilla. Flexor muscles of the arm i.e. biceps brachii, and brachialis were supplied by branches from the lateral root of median nerve and the coracobrachialis was supplied by a direct twig from the lateral cord. Motor branch of brachialis after supplying to muscle continues in forearm as the lateral cutaneous nerve of forearm. On the left side the musculocutaneous nerve was found and distributed as usual but the median nerve received contribution from the lateral cord twice in axilla.

The details of study will be discussed during the presentation.

### **324. Axillary Arch – A Case Report**

**Sharadkumar P. Sawant**  
Bharati Vidyapeeth Medical College, Pune

A number of accessory muscle slips connected with the pectoralis major muscle or lying in the axillary region have been described under a variety of names. Many of these bundles are grouped together as "axillary arch" muscles, regardless of whether they arise from the pectoral or the latissimus muscle. These bands may not be of any clinical significance at all. But sometimes, they may present as an axillary mass and can exert pressure on the neighbouring neurovascular structures. In the present paper, we report a case of an anomalous pectorodorsal muscle that extended between the latissimus dorsi muscle and the pectoralis major muscle. It was found during routine dissection of the right upper limb of an adult male cadaver. It measured 6 cm. in length and 1 ½ cm. in breadth. It was innervated by the thoracodorsal nerve. The different nomenclatures, embryological basis and possible clinical significance of such an anomaly are discussed in the paper.

**325. Musculosternalis - A Case Report**

**Vaibhav V. Phad**, D. S. Joshi, R. A. Joshi, R. N. Ramteerthkar.

Govt. Medical College, Miraj, Maharashtra.

Rectus column gives rise to various muscles extending from pubic symphysis to symphysis menti. These are well developed in neck region represented by supra-hyoid and infra-hyoid muscles, in abdominal region represented by rectus abdominis. In thorax this layer usually disappears but occasionally remains as rectus sternalis. The existence of the sternalis muscle should not be overlooked in the surgical and diagnostic procedures.

During routine dissection of 2009- 10 Batch in thoraco-abdominal region of a 60-year-old male cadaver, we encountered a sternalis muscle on right side covered by superficial fascia and located anterior to the pectoralis major muscle. Knowledge regarding the muscular variations of the anterior wall of chest and their identification is important for radiological examination.

**326. Anomalous Origin Of Common Hepatic Artery - A Case Report.**

**Ashok K R**, Nandyal V B.  
M.R.Medical College, Gulbarga.

The knowledge about the variations occurring in the vascular system is of great importance to the surgeon's especially vascular surgeons and radiologists. During routine dissection for I MBBS, in a male cadaver, the variation in the origin of the common hepatic artery was observed. Common Hepatic Artery which normally is a branch of celiac trunk originated directly from the Abdominal Aorta in the present case. This rare variation of the Common Hepatic Artery will be discussed, in detail.

**327. Variation In The Origin Of Axillary Artery Accompanied By Fusion Of The Cords Of Brachial Plexus. A Case Report**

**P. Vasanthakumar**, Chakravarthy Marx\*, Dhalapathy\*\*, Sudarshan S  
Melaka Manipal Medical College (MMMC), Manipal Campus, Manipal, Karnataka  
\*Kasturba Medical College, Manipal, Karnataka  
\*\* Sanjay Gandhi Post Graduate Institute of Medical Sciences (SGPGI) Lucknow, Uttar Pradesh

In the present case we observed a unilateral variation in the course of the axillary artery associated with variations in the brachial plexus in the right axilla of an adult male cadaver. The cords of brachial plexus were unified to form a single bundle. The axillary artery was related posterior medial to that of brachial plexus. The radial nerve was arising from the upper trunk, but other nerves were arising from the unified cord. Knowledge of this variation will be helpful for radiologists, neurologists, anesthetists, surgeons, and anatomists. The clinical and embryological basis of the above variation is discussed.

**328. Reversal of Palmaris Longus Muscle - A Case Report.**

**Sandhya B**, Prakash B S,B. R. Ramesh  
Dr. B. R. Ambedkar Medical College, K.G.Halli, Bengaluru, Karnataka

Palmaris Longus a superficial muscle of flexor compartment of the forearm has fascinated kinesiologists, physical anthropologists, and anatomists because of its numerous variations like varied appearance, absence, and reversal of muscle-tendon orientation. During the routine dissection of an adult male cadaver we came across a case of reversal of palmaris longus muscle belly on right side. The functional dynamics and clinical implications will be discussed.

**329. Multiple Variations Of Median Nerve With Persistent Median Artery - A Case Report**

**Sanjeev I. Kolagi**  
S. N. Medical College, Bagalkot

In the right human upper limb, the median nerve had three lateral roots from lateral cord. In the forearm there was persistent median artery which was found passing in the loop formed by median nerve and the median nerve was found dividing into medial & lateral branches in lower part of forearm instead of hand. The median artery was found supplying adjacent sides of index & middle finger & radial side of index finger & the superficial palmar arterial arch was incomplete. Because this variation is very rare & surgically significant this presentation is being done.

**330. Higher Division Of Femoral Nerve - A Case Report**

**Kumaraswamy B R**, Ganesh Kumar C, Ashwin Krishnamurthy



Kasturba Medical College, Manipal University, Karnataka

Femoral nerve is a largest branch of lumbar plexus and is a nerve of extensor compartment of thigh. It arises from dorsal division of ventral rami of L2, L3 and L4 spinal nerves. In femoral triangle it intervenes between psoas major and iliacus muscles and divides in to anterior and posterior divisions about 2 to 3 cm below the inguinal ligament. During routine cadaveric dissection in Dept of Anatomy Kasturba medical college Mangalore, we came across a higher division of femoral nerve above the inguinal ligament. Such variation is rare and its knowledge is important while conducting femoral nerve block during various procedures in the antero-lateral compartment of the thigh. Other clinical implications will be discussed.

### 331. Double Plantaris Muscle - A Case Report

**Mohammed Ali Yunus Khan M.N.**, Ganesh Kumar C, Ashwin Krishnamurthy.  
Kasturba Medical College, Mangalore, Karnataka

The plantaris muscle is considered to be a flexor group of muscle of the lower leg and is often believed to contribute to plantar flexion of the ankle and flexion of the knee and often has minimal effect. The muscle originates from the lower part of the lateral supracondylar line and the oblique popliteal ligament. The muscle belly is fusiform in shape and then it ends as a long slender tendon which transverses obliquely between the gastrocnemius and the soleus muscles to fuse or insert with it. During routine cadaveric dissection in the Department of Anatomy, Kasturba Medical College, Mangalore, India, we came across a variation in the plantaris muscle on right side in a 45 year old male cadaver having double bellies with different origins and insertions. The muscle was displayed by careful dissection and delineation of surrounding structures, morphometric measurements were taken and the specimen was photographed. Anatomical knowledge of plantaris muscle variations is important, as its tendon serves as an excellent graft and is also useful in clinical diagnosis of the muscle rupture and interpreting MRI scans. Investigations into the plantaris muscle also has the potential to advance functional understanding of the knee. Details of the above will be discussed later.

### 332. Distribution of ABO Blood Group and Rh Type amongst HIV-sero-positive blood donors recorded at IBTMI, Kolkata, West Bengal

**Alpana De**, Arpita Chatterjee, \*U. Basu  
R.G. Kar Medical College, Kolkata, West Bengal  
\*Ex-Deputy Director, IBTMI, Kolkata, West Bengal

The study was carried out with the objectives to find out the prevalence of ABO Blood Group and Rh type amongst the blood donors, to detect prevalence of HIV sero-positive cases amongst these blood donors and to find out the association between HIV-sero-positivity and blood groups.

Data were collected for a period of one year from the Institute of Blood Transfusion Medicine & Immuno-Haematology (IBTMI), Kolkata. Prevalence of HIV Sero-Positive Blood Donors was 0.273 % . Our study result supports the worldwide highest prevalence of blood group of B (+)ve, followed by O(+ve), A (+)ve and AB (+)ve. Graphs showed the same pattern irrespective of its HIV status.

**Materials and Methods:** A total of 50 hearts were included in this study irrespective of sex. The hearts were procured from dissection room cadavers and were preserved in 10% formalin. Both the coronary arteries and their branches were dissected in detail and any variations were noted.

**Results:** Variations such as vasa vasorum, SA nodal artery and circumflex artery taking origin from anterior aortic sinus, bifurcation of right and trifurcation of left coronary arteries were observed. Details will be discussed in the conference.

### 333. Myocardial Bridges

**Sai Suचेethra. D**, Sree Lekha. D, Chakradar. V, Swayam Jothi Dorai Raj. S, Asram, Eluru.

**Introduction:** - According to Gray's anatomy 39<sup>th</sup> edition the coronary arteries may dip into the myocardium for various lengths and re appear on heart surface

**Aim:** - The presence of myocardium over the coronary artery in one specimen of heart made us to collect the data from coronary angiogram.

**Materials and Methods:** - 21 Hearts were removed from the cadavers and 6 angiograms showing myocardial bridge were taken into study.

**Observation:** - Of the 21 hearts observed only one heart showed the presence of the myocardium over the anterior interventricular branch of left coronary artery . The anterior interventricular branch appeared dilated and after a course of 1 cm. length it was bridged over by myocardium for a length of 2.8 cm. and once again was visible. The left diagonal branch was arising at the bifurcation of left coronary artery. The circumflex branch gave 3 to 4 posterior ventricular branches. In angiograms also the myocardial bridges were seen over the anterior interventricular branch.

**Discussion:** - The myocardial bridges were described by Geiringer (1951). In our study angiograms and specimens showed the presence of myocardial bridge over the anterior interventricular branch of left coronary artery.

### 334. Variation In Musculo – Cutaneous Nerve.

**Archana H**, Sarita Sylvia, Sandhya K, Nandyal V B. M. R. Medical College, Gulbarga.

During routine dissection in Department of Anatomy, MRMC, Gulbarga we found that in 2 male cadavers aged approximately 40 and 70 years, the musculocutaneous nerve was not piercing the coracobrachialis muscle. It arose from Lateral cord of brachial plexus and divided into 3 branches, one for Biceps

brachii, one for Brachialis and the third continued as lateral cutaneous nerve of forearm.

The coracobrachialis was supplied at its origin directly by a branch arising from the lateral cord.

### 335. Variations In The Formation Of The Portal Vein In The South Indian Cadavers

**Sylvia Sequeira**, Vasavi Rakesh, Satheesha Nayak  
Kasturba Medical College – International Center, Manipal  
Melaka Manipal Medical College (Manipal Campus), India.

The knowledge about the formation and relations of the portal vein is important for surgeons and radiologists. The variations in the level of formation and the pattern of formation of portal vein might lead to confusions during radiological and surgical procedures. Here we present the variations in the formation of the portal vein in the South Indians as found during the cadaveric dissections. A total number of 50 cadavers were observed for variations. The portal vein was formed by the union of splenic vein, superior mesenteric vein and inferior mesenteric veins in 2 cadavers (4%), formed by the union of two superior mesenteric veins, a splenic vein and an inferior mesenteric vein in 2 cadavers (4%) and the inferior mesenteric vein drained into the splenic vein very close to the formation of the portal vein in 1 cadaver (2%).

### 336. Venous Segments In Human Spleen – A Preliminary Study

**Yogendra Singh**, G. L. Shah, Tripathi S. K., Pandey S. K.  
Institute of Medical Sciences, Banaras University, Varanasi

Males and females human spleens obtained from the Department of anatomy and forensic medicine, Institute of Medical Sciences, Banaras University, Varanasi, were included in the study. Venogram was performed by injecting dye into splenic vein and its tributaries and venous segments were identified. It was observed that intrasplenic segmental tributaries of the splenic vein followed the segmental tributaries branches of splenic artery emerging through the respective poles and extrasplenic course to form the main trunk of the splenic vein. There were 6 venous segments in human spleen having respective venous tributaries, but they also received from adjacent segments. Thus the tributaries crossed the intersegmental zones unlike arterial segments. The vascular planes were not present between the venous segments. The knowledge of venous segments and subsegments prior to surgery can be used to salvage the spleen. The details of observation will be discussed in the conference.

### 337. Sub Diaphragmatic Distribution of Vagus Nerve

**G. Amudha**  
PSG Institute of Medical Sciences and Research,  
Coimbatore, Tamilnadu

There is a rapid raise in the incidence of Acid peptic disorder. With the changing life styles and eating pattern in Indian population, there will be increase in the incidence.

The hydrochloric acid is the agent behind this disorder and the nerve responsible for its secretion is Vagus. Branching patterns of anterior and posterior vagal trunks below the diaphragm has lot of clinical importance in this era of laparoscopic surgery. The variations in the number and position of vagal trunks account for 10% recurrence in peptic ulcers after vagotomy procedures.

The branching pattern of vagus nerve below diaphragm was studied in 44 postmortem enbloc specimens and 6 nine month old foetal specimens. The number of gastric branches differs from 2 to 6 in anterior vagal trunk and 2 to 5 in posterior vagal trunk. The results were compared with other eminent authors.

This study highlights the variations in the branching pattern and distribution of vagus nerves to stomach which is necessary for highly selective vagotomy procedures and Laparoscopic vagotomies.

### 338. Duodenal Diverticulum

**S. Sulochana**

Aarupadai Veedu Med. Coll., Pondicherry

Diverticulum is one of the developmental anomaly found in the gastrointestinal tract especially in the small intestine. Periapillary duodenal diverticulum may be associated with gallstones, cholecystitis, cholangitis and pancreatitis. This study was carried out to know the incidence of duodenal diverticulum and was done on 100 specimens collected from the Department of Anatomy and Department of Forensic Medicine. The duodenum and pancreas were dissected and examined externally for the presence of diverticulum. Then the internal features were also studied. There were 5 cases of duodenal diverticula. Among them, three were situated near the major duodenal papilla and two in the third part of duodenum.

Types, causes and complications of duodenal diverticulum will be discussed in detail in the conference.

### 339. Accessory Renal Arteries

**G. Neeraja**, Neelee Jayasree, G. Narasimha Reddy,  
Shabana Sultana, Md. Younus, Srinu, Naresh.  
Chalmeda Anand Rao Institute of Medical Sciences,  
Bommakal, Karimnagar

Out of 30 cadavers dissected during routine dissection only one cadaver aged 45 years (approximately) had additional arteries supplying both the kidneys.

Observations, explanation and discussions will be presented during oral presentation.

### 340. An Anatomico-Clinical Co-Relation Of Nasal Septal Deviation And Chronic Sinusitis

**Mani Arora**, \*Namita Mehrotra, \*Sohail P. A.  
SGRRIMHS, Dehradun, \*HIHT University, Dehradun,  
Uttarakhand

A deviated nasal septum can produce nasal obstruction and may block the sinus drainage system triggering recurrent or chronic sinus disease. The present study is based upon anatomico-clinical co-relation of nasal

septum with chronic sinusitis. 2 groups were made- one control group with midline septum and other experimental group with deviated nasal septum. Both groups were studied in cadavers and in patients. Mucosa from maxillary sinus of cadavers were taken and processed for H&E staining. Histological findings suggested that there is co-relation of deviated nasal septum with chronic inflammation of sinuses in cadavers. This was also confirmed in patients through various investigations like- endoscopy, X-rays and CT scan.

#### 341. Variant Anatomy Of The Cystic Duct

**J. Rajguru**, R. R. Fulzele

Jawaharlal Nehru Medical College Sawangi (Meghe) Wardha Maharashtra

The biliary tract is notorious for its variable anatomy. Reported incidence of congenital anatomy lies between 0.58% to 47.2% of the cases (Robin Kaushik and A.K Attri). Although much has been written about the normal anatomy and the related diseases of the gall bladder and the biliary tract, a very few studies have been done on the cystic duct. (Mary Ann Turner and Ann S. Fulcher)

The cystic duct connects the gall bladder to the common hepatic duct to form the common bile duct, functioning as a conduit between the liver, gallbladder and the extra hepatic ducts. It is about 3cms -5cms long having variable number of mucosal folds referred to as spiral valves of Heister.

This study was aimed at determining the site and mode of communication of the cystic duct with the common hepatic duct in 40 formalin fixed cadavers. In about 50% of the cases the junction was in the middle third, in 42.5% it was in the upper third and in 7.5% it was in the lower third. The mode of communication was either acute or parallel or spiral.

As anatomic variants of the biliary tree constitute major groups of risk factors in surgery in and around this region, the knowledge of the normal and variant anatomy of the cystic duct is must for accurate diagnosis and prevention of iatrogenic injuries

#### 342. Study of Variations of Mode of Insertions of Extensor Hallucis Longus et Brevis

\*Joshi S D, \*Joshi S S, **Kishve P S.**

Rural Medical College, PIMS, Loni, \*Sri Arbindo Inst. of Med. Sc., Indore

Extensor hallucis longus (EHL) is an important muscle of anterior compartment of leg which brings about an extension at metatarsophalangeal (MTP) and interphalangeal (IP) joints providing much needed extension before the push off phase. It provides reinforcement of dorsomedial aspect of capsule of MTP joint. Extensor hallucis brevis (EHB) probably reinforces this action on the proximal phalanx of the big toe. Any variations in the insertion can alter the dynamics of this vital extensor apparatus of the big toe. Certain variations of EHL at insertion are described but we could not find a similar study on Indian subjects. Accessory tendons of EHL are described in literature always diverging from the medial side of main

tendon. Contracture of EHL can lead to hyperextension deformity of big toe; laceration of this tendon can have potential devastating effect and is essential for maintaining stability of the hallux during balancing and push off phases and is thought to be crucial to accomplish the demands of bipedal and unipedal balances. Knowledge of these variations helps in performing arthroscopy, tendon transfers and other surgical procedures. A total of 60 lower limbs were dissected. The tendon of EHL and EHB were traced upto their insertion. In 63.33% EHL bilaterally continued as a single unsplit tendon upto its insertion. In the remaining splitting of tendon was observed and these slips were always medial to the main tendon. In some instances the slip arose in the distal part of leg; in yet other cases just distal to the ankle and in few at the base of the first metatarsal. The tendon of EHB remains independent of EHL and gets attached to capsule of MTP joint and proximal phalanx. In less than 2% it joins EHL. The findings of the present work shall be presented and discussed.

#### 343. Types Of Middle Turbinate And Its Endoscopic Significance

**Gayatri Kasat**, S. S. Hattangadi

T N Med Coll, Mumbai Central, Mumbai

Introduction: In the present scenario with the advanced modalities of treatment, nasal anatomy with respect to nasal conchae has become very significant for the otorhinologists.

Middle turbinate is an important landmark of lateral nasal wall during endoscopy.

Aims: To study the shape of middle turbinate and to classify it according to the shape of the anterior border.

Materials And Methods: 100 hemisected nasal cavities obtained from routine gross anatomical dissections were utilized. 52 were of right side and 48 of left side. Their ages ranged from 25 - 75 years. 86 were of male cadavers and 14 of female cadavers.

Results And Conclusion:

Types:

Ø Type1, where the anterior border of the middle turbinate runs directly posteroinferiorly from its attachment to the conchal plate, seen in 38% cases.

Ø Type2, where anterior border of the middle turbinate initially coursed inferiorly from conchal plate and then turned in a posteroinferior direction, seen in 42% cases.

Ø Type3, where anterior border bulged anteriorly before coursing posteroinferiorly, seen in 20% cases.

Ø It is important for Type1, to avoid destabilizing the middle turbinate when a partial middle turbinectomy and posterior ethmoidectomy are performed simultaneously, because the remaining portion of the middle turbinate following resection can fall into nasopharynx as a result of gravity.

Also, in Type3, partial anterior middle turbinectomy helps ensuring wide view and to maintain patency of middle meatus postoperatively.

#### 344. An Unusual Muscle In The Peroneal Compartment – A Case Report

**Vishal Kumar**, Murlimanju\*, Prima D'souza.\*, Latha V. Prabhu\*  
K.M.C.T. Medical College, Calicut, Kerala,  
Kasturba Medical College, Manipal University, Bejai, Mangalore.

During the routine dissection of the cadavers allotted for the first MBBS students, an anomalous muscle was found in a male cadaver aged around 60 years. The muscle was found on the right leg and it was taking origin from the Peroneus longus and inserting into the Peroneus brevis tendon. It has been described as the Peroneus quartus in the Compendium of Human anatomic Variation (Bergman et al 1988). The detailed morphological importance with its clinical implications will be presented in the conference hall.

**345. Multiple Neuromuscular Variations In Right Upper Limb – A Case Report.**

**Anagha Nawal**, K. H. Katti, Geetha K.N.  
MGM Medical College, Navi Mumbai.

Variations in the nerves and muscles of the upper limb are not uncommon but multiple unilateral variations are seen rarely. During routine cadaveric dissection in a male cadaver of unknown age at MGM Medical College, Navi Mumbai, we observed an unusual accessory slip originating from tip of the coracoids process of scapula between the origin of short head of biceps brachii and coracobrachialis muscle. It extended downwards and divided into two slips, one fleshy slip was getting inserted in brachialis and other tendinous slip was arching over the brachial artery and median nerve and finally was blending with the deep fascia of the medial side of the forearm. Also an additional slip was found originating from the biceps brachii tendon near its insertion lower down merging with the fascia covering pronator teres. The musculocutaneous nerve did not pierce the coracobrachialis instead it was passing superficial to it, giving a branch to the muscle. Its further course and distribution was normal.

These variations constitute a potentially important clinical and surgical issue, particularly the tendinous arch over median nerve and brachial artery can cause compression syndrome.

**346. Formation Of Median Nerve Without The Medial Root Of Medial Cord And Other Variations Of Brachial Plexus**

**Sharmila Bhanu P**, Devi Sankar K, Susan PJ, Gajendra K, Ratnabali Sengupta.  
Narayana Medical College, Nellore, Andhra Pradesh

The anatomical variations in the formation, course and termination of brachial plexus are well documented and have clinical significance to surgeons, neurologists and anatomists. The present case report describes the unusual origin of median nerve, arising directly from the lateral cord without the union of lateral and medial roots of brachial plexus. A communicating branch existed between the ulnar nerve and anterior division of middle trunk. The lateral

pectoral nerve was arising from anterior divisions of upper and middle trunks as two separate branches instead from lateral cord. The branches then joined together to form the lateral pectoral nerve. The medial cord instead of its five terminal branches had only three branches, the ulnar nerve, medial pectoral nerve and a single trunk for the medial cutaneous nerve of arm and forearm which got separated at the middle of the arm. The anomalies of the lateral cord and its branches make it a complicated clinical and surgical approach which is discussed with the developmental background. Details will be presented and discussed during presentation.

**347. Accessory Head Of Biceps Brachii - A Case Report**

**Prathap Kumar J**, Balachandra N, Mamatha Y, B. R. Ramesh  
Dr. B. R. Ambedkar Medical College, K. G. Halli, Bengaluru, Karnataka.

During the routine dissection of upper limbs which were allotted to the 1<sup>st</sup> year M.B.B.S. students, we observed the presence of the third head of biceps brachii, which was unilateral on the left side and was of humeral origin, from anterior surface of the middle of the shaft of humerus. It merged with the other two heads to form a common tendon which is inserted into the posterior surface of radial tuberosity. It was supplied by musculocutaneous nerve. The possible mode of variation & its clinical importance will be discussed in detail.

**348. Axillary Arch Muscle – A Case Report**

**Narayanan. G**, Aruna.S, Balaji.T K, Rajila. R H S  
Chettinad Health and Research Institute, kelambakkam, Chennai

Anomalous muscle slips are usually encountered in the dissection. One such muscle slip is axillary arch muscle. It is also called as Langer's arch and its incidence of occurrence is 7% in all axillary dissection in Indians. The occurrence of such muscle slips is worth mentioning as it may produce symptoms. In our routine dissection, a thick well developed muscle band was extending from anterior border of latissimus dorsi to fascia covering the coracobrachialis in axilla. The muscle band was present medial to neurovascular bundle of axilla. The morphology, embryology and its clinical significance is discussed.

**349. A Study Of Variations In The Origin Of Left Hepatic Artery**

**Pushpalatha K**, N.M. Shamasundar.  
JSS Medical College, Mysore

An intact Hepatic artery is the gateway to successful hepatobiliary surgeries. Left hepatic artery arises from the Common hepatic artery. Aberrant Left hepatic artery may arise from the Left gastric, Gastro duodenal, Right hepatic, Coeliac trunk, Splenic or from Superior Mesenteric artery.

In the present study we studied the origin of Left hepatic artery in 50 cases by dissection method. Left hepatic artery was arising from Left gastric in 6 cases, from Hepatic artery proper in 38 cases and from Common hepatic in 6 cases. Left hepatic from left gastric lies in hepatogastric ligament and one must know this variation before dividing the ligament to reach the gastro esophageal junction. This study will help the surgeons during upper abdominal surgeries.

**350. Comparative Anatomical Study Of Papillary Muscles of Ventricles Of Human, Sheep, Goat, Cow and Pig.**

**Komala.N.**, \*Jayanthi K.S.

M.S.Ramaiah Medical College, \*Kempegowda Institute of Medical Sciences.

**Aim:** In today's world a large population of human beings suffer from valvular incompetence of heart leading to death. So the study is undertaken to compare the papillary muscles, their number, positions, length and thickness in the above mentioned animals.

**Materials;** Human hearts are obtained from Department of Anatomy, KIMS, Animal hearts were obtained from local slaughter houses.

**Methods:** The hearts were dissected and the four chambers were opened. The size of the heart was noted. The number of papillary muscles, their positions were noted. The length of the papillary muscles were measured. Thickness of the muscles were measured using slide calipers.

**Results:** The ratio of the heart weight to the body weight was more in human. The number and position of the papillary muscles were similar in all the specimens but the number of bellies varied.

**Conclusion:** Human heart is well developed when compared to the hearts of other animals. Although differences exist, the pig's heart appears very similar to that of man. Hearts of sheep and goat are similar. The details will be discussed during the presentation.

**351. Kimmerly Anomaly - Unilateral left Arteria Vertebralis Canal in Atlas**

**Prakash B. S.,** Padmalatha K, Balachandra N, B. R. Ramesh.

Dr. B. R. Ambedkar Medical College, K.G.Halli, Bengaluru. Karnataka.

Atlanto-occipital junction plays a crucial role. The third part of vertebral artery continues as fourth part entering into cranial cavity piercing posterior atlanto-occipital membrane in the sub occipital triangle. Vertebral groove over the atlas may occasionally ossify & convert the groove into canal. The knowledge of variant helps in various surgical procedures at atlanto-occipital junction. Sixty dried human atlases were studied for the groove over the posterior arch, and one atlas had unilateral left arteriae vertebralis canal. The sulcus arteriae Vertebralis was converted into a canal on the left side. The morphological significance, clinical importance will be discussed in detail.

**352. Congenital Anomalies of Brain In Perinates In Upper Assam.**

**Manash Jyoti Phukon,** R. Dutta.

Prathima Institute Of Medical Sciences, Karimnagar, Andhra Pradesh.

**Introduction:** Congenital malformation constitutes an important cause of perinatal deaths in India next only to birth asphyxia and prematurity. Of overall distribution of congenital malformation, central nervous system is the commonest system involved contributing for significant number of fetal loss. In India 21% of total congenital malformation belongs to central nervous system.

**Aim of Study:** The present study was undertaken in Upper Assam to see the incidence of brain anomalies in perinatal cadavers.

**Materials and methods:** 50 perinates of perinatal age groups of both sexes were collected from O&G and pediatrics deptt for a period of one year. After 48 hours of preservation with 10% formalin, removal of brain was done by cutting the calvaria. Then gross features of brain, cranial meninges, congenital malformation of brain, cranial cavity, sagittal and coronal sections of brain were studied. Other associated anomalies were also noted.

**Results and conclusion:** The frequency of congenital anomalies of brain was found to be 20% i.e 10 out of 50. Some rare congenital brain anomalies like holoprosencephaly, cerebellar agenesis, agenesis of corpus callosum, agyria and polymicrogyria were also seen. Other associated defects besides brain anomalies were also studied.

Details to be discussed during presentation.

**353. A Study on Extra Heads of Biceps Brachii**

**Sowmya. K. K.,** Athavale S. A.

K.V.G. Medical College, Sullia

Biceps brachii is a very variable muscle. Although the name of the muscle represents its two heads, it is common to find the supernumerary heads of this muscle.

Various studies worldwide have documented the prevalence of the extra heads ranging from 8-20%. There has been a marked discrepancy in the prevalence as documented in the Indian studies (ranging from 2-10%). This prompted us to undertake a study on the prevalence of the extra heads of biceps brachii muscle in the south Indian population.

32 upper limbs (right-17, left-15) were utilized for the study. In 4 cases, the extra heads were observed. In 1 case, the muscle had three extra heads (total 5 heads). The extra heads were most commonly humeral in origin. The prevalence of extra heads in the present study was found to be 10.76%. The functional and the evolutionary significance of the extra heads will be discussed at the time of the presentation.

**354. Anomalous Lobar Pattern of Right Lung**

**M. Vimala Devi,** S.Saritha, K.Srinivasa Reddy, Md. Meraj Ahmed

S.V.S Medical College, Mahaboob Nagar, Andhra Pradesh.

The anomaly of the lobar pattern of lungs has been explained earlier by many research workers from radiological point of view but not much work has been published regarding the gross features.

During routine dissection in our anatomy department two cases with anomalous lobar pattern of right lung were detected details of which will be discussed during presentation.

Such abnormal fissures and lobes are clinically important for radiologists and physicians in identifying and managing certain diseases which limit themselves to a single segment or lobe and for thoracic surgeons while performing lobectomies. Such knowledge can be of interest for all medical personnel.

**355. Communication Between Radial Nerve and Medial Cutaneous Nerve of Forearm**

**Sumedha R Mankar**, Yogesh A Sontakke, Manoj Joshi, R R Marathe.

Jawaharlal Nehru Medical College, Sawangi (Meghe), Wardha

Radial nerve is a branch of posterior cord of brachial plexus. It innervates Triceps, Anconeus, Brachialis, Brachioradialis, Extensor carpi radialis longus muscles and gives the posterior cutaneous nerve of arm, lower lateral cutaneous nerve of arm, posterior cutaneous nerve of forearm without exhibiting any communication with medial cutaneous nerve of forearm or any other nerve. Here, communication between radial nerve and medial cutaneous nerve of forearm on left side is reported in adult male cadaver. Right sided structures were found to be normal. Such several variations surgeons should keep in mind while performing surgeries of axilla and upper arm.

**356. Calculation Of Staheli's Plantar Arch Index And Prevalence Of Flat Feet Among 100 Children Aged 5-9 Yrs In Kanchipuram Population.**

**Krupa Daniel D.**, Janaki C. S., Usha Kothandaraman Meenakshi Medical College & Research Institute, Enathur, Kanchipuram.

Aim : 1. To calculate staheli's plantar arch index for children aged between 5-9 yrs.

2. To determine the prevalence rate of flat feet among children aged between 5-9 yrs in Kanchipuram Population.

Materials and Method: For this study 100 normal children (50 male and 50 female) aged between 5-9 yrs who are studying in different schools in Kanchipuram town were chosen. Foot print of these 100 children were obtained and staheli's plantar arch index was calculated by obtaining ratio between central and Posterior regions of the foot print. As per Staheli et al

Support width of central region of the Foot (A)

PI =

Support width of Heel region (B)

Results: Differences in plantar arch index on the basis of gender and age will be discussed. The average

Range plantar indexes being 0.67 for right side and 0.61 for left side.

**357. Study Of Hepatic Segment Of Inferior Vena Cava**

**D. Malar**, G. Saraswathi, N. M. Shamasundar, C. M. Nanjaiah.

JSS Medical College, Mysore

Hepatic segment of Inferior vena cava (IVC) is of great clinical importance, because the hepatic veins drain into this segment and give support to the liver. These ostia are not only structures playing a part in controlling hepatic circulation but are also important during catheterisation to determine the hepatic sinusoidal pressures in hepatic venography. In addition, the study of this segment of IVC is very relevant during liver surgery and transplantation. This segment is frequently approached by interventional radiologists also for catheterisation of hepatic veins.

The present study was undertaken by dissection method (in 30 adult cadavers). The length of hepatic segment of IVC was measured. Number of hepatic venous ostia, their size and position were noted.

In the present study combinations of pattern of drainage of hepatic veins into IVC showed variations. Altogether 322 hepatic venous ostia were observed. There were 63 large openings (19.56%), 66 medium sized openings (20.49%), 193 small openings (59.93%). The present study was also compared with other workers.

Various patterns of the hepatic venous drainage into IVC were observed. They are very relevant for the interventional radiologist from diagnostic and therapeutic point of view.

**358. Persistent Bilateral Thyroglossal Duct**

**Soumya**, Shakunthala R Pai, \*G B Rairam, Sharada R Kasturba Medical College, Manipal University, Manipal, \*SNMC Bagalkot

During the routine dissections, in the region of neck, through midline structures, we found that there was no isthmus of the thyroid gland. There was thyroglossal duct remnant on right side. There was another fibrous band on the left side. The duct extended from the medial border on the right side to the lower border of the body of the hyoid bone. It was also having a pyramidal lobe. The entire thyroglossal duct had glandular tissue. The fibrous band on left side inserted like the right one. The middle thyroid veins fused in the midline into a single vein and drained into left Brachiocephalic vein. The superior and inferior vascular pedicles were normal.

We found another cadaver with similar agenesis of isthmus with the thyroglossal duct remnant being split into two and entering the lateral lobes of the thyroid gland.

**359. A Comprehensive Study Of The Extensor Tendons To The Medial Four Digits Of The Hand.**

**Priyadarshini D**, Prameela M. D., Latha V. Prabhu, Mangala M. Pai.  
Kasturba Medical College, Manipal University, Mangalore

Awareness of the anatomy and variations of the extensor tendons on the dorsum of the hand is necessary while assessing the traumatized or diseased hand and when considering tendons for repair or for transfer. A complete quantitative documentation of the extensor tendons is lacking and so this study of the arrangements of the human extensor tendons to the medial four fingers namely, the extensor digitorum communis (EDC), Extensor indicis proprius (EIP) and Extensor digiti minimi (EDM) on the dorsum of the wrist and hand has been performed in hundred adult upper limb specimens. The findings were photographed, tabulated and analyzed statistically. In 98 % of the specimens EIP was having a single tendon with single insertion, where as in two right upper limbs there were two EIP tendons with two insertions. In 77% of the specimens the EDC distally gave tendons to middle three fingers (extensor digitorum communis index [EDCI], extensor digitorum communis longus [EDCL] and extensor digitorum communis ring [EDCR]). The extensor digitorum communis small (EDCS) was present in only 34% of the study sample and the extensor digiti minimi (EDM) showed normal anatomy in only 20% of the cases. Most common type of juncturae tendinum in the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> intermetacarpal space (IMCS) were type 1, 2 and 3r respectively. Two accessory muscles were seen, one was extension medii proprius (EMP) in 5% and the other, extensor digitorum brevis manus (EDBM) in 3%.

**360. Variation in Number of Pulmonary Vein Openings in the Left Atrium: An Anatomical Study**

Lovesh Shukla, Gargi Soni, **Neha Gaur**  
MAMC, Agroha (Hisar)

In the present study 25 human hearts obtained from the dissection room were evaluated to study the pulmonary vein openings in the left atrium. In 20% hearts 3 right pulmonary veins were opening in the left atrium. In one heart 4 right pulmonary veins were found. In 20% hearts there was a single pulmonary vein opening in the left atrium. Knowledge about these variations is of great value for surgical and procedural purposes. Details of observations and result will be discussed at the time of presentation.

**361. An Additional Radix To The Median Nerve And Its Surgical Importance- A Case Study**

**Parineeta Suman**, S.Saritha  
S.V.S Medical College, Mahaboob Nagar, Andhra Pradesh.

Variations in the formation, course and distribution of brachial plexus are commonly found in routine dissection.

Present case is about an additional root to median nerve. During routine dissection of right upper limb on two 50 year old female cadavers in our anatomy department, we observed a third radix to Median nerve from Musculo-

cutaneous nerve, after piercing coracobrachialis muscle in the mid-brachium.

Knowledge of such variations is essential to the anatomists, anaesthiologists and surgeons before surgical interventions of the upper extremity.

**362. A Study Of Palmaris Longus Muscle And Its Use In Reconstructive Surgeries**

**Najma Mobin**, G. Saraswathi, N. M. Shamasundar.

JSS Medical College, Mysore

Introduction: In the present day of fast life, incidence of vehicular accidents are on the increase at an alarmingly fast pace. This demands the need for a graft material, which should be easily available for the emergency reparative, reconstructive surgeries in the trauma centers. For other elective reconstructive surgeries also autograft is always preferable to heterografts/synthetic materials due to increased incidence of graft rejection. Keeping this in view, the present study was undertaken wherein, the Palmaris longus tendon, which comes to the rescue of not only plastic surgeons but also orthopaedic surgeons, maxillo-facial surgeons & onco-surgeons, was studied in detail.

Aims & Objectives: The present work was undertaken, where Palmaris longus muscle was studied in detail for the above mentioned purposes. Palmaris longus tendon is used for various reconstructive surgeries, the advantages being easy availability, inexpensive, body acceptance in toto.

Materials & Methods: In the present work the Palmaris longus muscle was studied by: (a) Dissection method: 60 upper limbs of embalmed cadavers were dissected and studied. (b) Clinical method: 70 medical students were clinically tested for the presence or absence of the muscle (c) Ultrasound scanning method: 10 adults were sonographically tested for the presence or absence of the muscle.

Results: Variations pertaining to the presence/absence of the muscle; variable insertions; different calibred tendon etc. were observed.

Conclusion: The various conditions wherein the Palmaris longus is used as an autograft material is discussed in detail.

**363. Popliteal Vein Aneurysm – A Case Report.**

**V. S. Shinde**, Daksha Dixit, V. S. Shirol, R. D. Virupaxi  
KLE University's J. N. Medical College, Belgaum.

In a 40 year old male cadaver, the left popliteal vein showed a fusiform dilatation measuring 2 X 2 cms with presence of thrombus within the vessel. There was no other vascular abnormality in the limb. The right limb vasculature was normal.

The popliteal vein aneurysm is a rare finding. The aetiology, clinical findings, complications, diagnostic tools and surgical management will be discussed during the presentation.

**364. An Eccentric Anatomical Variation Of Palmar Vascular Pattern**

**Jyothsna**, Suhani S, Shakunthala R. Pai, Alok Saxena, Melanie Rose D'souza  
Kasturba Medical College, Manipal University, Manipal

The superficial palmar arch is a dominant vascular structure of the palm but variations in its formation are numerous and well studied. An unusual variation in the pattern of blood supply to the palm of the hand was encountered during a routine dissection of the right upper limb of a female adult cadaver. Findings were: superficial palmar arch formed by superficial branch of the ulnar artery and superficial branch of radial artery also known as classical type of superficial palmar arch which supplied a branch to the medial side of the little finger, and three common palmar digital arteries for the adjacent sides of the little and ring fingers, ring and middle fingers, middle and index fingers respectively. In addition to this princeps pollicis and radialis indicis arteries also arose from this arch which is also considered as first common palmar digital artery. We also found a branch arose from princeps pollicis artery communicating with radial artery in the anatomical snuff box. The first common palmar digital artery originating from superficial palmar arch is a rare anomaly. Familiarity with the variations in the vascular patterns resulting from a number of developmental errors remains crucial issue for personnel engaged in reconstructive hand surgery, where these varied patterns act as pivotal points around which successful accomplishment of various advanced surgical procedures revolve. This holds immense importance, especially for surgeons dealing with innovative microsurgical procedures.

**365. Morphometry Of The Nasal Bones And Piriform Apertures**

**Biswabina Ray, Swarnashri J V**  
Kasturba Medical College, Manipal University, Manipal, Karnataka

The aim of the study was to provide preliminary information on the morphological characteristics of the nasal bones and piriform apertures. Morphometric study was conducted on the nasal bones and piriform apertures on 38 dried skull bones obtained from the anatomy museum, Kasturba Medical College, Manipal University, out of which 26 were of males and 12 were of females. The measurements were made using digital sliding calipers. The heights and widths of the nasal bones; and the heights, upper widths and the lower widths of the piriform apertures were measured. The standard deviation was found out by the t-test. The shapes of the nasal bones were grouped into five types (type A-E) according to Hwang's classification. The height of the nasal bone was 18.94±4.1mm in males, 18.27±3.1mm in females; the width was 12.48±3.2mm in males, 11.52±2.7mm in females; the height of the piriform aperture was 32.89±3.0mm in males, 30.21±5.9mm in females; the upper width was 15.09±3.2mm in males, 14.95±2.2mm in females and the lower width was 22.61±2.8mm in males, 21.99±1.9mm in

females. Highest number of skulls (52.6%) had the shape of type-A nasal bone. The dimensions of the piriform aperture are useful for diagnosing functional rhinologic disturbances; for subcranial, transnasal and transsphenoidal approaches of surgery for tumors involving the base of the skull; for facial reconstruction in forensic studies and the data set provided in this study on the dimensions of nasal bone and piriform aperture acts as a valuable resource on anthropological characteristics.

**366. Anomalies In The Branches of Brachial Plexus With Other Anomalies**

**Sudeshna Majumdar**, Indrajit Gupta, Manimay Bandopadhyay.  
Calcutta National Medical College, Kolkata, West Bengal.

The brachial plexus is usually formed by the ventral rami of the C<sub>5</sub>-T<sub>1</sub> spinal nerves in the neck. From these roots arise serially the trunks, divisions, cords and branches of the plexus like median nerve, musculo-cutaneous nerve, ulnar nerve etc. to supply the upper limb structures. While doing the routine dissection in Calcutta National Medical College, Kolkata, we came across different variations in the origin and branching pattern of these nerves along with few vascular anomalies. A study was undertaken in this college to detect these anomalies in the superior extremity. Thirty cadavers were dissected from the year 2006 to the middle of 2009 and sixty upper limbs were observed.

Different anomalies were detected in this study. For example in one case there was triple nerve supply to the biceps brachii muscle coming from C<sub>5</sub> & C<sub>6</sub> roots of the musculo-cutaneous nerve and these two roots united at a lower level (at the lower border of teres major muscle). The medial and lateral roots of the median nerve also united just above the cubital fossa and there was a 'Z' shaped arrangement of these nerves in the middle of the arm. In another cadaver higher division of the brachial artery in the middle of arm was observed. Other findings will be discussed during the paper presentation.

These findings of this study will help the anaesthetists to do the axillary block and the orthopaedic surgeons to avoid any nerve entrapment between the fractured fragments in the upper limb; this study will also help in general surgery or vascular surgery in the upper limb.

**367. Anomalies of Superficial Ulnar Artery-Case Report**

**B.Narasinga Rao, K. Leelavathi**  
Maharajah's Institute of Medical Sciences, Nellimarla.

Anomaly of superficial branch of ulnar artery has been noticed in the regular dissection of 50-yr.Old male cadavers during the dissection in the department of Anatomy, Maharaja's Institute of Medical Sciences, Nellimarla.

The course of this artery is established by fine and detailed dissection. Superficial ulnar artery is a very rare



variation and is of much importance not only to Anatomists but also to Orthopaedic surgeons, Plastic surgeons and Radiologists. The superficial ulnar artery has taken origin from second part of Axillary artery coursing lateral to the median nerve in the arm. It has given muscular branches to entire length of Biceps brachii in the arm.

In the proximal third of forearm this artery is medial and superficial to common flexor origin. In the distal 2/3 rd of forearm ulnar nerve is seen accompanying medial to superficial ulnar artery in between flexor carpi ulnaris medially and flexor digitorum superficialis laterally. In the palm this artery participated in the formation of superficial palmar arch.

Further details will be discussed in the conference.

### 368. Study Of Sural Nerve Complex In Human Cadavers

**Seema S. R.**, \*Balakrishna  
M.S. Ramaiah Medical College, Bangalore, \* Sri Raja  
Rajeshwari Medical College, Bangalore

**Aim:** The Sural nerve is universally recognized by surgeons as a site for harvesting an autologous nerve graft. The nerve is widely used for electrophysiological studies. The sural nerve complex consists of four named components, Medial sural cutaneous nerve (MSCN), Lateral sural cutaneous nerve (LSCN), Peroneal communicating nerve (PCN) and Sural nerve. The formation and distribution of the sural nerve varies in different individuals. Hence the study was taken.

**Method:** Sural nerve complex was examined by dissecting 100 lower limbs of human cadavers, which were available in the Department of anatomy (Bangalore Medical College, Sri Devraja Urs Medical College and M.S.Ramaiah Medical College) over a period of 9 years.

**Result:** Typical Sural nerve was observed in 60% of the cases. MSCN was present in all the cases, in 15% of the cases the MSCN followed intramural course. LSCN was present in 80% of the cases. PCN was present in 70% of the cases and in most of the cases the PCN was of larger caliber than MSCN. The other details of study will be discussed during presentation.

**Conclusion:** The knowledge about the variation in the origin and course of the Sural nerve complex is important in evaluating sensory axonal loss in distal axonal neuropathies. All these variations should be borne in mind by clinicians and surgeons.

### 369. Absent Musculocutaneous Nerve in the Infraclavicular part of the Brachial Plexus

**M. Jamuna**

P. S. G. Institute of Medical Sciences and Research, Coimbatore.

Variations in the branches of the Brachial plexus are very much important in dealing with anomalous nerve supply to muscle and in myopathies and Motor neuron disease and diagnostic clinical Neurophysiology. In a study

of 50 Brachial plexus during routine dissection of the cadavers, the Musculocutaneous nerve was found to be absent in 6% of the Brachial plexus and the Median nerve was furnishing branches to the structures which is supposed to be supplied by the Musculocutaneous Nerve. Knowledge of this variation is also useful in explaining the unusual signs and symptoms of a neurological disorder or nerve injuries.

### 370. Study Of Lumbar Plexus & Its Variations.

\*Joshi S. D., \*Joshi S S., **Gandhi K. R.**, Chavan S. K., Kishve P. S.

Rural Medical College, Pravara Institute of Medical Sciences, Loni, Dist. Ahmednagar (MS).

\*Sri Arbindo Inst. of Med. Sc., Indore

Looking to the applied significance of Lumbar Plexus in the form of its involvement in various injuries, direct or iatrogenic & entrapment, it is imperative to have thorough knowledge about the formation, branching pattern & variations of lumbar plexus. Pre & post fixation of the plexus are described. Benzel(1989) has referred to the lumbo-sacral plexus as a "no man's land". Neuralgias of the various nerves of this plexus specially meralgia parasthetica & involvement of these nerves during various surgeries & endoscopic approaches further emphasizes the need for a detailed study of lumbar plexus & its branches.

We have carried out dissection of lumbar plexus & its branches in fifteen cadavers bilaterally. Only in one cadaver pre-fixation of lumbar plexus was found bilaterally. Iliohypogastric & Ilioinguinal nerves were seen to arise by common stem in approximately 23% cases in the remaining they arose separately. The genitofemoral nerve in the majority (73%) pierced the anterior surface of psoas major in its middle third of its abdominal part, in the remaining it pierced the upper third of the muscle. In 16% the genital & femoral branches separated at their origin. Only in one case accessory obturator nerve was observed. The site of formation of lumbo-sacral trunk varied considerably. In the majority the lateral femoral cutaneous nerve pierced the lateral end of inguinal ligament. These and other findings will be presented and discussed.

### 371. Variations of Termination of Testicular Veins – A Cadaveric Study

**Sundarapandian S.**, Sathiyarayanamurthy S.  
SRM Medical College & Research Centre, SRM Nagar,  
Kattankolathur, Kancheepuram District, Tamilnadu

The testis is an important organ upon which the survival of the human species depends. The testicular arteries and veins play a major role in the thermoregulation that is essential for efficient functioning of the organ. So the variations of the testicular blood vessels are of interesting to note.

So cadaveric study of variations of testicular veins was done. So for 35 cadavers were examined during the span of five years. The following variations were noted.

Observation: 1. In one cadaver the right testicular vein was divided into medial and lateral divisions: the medial division was found to drain into the inferior vena cava and the lateral one drain into the right suprarenal gland.

2. In another cadaver the right testicular vein was found to open into the right lower additional renal vein

3. In another cadaver the right testicular vein was found to open into the pre renal segment of left renal vein and in the same cadaver the left testicular vein was found to open into the left lower additional renal vein

The embryological basis and clinical significance of this paper will be discussed during presentation.

Conclusion: Knowledge of the many anomalies that can potentially occur in the abdominal region is necessary in interpretation of this anatomical area. Additionally, knowledge of these variations is of great importance for the endovascular surgeons and invasive radiologists and conducive to successful results.

### 372. Retro Aortic Left Renal Vein

**B. Senthilkumar**, P. Saraswathi.

Saveetha Medical College, Thandalam, Chennai.

Introduction: Renal vein opens into inferior vena cava almost at right angles at the level of L1 vertebrae. The left renal vein is 3 times longer than the right, for this reason the left Kidney is preferred sight for live donor nephrectomy.

Materials & Methods: During routine dissection of 25 cadavers in the department of anatomy at Saveetha Medical College, 1 cadaver presented with single retro aortic left renal vein.

Discussion: Due to close relationship with aorta the left renal vein may be compressed and cause varicocele of left gonadal vein. Left renal vein may be ligated during surgery for aortic aneurysm and the ligature should be done to the right of the gonadal and suprarenal vein, in order to provide adequate collateral venous drainage.

Result: Length, course, position of the tributaries, termination and development of the retro aortic left renal vein and its clinical importance will be discussed at the venue.

### 373. Variant Superficial Palmar Arch Associated With Anomalous Branching Of Radial Artery

**Srinivasa Rao**, Somayaji Nagabhooshana, Venkata R Vollala.

Melaka Manipal Medical College (Manipal Campus), ICHS, Manipal, Karnataka

Superficial palmar arch is an arterial arcade which lies beneath the palmar aponeurosis and in front of the long flexor tendons, lumbrical muscles and palmar digital branches of the median nerve. A classic superficial palmar arch is defined as direct continuity between the superficial

branch of the ulnar artery and superficial palmar branch of the radial artery. During routine dissection classes to undergraduate medical students we have observed incomplete superficial palmar arch formed by superficial branch of ulnar artery. There was no contribution for the superficial palmar arch either from the radial artery or median artery. Normally superficial palmar, radialis indicis and princeps pollicis arteries originate separately from the radial artery. But in the present case the superficial palmar artery arising from the radial artery coursed through the thenar muscles and provided radialis indicis artery and a proper digital branch to the ulnar side of the thumb. Where as radial side of the thumb was supplied by a direct branch from the radial artery in the deeper aspect of the palm. Knowledge of the anatomical variations of the arterial pattern of the hand is crucial for safe and successful hand surgery. The hand surgeon should keep in mind this kind of variations before performing surgical procedures such as, arterial repairs, vascular graft applications, and free and/or pedicled flaps.

### 374. A Study On The Variations In The Formation Of The Trunks Of Brachial Plexus

**Surekha D Shetty**, Satheesha Nayak B, Venu Madhav, Cilwyn Shalitha Braganza\*, Somayaji S N

Melaka Manipal Medical College (Manipal Campus) Manipal

\* KMC-International Center, Manipal University, Manipal.

Introduction: Variations in the formation of the trunks are very rare. Knowledge of its variations is of importance to orthopedic surgeons, neurologists and anesthesiologists. In this study we are reporting a few variations found in the formation of trunks of brachial plexus

Material and Methods: 44 dissected head and neck specimens stored in 10 percent formalin were observed for variations of the formation of the trunks of the brachial plexus. Variations were noted and photographed. The study was conducted at Melaka Manipal Medical College (Manipal Campus) INDIA.

Results: Overall 5 cadavers (11.3%) showed variations in the formation of the trunks. The variations were unilateral. In one cadaver (2.27%), the middle trunk was formed by union of C7 and C8 roots and lower trunk was formed by T1 root. Upper and middle trunks were fused with each other in one specimen (2.27%). In 3 specimen (6.81%), the C5 root pierced scalenus anterior before joining C6 to form the upper trunk.

Discussion: The knowledge of variations reported here may be useful in surgical treatment of non neuronal tumors of the neck and also in orthopedic procedures.

### 375. A superficial course of Ulnar Artery

**Mamatha Y**, Prakash B S, B. R. Ramesh

Dr. B. R. Ambedkar Medical College, K.G.Halli, Bengaluru, Karnataka.

During the routine dissection of 20 cadavers (40 upper limbs) in Dr.B.R.Ambedkar Medical College, Karnataka, Bangalore, in an adult male cadaver it was observed that the ulnar artery took origin from the brachial artery at the level of base of cubital fossa and coursed superficial to all flexor muscles of forearm and terminated normally forming superficial palmar arch. On further deep dissection it was observed that common interosseous artery took origin from Radial artery and further divided into anterior and posterior interosseous artery. Embryological and clinical significance of same will be discussed.

**376. Multiple Variations Of Upper Limb Muscles With Variation In Musculocutaneous Nerve – A Case Report**

**Britto Chezian A.** Priya G, Bhuvanewari C, Shanmugasundaram M, Sundarapandian S, SRM Medical College & Research Centre, Kattankolathur, Tamilnadu

During routine cadaveric dissection of male aged around 40 years, in the right upper limb, the biceps brachii is found to have a tricipital origin, few slips of coracobrachialis muscle found to arise from the tendon of long head of biceps. In the forearm the accessory flexor pollicis muscle is also found (Ganges Muscle). The lateral cutaneous nerve is found to arise from the median nerve instead of lateral cord of brachial plexuses.

In the left upper limb the biceps brachii is also found to have tricipital origin and slips of coracobrachialis found to arise from the tendon of long head of biceps. There is no accessory flexor pollicis muscle found on the left side. In the left side the lateral cutaneous nerve is found to be normal.

This paper is presented to stress upon the variations in the origin of biceps brachii and also the compression of anterior interosseous nerve by the accessory flexor pollicis longus.

**377. A Study Of Arterial Supply Of The Interventricular Septum Of Human Heart**

**Vikram Karade**

J S S Med College, Mysore

**Aims & Objectives:**

Aim of the present study is to study arterial supply of the interventricular septum, their variations and mode of collaterals formed.

The present study helps the cardiac surgeon and interventional radiologists to diagnose and plan the line of treatment.

The present study helps the cardiac surgeon and interventional cardiologist to ablate the septum using first septal branch in case of HOCM.

**Methodology:** 25 human heart specimens from department of Anatomy and Forensic medicine JSS & MMC

Mysore were studied by dissection method, cast method (by injecting butyl butyrate) & corrosion cast method .

75 Coronary Angiographic pictures from cathlab, Vikram Hospital, yadavigiri Mysore were studied

**Result:** The following observations were made

Anterior interventricular artery forming the major supply both by dissection method and by angiographic method.

Right dominance observed in majority of cases.

Balanced type in 20% cases.

These days deaths due to cardiac reasons in which coronary artery disease and Hypertrophic cardiomyopathy are important causes. Hypertrophic cardiomyopathy unfortunately is fairly common in young athletes, sports persons. Interventricular septal ablation, injecting ethanol in to septal arterial branches is the preferred line of treatment in these cases.

Hence the present study was undertaken to give an insight in to the arterial supply of interventricular septum. So that interventional cardiologists can approach particular branch to induce septal ablation in focal interventricular septal hypertrophy.

**378. A Rare Variation Of Branching Pattern Of Axillary Artery – A Case Report.**

Shilpi Agarwal, Rekha Lalwani, **C. S. Ramesh Babu** L.L.R.M. Medical College, Meerut.

Knowledge of neurovascular variations is important for vascular radiologist for diagnostic interpretation, for surgeons and also for anesthetists. Axillary artery is the direct continuation of the subclavian artery from the outer border of the first rib. The course of the axillary artery is anatomically divided into three parts by the pectoralis minor muscle. Anatomic variations in the major arteries of the upper limb have been reported (Uglietta JP et. al. 1989). During the routine dissection classes in the Department of Anatomy at LLRM Medical College, a 50-year-old male cadaver showed unilateral variations in the branching pattern of the first and third part of the left axillary artery. From the third part of axillary artery arose a large lateral trunk which in turn gave rise to anterior and posterior circumflex humeral, subscapular, radial collateral, middle collateral and superior ulnar collateral arteries. This lateral trunk has been described as deep brachial artery with an incidence of 0.12 – 3.2 % (Vijaya Bhaskar et.al.2006). We have observed the abnormal lateral trunk passing between the two roots of Median nerve and at lower border of Teres major gave origin to Posterior circumflex humeral artery. The clinical and embryological significance of this anomaly will be discussed.

**379. Multiple Anomalies Of Upper Limb –A Case Report**

\*Sandhya Kurup, **G.V.Hebba**

Sri Mookambika Institute of Medical Sciences, Tamil Nadu.

\*MOSC Medical College, Kollenchery, Kerala

During routine dissection of the right upper limb of a cadaver, the following anomalies were noted. The radial

and ulnar arteries showed high origin in the middle of the arm. The superficial palmar arch arose as a continuation of the ulnar artery alone, with the radialis indices branch. The Extensor carpi radialis longus tendon twisted and crossed superficial to the tendon of Abductor pollicis longus, reaching the palm and splitting into three digital slips for the medial three fingers. The cutaneous branch of Median nerve showed high origin. In the anatomical snuff box, the radial artery was crossed over by the tendon of Extensor carpi radialis longus. The tendon of Abductor pollicis longus showed splitting and abnormal insertion. The details of the above will be discussed later.

### 380. Congenital Anomalies Of Heart And Great Vessels In Perinatal Cadavers.

**Rupshikha Dutta**, M. J. Phukon.

Prathima Institute Of Medical Sciences, Karimnagar. Andhra Pradesh.

Introduction: Cardiovascular defects amount to 1/4<sup>th</sup> of all developmental anomalies. It ranges from 0.8 % up to 1% of live births, and about 2% in still births. In India congenital anomalies constitute the 3<sup>rd</sup> most frequent cause of preinatal deaths, accounting to 46/1000 live births.

Aim: The present study was conducted to find the distribution of developmental defects of cardiovascular system in perinates.

Materials and Methods: 60 specimens of heart and great vessels were studied.

Observations: 10 cases showed congenital defects (16.7 %). There were 24 live born cases, of which 3 (12.5%) have shown congenital heart defects, while among the 36 still born perinates, it was 7 (19%). The male: female ratio was 1.32: 1. Extra cardiac congenital anomalies included central nervous system and musculo skeletal system.

Discussion: The normal development is an integrate process of cellular proliferation, differentiation and growth. Any disruption in the natural process of organogenesis occurring before birth leads to various congenital defects.

Cause of congenital defects may be multifactorial. Different factors in different parts of the country may have varied effects. Moreover, varied material aspects also influence the outcome of pregnancy.

Conclusion: Knowledge about prevalence, aetiology and spectrum of congenital anomalies helps in estimating the problem and planning in minimizing it.

### 381. Situs Inversus Totalis.

**G. Supriya**, S. Naveen Kumar

Gandhi Medical College, Secunderabad

Aim of study To study the embryological aspects of Situs Inversus Totalis

A Twenty six year old male patient presented to the nephrology out patient department with complaint of right sided loin pain. He had past history of left sided nephrectomy and was diagnosed as situs inversus totalis. On further investigation, he was found to be diabetic and hypertensive with altered renal function tests. Other blood investigations

were normal. Ultrasound abdomen and CT scan abdomen confirmed situs inversus totalis.

Further details of this interesting case will be discussed in detail at the time of presentation.

### 382. Congenital Right Pleuro-Peritoneal Hiatus Hernia

**Susan PJ**, Sharmila Bhanu P, Gajendra K, Ratnabali Sengupta.

Narayana Medical College, Nellore, Andhra Pradesh

Congenital diaphragmatic hernias are of various types which are due to the defect in the diaphragm and can be encountered in any period of life. Right congenital diaphragmatic hernia with left mediastinal shift is rare and life threatening malformation. We describe a case of right congenital diaphragmatic hernia of a new born male baby which died shortly after birth. The lobes of the liver were enlarged and occupied whole of the abdominal cavity. The stomach and intestinal loops were herniated into the right pleural cavity and partly into the left pleural cavity. Severe hypoplastic right lung, trilobed left lung and dextrocardia also were observed.

This type of hernias occurs during the development due to the lack of fusion of pleuropenitoneal membrane with septum transversum which results in the congenital communication between the peritoneal and thoracic cavities.

Details will be discussed during presentation.

### 383. Duodenal Atresia: A Case Study

**Alpana De**, Paramita Mukherjee.

R.G.Kar Medical College

A first born female child with history of bilious vomiting immediately after delivery from day 1 of age admitted at day 3 of age was stabilized and investigated. Abdomen was scaphoid in shape with mild epigastric fullness. Routine investigations revealed hypokalemic metabolic alkalosis. Straight X-Ray abdomen revealed double-bubble appearance with no distal gas shadow. The baby after fluid & electrolyte correction treated surgically. This baby with duodenal atresia, duodenoduodenostomy was the performed procedure.

### 384. "Bicornuate Uterus"- A Case Report

**Rohini S. Kori**, V. S. Shirol, P. S. Jevoor, S. P. Desai, M. V. Ravishankar.

J. N. Medical College, KLE University, Belgaum.

The genital and urinary systems are developmentally and structurally intimately interwoven both develops from mesodermal ridge along the posterior abdominal cavity.

The paramesonephric duct (mullerian duct) arise as a longitudinal invagination of the epithelium on the surface of the urogenital ridge, the paramesonephric ducts fuses distally to produce the uterus and vagina in female, lateral and the proximal unfused part remains as uterine tubes.

One such anomaly recognized clinically in a woman aged 19yrs, after 6 months of marriage complaining of intermittent lower abdominal pain from past 5 months was admitted in our hospital. On thorough radiological (MRI) investigation we noticed bicornuate uterus, even the contrast X-RAY has also suggestive of the same with filling defect on the right side of the uterus. Interestingly this uterine anomaly is associated with agenesis right kidney, it shows the close proximity in the development and differentiation of urogenital system, this may be one of the cause for infertility in women.

The details of this rare presentation will be considered during our presentation.

**385. Horse-shoe Kidney - A Renal Fusion Anomaly**  
**Naveena Swargam**, Seema Madan, Ashok Kumar  
Gandhi Medical College, Secunderabad, Andhra Pradesh.

An abnormal fusion of inferior poles of kidneys by an isthmus resulting in a 'U'-shaped common renal fusion anomaly, known as 'Horse-shoe' kidney. It affects 1 in 400-500 people. It is twice as common in males as in females.

The aim is to study the various anatomical findings, embryological aspects, associated congenital anomalies & surgical aspects of horse-shoe kidney.

**386. A Rare Case Of Congenital Isolated Midline Cleft Of The Sternum**

**Vaibhav Pednekar**, Rajesh S. Powar  
J. N. Medical College, KLE University, Belgaum.

Cleft of the Sternum is a very rare congenital midline anomaly which is often asymptomatic. It could be incomplete or complete; the incomplete form being more common than the complete one. The etiology of this condition however remains unclear. It is occasionally diagnosed prenatally in association with other structural defects in the fetus, such as cardiac defects and other chest and abdominal wall abnormalities. Three-dimensional (3D) sonography is constantly increasing its usefulness in prenatal diagnosis. The multidetector CT (MDCT) images are used to demonstrate the complete sternal cleft.

The case reported here is a rare case of isolated cleft of the sternum in an 8 year old female who reported to the Plastic Surgery OPD, with a history of deformity of chest wall since birth. She was the first issue of a non-consanguineous marriage. Physical examination revealed a midline sternal cleft with complete dehiscence of sternum. A midline vertical linear scar tissue was seen extending from the mid sterna region to the umbilicus. The scar was wider the mid sternal region for a length of 5 cms, with the maximum width being 1.5 cms in repose. The scar was comparatively thinner in this area, which also showed prominent cardiac pulsations and a positive impulse on cough. Chest Radiograph confirmed a midline bony defect of the sternum with an increase in the distance between the Sternoclavicular joints.

**387. Tetra-Amelia Syndrome**

**K. Devi Sankar**, P Sharmila Bhanu, K Gajendra, Ratnabali Sengupta.

Narayana Medical College, Nellore, Andhra Pradesh

Tetra-amelia (TA), the complete absence of the extremities, occurs extremely rare. It appears to follow an autosomal recessive mode of inheritance. Usually TA is associated with other anomalies, so called Tetra-Amelia Syndrome (TAS). 33 year old mother was admitted in NMCGH; Gravida 2, Para 1, male; there was no history of trauma or drug exposure; there was no family history of limb deficiencies. At 39 weeks gestation, the baby was delivered with breech presentation. Physical examination showed absence of all the limbs (TETRA-AMELIA). The baby survived only for few days, was donated to Anatomy department; X-rays were taken; fixed in routine formalin; dissected carefully to identify any malformations internally.

On examination, in addition to TA it also showed various congenital anomalies like facial deformities, absence of nipple, absence of ribs, etc. The etiology of most of the limb deformities is unknown. But some cases of this condition are found to be observed as autosomal dominant or recessive mutation.

The details of the case will be discussed during presentation.

**388. Significance of Fas-FasL System in Molar Pregnancy**

**Simmi Soni**, Gayatri Rath, Chandra Prakash Prasad, Sudha Salhan, \*Sunita Saxena, Arun Kumar Jain  
Vardhman Mahavir Medical College & Safdarjang Hospital, New Delhi-110029.

\*Institute of Pathology, ICMR, New Delhi-110029.

Background: Hydatidiform mole (molar pregnancy), one of the rare placental disorders, has a high occurrence rate in Asian countries like India (1 in 502 pregnancies). It is an aberrant conceptus, characterized by enlarged, oedematous & vesicular hydropic chorionic villi, absence of blood vessels & proliferation of trophoblasts to a varying degree. The Fas/Fas ligand (FasL) system represents one of the main apoptotic pathways controlling placental apoptosis throughout gestation. An imbalance in Fas/FasL system has been implicated in several placental pathologic conditions such as preeclampsia and recurrent abortions. In the current study, we have examined the Fas and FasL protein expression in trophoblastic tissue of hydatidiform mole (HMs) and compared with gestational matched normal placentae. METHODS: Protein expression was determined by immunohistochemistry and western blotting analysis. RESULTS: Fas Expression was found in the villous Syncytiotrophoblast as well as Cytotrophoblast of both normal and molar pregnancy. However a significant shift was observed in Fas expression from cytotrophoblasts to syncytiotrophoblast in HMs. In contrast, FasL expression was confined only to the cytoplasm of Syncytiotrophoblast in HMs. A significant increase has been observed in the expression of both Fas and FasL in syncytial layer of molar trophoblasts ( $p < 0.008$  and  $p < 0.0002$ ).

Conclusions: These data suggest that there is a different regulation and function of the Fas/FasL system in HMs. Aberration of the Fas-FasL apoptosis may represent one of the execution-step implicated in pathogenesis of molar pregnancy.

**389. Perspectives Of Undergraduate Students On Use Of Flashcards As A Mode Of Learning Anatomy**  
**Rashmi A. Patil**

Seth G.S. Medical College, K.E.M.H, Parel, Mumbai

The subject of Anatomy is very vast to cover in short span of one year. It is also very volatile and many first year undergraduate students face difficulty in learning and recapitulating the same. There are many methods followed for learning Anatomy and flashcards is one amongst it.

Flashcards for learning extremities were designed and distributed to first year Occupational Therapy and Physiotherapy students of Seth G.S. Medical College, Parel, Mumbai. The students perspectives were taken just prior to their respective part examination and assessed.

The paper discusses the advantages and limitations of flashcards as method of learning Anatomy

**390. Body Donation Program- Our Experience**

**Ajay Kumar**, Poonam Singh

Dayanand Medical College and Hospital, Ludhiana

Whole body donation is the need of the hour. Keeping that in mind, DMC&H Ludhiana started a Body donation program in 2006. In this paper we have discussed our approach towards body donation program. The program is so successful, that with in four years our tanks are full. In fact we are making new tanks to increase the capacity. We are helping other colleges of the region to start their own body donation program.

**391. Need For Increasing Awareness About Body Donation In To Order To Acquire Sufficient Cadavers For Dissection And Research Purposes.**

**Daksha Dixit**, V. S Shirol, V. S. Shinde, Shilpa M Bhimalli.  
KLE University's J. N. Medical College, Belgaum.

Medical Colleges and Research Institutes are in a constant need of cadavers for under-graduate teaching and post- graduate training as well as for research purposes. Procuring cadavers has always been an area of concern for anatomists. Bearing this in mind we in the Department of Anatomy, JNMC initiated a Body Donation Program. Donated bodies are far more superior as compared to unclaimed bodies in various aspects like nutrition; they are mostly free from infections; and are also received before the onset of decomposition. By promoting body donation and creating awareness in the public we need a marked increase in the number of cadavers received year after year. This year we conducted a survey wherein we collected the details of the number of cadavers received by various Anatomy Departments in Medical and Dental Colleges of Karnataka and neighboring states. These cadavers were

procured as unclaimed bodies, donated bodies or from other Institutions. After comparing our findings we found that body donation is the most effective way of increasing the number of cadavers that can then be used for dissection and research purposes.

**392. Is Laparoscopic Surgical Anatomy Need Of The Hour For The First Year Medical Students?**

**Vishwanath M. Pattanshetti**,\* Sheetal V. Pattanshetti, A S Godhi, S C Metgud

KLE University's J N Medical College, Belgaum

Gross anatomy is one of the cornerstones of medical education. Dissection of cadavers still plays an important role in learning it. Operative laparoscopy has progressed rapidly in recent years and is becoming gold standard for many surgical procedures compared to the conventional approach for abdominal surgery. Laparoscopic surgery has allowed the description of new planes, spaces and anatomic references. Magnified Laparoscopic views and the ability to deeply explore anatomic features demonstrate the basic anatomy better. The fact still remains that; Laparoscopy requires a more profound knowledge of basic anatomy. The food for thought is, whether the day has come to teach first year medical students about Laparoscopic surgical anatomy either on living subjects or cadavers or is it only for surgical trainees.

**393. Teaching Of Human Anatomy In Integrated And Conventional Curriculum - A Comparative Study**

**WMS Johnson**, Deepa Ranjith\*

Sree Balaji Medical College, Chennai, \*AIMST University, Malaysia

In medical colleges, the trend of teaching anatomy is changing. Worldwide, the medical curriculum is moving beyond traditional lectures and dissections to an integrated teaching, where basic sciences and clinical concepts are dealt simultaneously and has more emphasis on self-directed learning. In conventional system, methodically general anatomy is taught first followed by regional anatomy.

The aim of this study was to compare anatomical knowledge of students in an integrated course with those of a conventional lecture based curriculum. Several studies have compared the above two curricula, but this is one of the first few studies to compare Malaysian & Indian students, where some of the medical colleges follow integrated method while others conventional.

There were 100 students in each group. The testing was done by a questionnaire study in a "True/ False" format, with no penalty for incorrect answers. The test was performed under examination condition. Papers were marked and results were analyzed using Student's t test analysis.

The results and conclusion of the study showed there are advantages & disadvantages in both systems. Best thing is to adopt best of both worlds.

**394. Comparative Study Of Sperm Vitality In Fertile And Infertile Males**

**Joy Ajoykumar Ghoshal**, V.G. Sawant, \*P. H. Shingare Padmashree Dr. D.Y. Patil Medical College, Hospital And Research Centre, Nerul, Navi-Mumbai, \*Joint Director D.M.E.R., Maharashtra

Aim: To study sperm vitality in fertile and infertile males, analyze and correlate.

Materials And Methods: Total 100 semen samples were studied in each of the experimental and control groups. Sperm vitality was determined by the dye- exclusion test. The test is based on the principle that dead cells with damaged plasma membrane take up certain stains. One drop of Eosin solution was mixed with one drop of fresh semen sample on a slide and it was examined at 400x after 30 seconds.

Results: The percentage of vital spermatozoa in the control group was more than 74% in all the cases which was within the normal limits. However only 65 cases out of the total 100 in experimental group, showed the vitality percentage within normal limits (>74%). In 35 samples of the experimental group, the vitality percentage was in the range of 60 to 73%. The mean vitality percentage of the experimental group was 82 ±6.78 and that for the control group was 84.45 median values of vitality the difference in the mean in the two groups was statistically significant.

Conclusion: Sperm vitality was significantly more in semen samples of fertile than those of infertile males.

**395. A Case of Beckwith - Widemann Syndrome.**

**Sheetal Prabhu (Pattanshetti)**, P.S. Jevoor, Santosh. B. Kurbet, Shivkumar Sambargi, Vishwanath. M. Pattanshetti. KLE University's J N Medical College, Belgaum

Beckwith – Wiedemann syndrome is an overgrowth disorder present at birth characterized by an increased risk of childhood cancer. These cases occur sporadically. Reported here is a case of a neonate diagnosed as a rare case of Beckwith – Wiedemann syndrome who was operated at our hospital successfully for exomphalos and is on regular follow up for the detection of development of malignancies. The clinical manifestations and embryological basis will be discussed during the presentation.

**396. Agenesis Of Corpus Callosum – A Case Report**

**Manisha S. Shelke**, Daksha Dixit, V. S. Shirol, S. P. Desai. KLE University's Jawaharlal Nehru Medical College, Belgaum.

A nine month old infant was brought to KLE's Dr.Prabhakar Kore's Hospital with complaints of delayed milestone development and poor motor coordination. C.T. Scan of brain showed agenesis of corpus callosum and obstructive hydrocephalus. In our presentation we are going to discuss about prevalence and etiopathology of agenesis of corpus callosum. Detailed development of corpus

callosum and its clinical significance will be discussed in the presentation.

**397. Tobacco As A Risk Factor For Cancers In The Regional Population Of Andhra Pradesh – A Hospital Based Study.**

**Pari Plavi Mokkaapati**

Osmania Medical College, Koti, Hyderabad

The world cancer report (2008) published by the international agency for research in cancer (IARC) is an urgent call for attention towards the growing global crises of cancer. It also highlights the various differences between high and low resources nations at all levels of interventions from awareness screening diagnosis and treatment to rehabilitation.

Tobacco is the biggest and most ubiquitous carcinogen known. Over 4000 metabolites of tobacco are described with over 60 known to be carcinogens. Tobacco consumption takes various forms and has been incriminated in the genesis of many aerodigestive cancers, bladder, kidney, cervix, and haematological cancers.

We studied 450 histopathologically proven cases of cancers in the wards of a tertiary care cancer hospital in Hyderabad. Tobacco consumption was positive in 146 patients (127 males & 19 females). The distribution of various forms of in relation forms of tobacco consumption and its seccation to epidemiological variables regional and symptemic distribution in the body, etc.

The various molecular mechanisms and their interations involved in the antioprogenesis of the diverse tobacco related cancers shall be discussed.

**398. Holoprosencephaly**

**Suresh N. M.**, Dhanjaya B. S., Omkar Murthy. Sree Siddhartha Medical College, Agalkote, B.H. Road, Tumkur

Holoprosencephaly is a rare form of congenital anomaly was observed in our labor ward. Holoprosencephaly also called as Cyclops characterized by failure of the embryonic prosencephalon to properly divide the orbits of eye into two cavities. Typically the nose is either missing or replaced with a non- functioning of nose in the from of proboscis. Such a proboscis generally appears above the central eye and is characteristic of a cyclopia called rhiencephaly or rhinocephaly.

**399. A Study Of Risk Factors Associated With Cancers In The Women In The Region Of Andhra Pradesh – A Hospital Study**

**K. Raja Shekhar**, M. Ravinder, T. K. Rajasree, M. Pari Plavi Osmania Medical College, Hyderabad.

Cancer is becoming a global cause of cancer because of the increasing incidence associated with high mortality and morbidity rates. More and more cancers are occurring in the developing and poor countries for a variety of reasons.

We undertook a study of 450 histopathological diagnosed cancer patients undergoing inpatient treatment at the Central Government Cancer Hospital in Hyderabad (of these 51.2% were female patients). We studied the distribution of various cancer in relation to epidemiological variables like age, gender, region, family history. The distribution in relation to the occupation, menarche, lactational history, menopause, tobacco and alcohol consumption, and various organizations was also studied.

The data shall be presented at the conference.

**400. The Study Of Dermatoglyphic Patterns In Patients With Congenital Anomalies Of Hand**

**Madhuri Y. Dofe**, Savgaonkar, Parchand  
Govt. Medical College, Nagpur

Present study carried out on 100 patients with congenital anomalies of hand. Aim of this study to find specific association between dermatoglyphic pattern and anomalies of hand because of close association between ectoderm (that gives rise epidermis of skin) and mesoderm (that gives rise underlying connective tissue, bone and muscle) for limb development.

Palmar dermatoglyphics has perform to evaluate fingertip pattern, palmer pattern, anatomical position of axial triradii, a-b ridge count, digital triradii, pattern intensity and palmar flexion crease.

Result of the study shows remarkable variations in congenital anomalies of hand, which were rare in normal hand thus dermatoglyphics associated with each type of hand anomaly was characteristic and discriminative.

Conclusion of this study shows the specific association between ectoderm and mesoderm that indicate underlying tissue influence development of ridge pattern and also helpful in evaluating the function of the hand and estimating the time of damage to the hand in embryogenesis.

**401. Morphology And Morphometry Of Supra Renal Glands At Different Gestational Ages**

**B. Ravindrakumar**, V.Subhadra Devi\*, R.Sekhar, M. Pradeep Kumar.  
Sri Venkateswara Institute of Medical Sciences, Sri Venkateswara Medical College\*, Tirupati. Khaja Banda Nawaz Institute of Medical Sciences, Gulbarga.

Human foetal supra renal glands were morphologically and morphometrically quite different from its adult counterpart. Foetal supra renal glands begin a process of involution that commences immediately after birth. A total of 28 formalin preserved dead fetuses with gestational age between 12-40 weeks were utilized for this study. Supra renal glands were categorized according to sex, weight and gestational age on both right and left sides. Further these were subcategorized into 1. According to sex (males and females). 2. According to weight (below 1000 grams, 1001-2000 grams and above 2000 grams). 3. According to gestational age (12 to 24 weeks, 25-36 weeks and more than 36 weeks). According to these

categorization obtained results were analyzed for the various morphological and morphometric parameters and compared with the available literature.

Detailed explanations on observations and comparison of these results with available literature and clinical implications will be discussed at the time of presentation.

**402. A Study Of Palmaris Longus Muscle And Its Use In Reconstructive Surgeries**

**Najma Mobin**, Dr. G. Saraswathi, Dr. N. M.Shama Sundar,  
JSS Medical College, SS Nagara, Bannimantap, Mysore

Introduction: In the present day of fast life, incidence of vehicular accidents are on the increase at an alarmingly fast pace. This demands the need for a graft material, which should be easily available for the emergency reparative, reconstructive surgeries in the trauma centers. For other elective reconstructive surgeries also autograft is always preferable to heterografts/synthetic materials due to increased incidence of graft rejection. Keeping this in view, the present study was undertaken wherein, the Palmaris longus tendon, which comes to the rescue of not only plastic surgeons but also orthopaedic surgeons, maxillo-facial surgeons & onco-surgeons, was studied in detail.

Aims & Objectives: The present work was undertaken, where Palmaris longus muscle was studied in detail for the above mentioned purposes. Palmaris longus tendon is used for various reconstructive surgeries, the advantages being easy availability, inexpensive, body acceptance in toto.

Materials & Methods: In the present work the Palmaris longus muscle was studied by: (a) Dissection method: 60 upper limbs of embalmed cadavers were dissected and studied. (b) Clinical method: 70 medical students were clinically tested for the presence or absence of the muscle (c) Ultrasound scanning method: 10 adults were sonographically tested for the presence or absence of the muscle.

Results: Variations pertaining to the presence/absence of the muscle; variable insertions; different calibred tendon etc. were observed.

Conclusion: The various conditions wherein the Palmaris longus is used as an autograft material is discussed in detail.