

Abstracts of Paper Presentation during 58th National Conference of Anatomical Society of India 2010 held at Dr. D. Y. Patil Medical College, Pune

1. INCIDENCE OF SUPRACONDYLAR PROCESS OF HUMERUS IN THE POPULATION OF ASSAM

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aim: the present study aims at the determination of incidence of the supracondylar

process of humerus in the population of Assam.

Supracondylar process is a normal anatomical structure in some lower climbing animals but is a rare vestigial structure in human.

Materials and methods: The study was conducted on 80 humeri which were collected from the 1st M.B.B.S students and from the osteology laboratory, department of Anatomy, Gauhati Medical College. The bones were examined for any osseous projection from distal part under day light.

Observations: out of 80 humeri, we found one humerus of left side with a bony projection from antero-medial surface of its distal shaft. The bone was then examined, studied, photographed and its dimensions were recorded.

Results: length of the projection was 1.1 cm and breadth at the base 1.5 cm. the other parameters of the bone under study and its projection were tabulated and compared with standard documented values.

Conclusion: knowledge of this variation may be of great importance to anatomists and anthropologists, because of possible link to the origins and relations of the human races. Therefore an attempt has been made to find out the incidence of supracondylar process in the population of assam. The study will be discussed in detail at the conference

2. SAFE DISTANCE FOR THE SUPERIOR GLUTEAL NERVE AND ITS RELATION WITH

The Femoral Length: A Cadaveric Study

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Superior gluteal nerve (SGN) after emerging through the greater sciatic foramen, above the piriformis muscle, curves upwards and forwards between the gluteus medius and gluteus minimus muscles, supplying both; and ends by supplying the tensor fasciae latae, from its deep surface. This nerve is liable to get injured during hip surgeries. An exact knowledge of its course may be helpful in avoiding such injuries. The aim of this study is to find the distance of the most inferior branch of SGN from the tip of the greater trochanter; and to find any correlation of this distance with the length of thigh. 20 lower limbs of formalin fixed cadavers were dissected to expose SGN. The distance of the most inferior branch of SGN, from the tip of the greater trochanter, was measured at the anterior third, middle third and posterior third of the gluteus medius, with the help of sliding calipers. The length of thigh was measured with the help of a measuring tape. The results of this will be discussed at the time of presentation.

3. PALMARIS PROFUNDUS MUSCLE: A PROBABLE CAUSE OF CARPAL TUNNEL SYNDROME

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Anatomic variations involving or affecting the median nerve and its branches within the carpal tunnel are well described in the

literature based on cadaveric and operative dissections. Palmaris profundus is one such rare but known variation that may compress the median nerve. On routine dissection of an adult male cadaver, a small muscle mass was found to arise from the anterior surface of the shaft of the radius and a thin slender tendon from it passed lateral to the median nerve and merged with the under surface of the flexor retinaculum. Such a variant muscle mass is described in literature as palmaris profundus. The possible embryological basis, clinical significance and discussion of the various subtypes of such a muscle mass are discussed in the present paper.

4. AN ANATOMIST'S PERCEPTION OF LAPAROSCOPIC ANATOMY

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Laparoscopic surgery, also called minimally invasive surgery (MIS), bandaid surgery, key hole surgery, is a modern surgical technique in which operations in the abdomen are performed through small incisions (usually 0.5–1.5 cm) as compared to larger incisions needed in traditional surgical procedures. The restricted vision, the difficulty in handling of the instruments (new hand-eye coordination skills are needed), the lack of tactile perception and the limited working area are factors which add to the technical complexity of this surgical approach. For these reasons, minimally invasive surgery has emerged as a highly competitive new sub-speciality within various fields of surgery. The development of laparoscopic surgery has generated the new field of study - laparoscopic anatomy, and it has evolved along with advances in abdominal surgery. Understanding of systematic laparoscopic anatomy can provide the junior surgeons a clear procedural approach, and would benefit laparoscopic surgeons in their training.

Gaining a thorough understanding of the laparoscopic anatomy is crucial to a successful laparoscopic surgery. Anatomical landmarks are descriptions of neighboring structures crucial to identifying the proper target tissue for resection. Laparoscopic anatomy for cholecystectomy, inguinal herniorrhaphy, pelvic –gynaec surgery shall be presented and discussed.

5. UNUSUAL PRESENTATION OF BIPENNATE FIBRES, BILATERALLY, IN THE PECTORALIS MAJOR MUSCLE

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Pectoralis major muscle has a very unique fascicular architecture and disposition, which allows this muscle to act as an adductor, flexor and medial rotator of arm and helps in climbing with Latissimus dorsi muscle. Earlier books used to describe two parts of this muscle, viz. portio attollens and portio deprensens. The spiralization of its sternocostal fibres (forming anterior fold of axilla) and the formation of two lamellae at the insertion augments the role of this muscle further. We have come across a rare feature, hitherto undescribed in the literature searched, in that the sternocostal fibres of the muscle showed a very well defined bipennate arrangement of fibres, which was bilaterally present. The clavicular fibres were continuous with the anterior fibres of deltoid muscle. There was decussation of the fibres of the two sides in front of the sternum. At the insertion we found that the tendon of insertion was bilamellar; that its lower edge was prolonged with the anterior

most fibres of deltoid at its insertion, many of which were getting attached to the lateral edge of this tendon. The evolutionary and the biomechanical significance will be presented.

6. STUDY OF CRISTA TERMINALIS AND MUSCULI PECTINATI IN HUMAN HEARTS

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Crista terminalis (CT) is a fibromuscular ridge at the posterolateral region of right atrium and is an important anatomical landmark due to its close association with the sinoatrial nodal artery and origin of musculi pectinati (MP). The CT is a significant structure in several forms of atrial tachyarrhythmias and is the target for radiofrequency catheter procedure. It has been identified as the barrier to transverse conduction during typical atrial flutter. The morphology of CT and MP has a functional role in cardiac conduction and electrophysiology. The MP with highly trabeculated muscle fibers predisposes to arrhythmias. Moreover, prominent muscular column with velamentous MP has implications in cardiac catheterization (as in iatrogenic myocardial injury and right atrial perforation).

Considering the pragmatic significance of CT and MP, the present study, comprising of 108 human hearts was undertaken to provide a clinical insight into various morphologic and morphometric characteristics. To obtain maximal visualization of CT and MP, the inferior vena cava and superior vena cava were opened posteriorly along a longitudinal axis to expose the right atrium. A second anterolateral incision was made perpendicular to the original cut. The length and thickness of CT was measured using Vernier callipers. Different patterns of the MP (oriented perpendicular/ parallel/ at acute angles/ haphazard/ arborizing/ interlacing trabeculations) were analyzed. 43% samples presented with MP in a perpendicular orientation and 27% as trabeculated. The thickness of the CT ranged from 0.3 to 13 mm (mean 0.7). The length varied from 33 to 74 mm (mean 47). These findings shall be corroborated and correlated with findings of other researchers.

7. STUDY OF VARIATIONS IN THE CIRCLE OF WILLIS

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Aim: - To study and observe the anatomical variations in the Circle of Willis in different specimens of Cadaveric brain in the Guwahati region of Assam.

Materials and Methods: - In the present study, 70 specimens of human brain from the Department of Anatomy and from the autopsies done in the Department of Forensic and state medicine, were dissected and variations of the circle of Willis were observed. Result: - Out of the 70 specimens observed, 79.94% of the specimens presented with variations. Variations were observed in Anterior circulation in 48.57% of specimens and in Posterior circulation in 78.57% of specimens. The most common variation found was hypoplastic Posterior communicating artery in 54.28% of specimens.

Conclusion: - Detailed findings of the study will be discussed during presentation.

8. ANATOMICAL CONSIDERATIONS REGARDING THE POSTERIOR INTEROSSEUS NERVE

IN APPROACHING THE PROXIMAL PART OF RADIUS

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Contents

Posterior interosseus nerve (PIN), the deep branch of radial nerve arising from the radial nerve in front of the lateral epicondyle, is

vulnerable to injury during internal fixation of radial head fractures and distal humeral fractures. The aims of this study are to find the distance of PIN from the lateral epicondyle at its entry point and exit point into the supinator muscle; and to evaluate the correlation between these distances with the length of forearm and epicondylar width. 26 upper limbs obtained from formalin fixed cadavers were dissected for their posterior interosseus nerve. We measured the distance from lateral epicondyle to the entry point and exit point of PIN into supinator with the help of sliding calipers. The epicondylar width and the length of forearm were measured with the help of sliding calipers and measuring tape, respectively. The mean distance from lateral epicondyle to PIN, at its entry point and exit point into the supinator muscle, were found to be 4 cm (range, 3.1-5.3 cm) and 8 cm (range, 6.3-10.3 cm), respectively. No significant correlation was found between these distances with the length of forearm and the epicondylar width. This data will be of help to the orthopedic surgeons in minimizing the risk of injury to PIN, while approaching the head of radius and distal end of humerus.

9. A STUDY OF THE INNERVATION OF THE HUMAN BRACHIALIS MUSCLE AND ITS CLINICAL CORRELATION

DR.T.SRIMATHI, SRI RAMACHANDRA UNIVERSITY, CHENNAI

Fractures of the humeral shaft are commonly encountered by the Orthopaedic Surgeons accounting for approximately three percent of all fractures, appropriate treatment of which require an understanding of the anatomy of the arm.

Aim: To study the innervation pattern of the Human Brachialis Muscle and correlate it clinically.

Materials and methods: In Fifty upperlimbs of both sides, the Brachialis muscle, musculocutaneous nerve and the radial nerve were exposed in the arm by routine dissection. The branches to the brachialis from both nerves were exposed.

Results: The site of entry of musculocutaneous nerve into the brachialis, presence or absence of muscular branches of the radial nerve to the brachialis and their number, length and site of entry into the Brachialis muscle were studied. The results were statistically analysed and found to be different from the available literature.

Conclusion: The clinical importance of the study of innervation of the brachialis muscle lies in the treatment of fractures of the shaft of humerus. Since the musculocutaneous nerve enters the brachialis muscle on the medial border and radial nerve enters on the lateral border, during surgery by anterolateral approach (Thomson-Henry's method) to expose the fracture site, surgical dissection should be done longitudinally through the mid muscle belly of the brachialis muscle. This ensures to preserve the dual innervation of the muscle. Therefore, this study will be useful to the Orthopaedic Surgeons to avoid iatrogenic injury to the Radial and the Musculocutaneous nerves.

10. MIDDLE CEREBELLAR FOSSA OF VERGA- AN ANATOMICAL STUDY

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Aim of Study: Middle cerebellar fossa of Verga or Vermian fossa (VF) is a shallow

fossa of varying size which may occasionally found on the dorsal aspect of foramen magnum on inner surface of squamous part of occipital bone. Our aim to find out the frequency of VF. To measure length and width of the VF and classify them according to their shape.

Material and Methods: Total 120 skull bones of unknown age and sex were examined for vermian fossa. Out of which occiput bones were 68 and basi cranium were 52. The height & width of each VF by Vernier caliper, wherever present. The mean values were

calculated. Further, they were classified as type I (triangular shaped) or type II (quadrangular shaped).

Result: 17 specimens (14.1%) showed presence of VF. Out of which 15 were classified as type I VF and 2 were type II. The average height and width of VF determined to be as 20.4mm and 13.6mm respectively.

Conclusion: As there is not enough information about frequency, size and shape of VF, we believe that our result will provide additional information.

11. THE STUDY OF ANATOMICAL VARIATIONS OF VERMIFORM APPENDIX IN SUBJECTS OF WESTERN RAJASTHAN POPULATION.

PUSHPA POTALIYA, DR.SUSHMA.K.KATARIA, ABHILASHA DADHICH, ANJU CHOUDHARY

One of the most common cause of acute abdominal pain in youngsters is 'appendicitis'. Immediate surgery is required and for surgical procedure to understand variations in anatomical position of appendix itself is too important.

This study has been undertaken to investigate certain anatomical features and variations of vermiform appendix with regard to sex, age and race in subjects of western Rajasthan population.

100 patients were studied post surgery. Parameters studied were appendix length, position and variations of mesoappendix. Findings will be discussed in detail in session.

These findings can certainly be of immense help for surgeons to make optimal diagnosis and treatment of appendicitis.

12. VARIATIONS OF SUPRAORBITAL NOTCH IN ADULT AND FOETAL SKULLS

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The supraorbital margin formed by the frontal bone is interrupted at the junction of its sharp lateral two-thirds and round medial third by the supraorbital notch which transmits the supraorbital vessels and nerves. The present study was done on 101 human adult skulls of unknown sex and 59 foetal skulls to observe the various combinations of supraorbital notch, supraorbital foramen, incomplete foramen and absence of these features.

Nine types of combinations were observed in adult skulls and eight types of combinations were observed in foetal skulls amongst notch, foramen, incomplete foramen and absence of these features. The difference between incidence of notch was significant in adult skulls ($p < 0.05$). Percentage of notch was higher in adult skulls (29%) as well as foetal skulls (30%) than other features. Absence of all the features was not seen in adult skulls but was observed in 6.77% of foetal skulls.

13. EXTRA CRANIAL SIPHON OF INTERNAL CAROTID ARTERY

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Normally Internal Carotid Artery continue vertically upwards to the Carotid Canal, but here during routine dissection of head and neck, Internal Carotid Artery showing variation in the form of formation of siphon before entering in the Carotid Canal. A digital caliper is used to calculate diameters of the artery at various regions. Variations of the course of the internal carotid artery in the parapharyngeal wall are also observed. The diameter and length of the internal carotid artery is more in the right than the left side. Bilateral variations in the course and elongation of the cervical (extra cranial) part of the internal carotid artery leading to its tortuosity, kinking and coiling or looping is not a rare condition which could be caused by both embryological and acquired factors.

The morphological variations are commonly seen in the left side. Patients with such variations may be asymptomatic. Awareness about details and topographic anatomy of variations of the internal carotid artery may serve as a useful guide for both radiologist and vascular surgeons. It may be helpful in preventing diagnostic errors, influence surgical tactics, interventional procedure and avoid complications during the head and neck surgery. The coiling is described to embryological cause, curving is related to ageing and kinking is thought to be exacerbated by arteriosclerosis or fibromuscular dysplasia with advancing age.

14. STUDY OF CAROTICO CLINOID FORAMEN IN DRY HUMAN SKULL OF NORTH INTERIOR KARNATAKA

DR S.D DESAI, DR SUNKESWARI SREEPADMA

Variations in sellar region like the interclinoid bar and the carotico clinoid foramen may cause difficulty for clinoidectomy procedures. Therefore, to obtain a satisfactory result from these surgeries, detailed anatomical knowledge of the region and the type of ossification between the clinoid processes is necessary. The present study is an effort to know more about carotico clinoid foramen in skulls of North Interior Karnataka region. For the present study, dry unknown human skull were obtained from north interior Karnataka region collected in the department of Anatomy of BLDEU's Shri B.M.Patil Medical College Hospital and Research centre Bijapur. The carotico clinoid foramen were studied in the dry human skull and were observed for various parameters like complete or incomplete, unilateral and bilateral and type of sellar bridges. The data was analyzed statistically with chi square test. Carotico clinoid foramen was observed in 223 skulls and was found in 83(37.19%) skull bones. Amongst 223 skull bones, in 39 (17.47%) skulls the carotico clinoid foramen was forming a complete foramen; and in 44 (19.71%) skulls there was incomplete foramen. Complete bilateral carotico clinoid foramen was found in 23 skulls (10.31%) and complete unilateral was found in 16 skulls (7.16%). Incomplete bilateral carotico clinoid foramen was found in 7 skulls (3.13%) and incomplete unilateral was found in 37 skulls (16.58%) on right side -20 skulls (8.96%) and left side-17 skulls (7.62%). The sellar bridging between the three clinoid processes was also studied. Detailed knowledge of carotico clinoid foramen will increase the success of the regional surgery.

15. PARTIAL CLOSURE OF RIGHT SUPERIOR ORBITAL FISSURE WITH NARROW OPTIC FORAMEN

DR SUNKESWARI SREEPADMA, DR S.D DESAI

Superior orbital fissure is situated between the greater and lesser sphenoid wings, with the optic strut at its superomedial margin. It lies between the roof and lateral wall of the orbit. The Superior orbital fissure is divided by the common tendinous origin of the recti muscles. Compression of the neurovascular structures due to variations in the superior orbital fissure result in signs and symptoms due to involvement of cranial nerves III, IV, V1, and VI. We report here variation in the superior orbital fissure. Superior orbital fissure was closed partly by a thin plate of bone on right side and there was narrow optic foramen on the right side of the same bone. The superior orbital fissure on right side measured 0.9 cm vertically and 0.6 cm transversely. On the left side the fissure appeared normal in shape and measured 0.9 cm vertically and 1.4 cm transversely. On the right side we observed, that there was a narrow optic foramen measuring around 0.2cm in diameter. On the left side the optic foramen appeared normal and measured around 0.6cm in diameter. It is essential to know such variations to understand the underlying cause for the clinical conditions and operate in those areas.

16. HETEROTOPIC OSSIFICATION IN THE INTEROSSEOUS MEMBRANE OF RIGHT FOREARM BONES

DR.SULABHA.H.DESHPANDE, DR S.D DESAI

Interosseous membrane is a broad thin collagenous sheet whose fibres slant distomedially between the radial and ulnar interosseous borders and its distal part is attached to the posterior division of the radial border. Its fibres help in transmission of forces which act proximally from the hand to the radius, hence to the ulna and humerus. The posterior relations near the carpus are the anterior Interosseous artery and Posterior Interosseous nerve. Heterotopic ossification resulting in radio-ulnar cross union occurs in 2% of all forearm injuries. During the routine undergraduate demonstration classes at BLDEU's Shri B.M. Patil medical college Bijapur, we found an abnormal piece of bone at the site of distal one-third of interosseous membrane of right radius and ulna, which indicates the heterotopic ossification resulting in the fusion near the distal ends of radius and ulna. The ossified part measured 1.27cmx2.1cmx1.63cm using spreading calipers. Factors resulting in heterotopic ossification include open fractures, hematoma formation, infection, callus formation leading to heterotopic ossification. Complications include loss of forearm supination and pronation which impairs the function of entire upper limb. Also one would expect compression over the Anterior Interosseous artery and Posterior Interosseous nerve. Knowledge of such rare condition is very important for neurophysicians and orthopaedicians during the management of complications around the wrist.

17. A CASE REPORT OF HIGH ORIGIN AND ABERRANT SUPERFICIAL COURSE OF ULNAR ARTERY

Dr. B. Lalitha, Dr. K.S.N. Prasad

Such an artery is of significance, may present as superficial pulse and hazard to venepuncture and lead to intra arterial injections or ligature instead of the vein in the cubital fossa (Pabst and Lippest 1968, Thomas & young 1992).

During routine dissection of 20 upper limbs in Siddhartha medical college Vijayawada, in an adult male cadaver it was observed that the ulnar artery seen arising from the brachial artery directly in the arm 2cms above the elbow joint instead of passing between flexor digitorum superficialis and flexor digitorum profundus its course is superficial to all flexor muscles.

Its reported frequency ranges from 0.17% to 2% (Rodriguez et al and Niedenfuhr et al 2001). Earlier authors than 1892, McCormack 1953, Coleman and Anson 1961 who have done work on the vascularity of the upper limbs gave a brief description of this variation.

Details and course of the ulnar artery will be presented.

18. A STUDY OF ACCESSORY MUSCLES IN THE FLEXOR COMPARTMENT OF FOREARM

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A wide array of supernumerary & accessory muscles has been described in the anatomical, surgical and radiological literatures. In vast majority of cases, accessory muscles are asymptomatic and represent incidental findings at surgery or imaging. In some cases, however, accessory muscles may produce clinical symptoms.

These symptoms may be due to palpable swelling or may be the result of compression on neurovascular structures especially in fibro-osseous tunnels. In some cases where obvious cause is not evident, recognition & careful evaluation of accessory muscle may aid in diagnosis and treatment.

Aim - To ascertain the prevalence of accessory muscles in the flexor compartment of forearm.

Materials - 100 dissected upper limbs

Methods - Routine cadaveric dissection

Results - Out of the 100 specimens we found out, accessory muscles in two dissected limbs unilaterally.

Conclusion - A knowledge of accessory muscles should be kept in mind for the diagnosis & treatment of median, ulnar nerve compression.

19. CLINICAL ASSESSMENT OF ABSENCE OF PALMARIS LONGUS

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Palmaris Longus is a very useful muscle for its role in Orthopedic & Plastic surgeries. Its presence in 70-85% population & its superficial location makes it the most common donor material for tendon & reconstructive surgeries.

Ethnic variation in prevalence of absence of this muscle is well known. Studies have also attempted to correlate its absence with other anatomical anomalies like weak Flexor Digitorum Superficialis to little finger, anomalous superficial palmar arch etc.

AIMS & OBJECTIVES-

Find out prevalence of absence of Palmaris Longus tendon in Indian population.

MATERIALS & METHODS-

The presence of Palmaris Longus tendon was clinically determined in 240 normal Indian males (114) & females (126), using standard technique. In subjects with absent tendon, 4 other tests were done for confirmation.

Subjects were also examined for action of Flexor Digitorum Superficialis to little finger.

RESULTS-

Data was tabulated & analyzed statistically. Findings were found significant.

CONCLUSION-

The prevalence of unilateral & bilateral absence of Palmaris Longus tendon in Indian population is comparable to western population.

20. ARCH-INDEX: A FOOT-PRINT STUDY OF ARCH-HEIGHT

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Introduction: Footprint analysis, in parallel to radiography, has been used since years to measure the height of the arch of foot. Being cheaper, safer and easier, it is more acceptable to the patients, but unfortunately not used regularly. Previous studies could prove the reliability of 'arch-index', one of the parameters derived from footprint, for prediction of arch-type.

Objective: So an approach has been made to correlate the arch-index with the standard radiographical parameters for detection of arch-height and to re-define their mathematical regression, in the population of northern part of West Bengal, where data still lacking in pertinent literature.

Methodology: With 103 participants this study was carried out in the purview of North Bengal Medical College & Hospital. From the standing x-rays, the standing talar, navicular heights were measured and later normalised with the foot length. From the obtained footprint the arch-index was calculated out and variables were analysed by SPSS software.

Result: The arch-index showed a negative correlation with standing navicular height (Spearman's rho -0.45, p<0.05), standing talar height (Spearman's rho -0.35, p<0.05) as well as standing normalised navicular height (rho -0.4, p<0.05). All these parameters

also found to have simple linear regression with the absolute values of the arch-index.

Conclusion: Estimation of the arch-height can be approached successfully by a simple foot-print with the help of arch-index even in very minimum infrastructure and from it the radiological parameters also can be derived indirectly avoiding the troublesome maneuvers.

21. A COMPARATIVE STUDY OF FACIAL ANTHROPOMETRY IN MALES AND FEMALES IN WESTERN RAJASTHAN POPULATION

MS. ANKITA DADHICH, DR. (MRS.) SUSHMA K.KATARIA

Facial anthropometry has well known implication in health-related and has been utilized for forensic purposes in past and also plays a major role in the diagnosis of several dimorphic syndromes.

The study was involved 100 healthy subjects (50 males and 50 females) in the age group 18-30 years of Western Rajasthan population. The study was conducted in the Department of Anatomy, Dr. S. N. Medical College, Jodhpur (Rajasthan).

Anthropometric parameters like zy-zy, ec-ec, g-op, eu-eu, go-go, al-al, n-prn, sn-sto, sto-gn, pra-pa, sa-sba and t-ver were measured.

Mostly all parameters showed a highly significant relation ($p < 0.001$) in males when the results were compared with females but some parameters showed non significant relation ($p > 0.005$). Details of the results and conclusion will be discussed later.

22. COMPARATIVE STUDY OF ANTHROPOMETRIC PARAMETERS, SKIN AND ITS APPENDAGES IN HYPOTHYROID PATIENTS IN WESTERN RAJASTHAN POPULATION.

MS. SAVITA, DR. (MRS.) SUSHMA K.KATARIA

The study was planned in hypothyroid patients in Western Rajasthan for finding relationship with various skin changes and anthropometric parameters.

The study was conducted on 100 healthy subjects and 100 clinically established patients of either sex and varying age groups suffering from hypothyroidism attending from the Out Patient Clinics of Department of Medicine, Dr. S.N. Medical College, and associated group of hospitals, Jodhpur.

Anthropometric parameters like height, weight, BMI, skin fold thickness & various circumferences were measured. FT3, FT4 and TSH were evaluated. Cutaneous examination was done under the guidance of Dermatologist.

BMI, W/H ratio, waist and hip circumference showed a highly significant relation ($p < 0.001$) in hypothyroid patients. Neck circumference, Mid arm circumference and Infra umbilical skin fold showed a significant relation ($p < 0.05$). Details of the results and conclusion will be discussed later.

23. STUDY OF ANTHROPOMETRIC MEASUREMENTS OF NEWBORNS AND ITS RELATIONSHIP WITH BIRTH WEIGHT SUNITA SETHY, P. K CHINARA, M. PATRA, B K DUTTA, C SARANGI, D AGARWAL

Department of Anatomy, SCB Medical College, Cuttack, Orissa

Aim of Study: To determine the relationship between birth weight and the anthropometric measurements of newborns to screen for low birth weight (LBW) babies.

Design: Hospital-based prospective study.

Setting: Department of Obstetrics and Gynecology (O&G), SCB Medical College, Hospital, Cuttack

Materials and Methods: This study was undertaken on 200 live born babies delivered in the labour room or lying in Ward in the Department of Obstetrics and Gynecology, S.C.B. Medical College, Hospital, Cuttack, Orissa. The weight and anthropometric measurements (Crown heel length, Crown rump length, Head Circumference, Chest circumference, Abdomen circumference and

Mid-arm circumference) of the newborns were measured within 48 hours of birth by standard techniques.

Results: Out of 200 babies, 104 babies were Male and 96 were Female. 76 newborns (38%) were less than 2500grams (LBW). There was positive correlation between anthropometric measurements and birth weight. But the highest correlation of birth weight was found with Chest Circumference ($r=0.93$).

Conclusion: Measurement of Chest Circumference (a simple, easy, cheap and reliable method) can be utilized to screen out high risk group (Low Birth Weight) newborns in the community.

24. STUDY OF CEPHALIC INDEX IN NORTH INDIAN AND SOUTH INDIAN STUDENTS OF PHASE-I MBBS, SHRI B.M. PATIL MEDICAL COLLEGE, HOSPITAL AND RESEARCH CENTRE, BIJAPUR

DR. B.M. BANNUR, DR. PRETTY.R, DR. S.D. DESAI

Cephalic Index is an important parameter for deciding the race and sex of an individual. The present study was undertaken to calculate the Cephalic Index in students of Phase-I MBBS, Shri B.M. Patil Medical College Hospital and Research Centre, Bijapur and to compare the Cephalic Index of male and female sex. To compare the Cephalic Index in North Indian and South Indian students. The study was conducted on students of Phase-I, MBBS of Shri B.M. Patil Medical College Hospital and Research Centre, Bijapur. 300 students were taken for the present study. For the comparison of Cephalic Index between North Indian and South Indian students, they were categorized according to North Indian and South Indian states. Maximum head breadth and maximum head length were taken using spreading caliper and Cephalic Index was determined. The mean Cephalic Index in study group was 76.65. In North Indian students mean Cephalic Index was 74.44. In South Indian students, mean Cephalic Index was 77.71. The mean Cephalic Index in case of males was 76.57 and that of females was 76.63. Cephalic Index in North Indian males was 74.16 and females was 74.87. Cephalic Index in South Indian males was 78.26 and females was 77.24. Dolicocephalic type of head shape predominated among North Indian students, where as mesocephalic type was predominant in South Indian students. Significant gender difference and geographical variation was observed in present study. The result of present study will be of utmost importance in Forensic Medicine, Anthropology and in Genetics.

25. ESTIMATION OF HEIGHT FROM THE MEASUREMENT OF FOOT LENGTH, HAND LENGTH AND HEAD LENGTH AND THEIR CORRELATION IN BETWEEN IN MAHARASHTRA REGION.

Dr. SONALI V.KHANAPURKAR, Dr. Y.R. KULKARNI, Dr (Mrs.) SWATI BELSARE, Dr. D.S JOSHI.

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Introduction-Estimation of height from the measurement of various body parts is of particular interest to many anthropologists, anatomist and forensic scientist for its importance in medico-legal cases. Various workers estimated height from the measurement of foot length, head length and hand length individually or in various combinations but no data are available for the estimation of height with these parameters together.

Aim- To investigate the relationship between personal stature and head length, foot length and hand length.

To derive a regression formula to predict the height of an individual using foot length, hand length and head length altogether.

Materials and methods-The present study is conducted on 1000 apparently healthy, Maharashtra medical students in the age group of 19-22. The measurements taken includes height, foot length, hand

length and head length. All these measurements are taken using standard anthropometric instruments and standard anthropometric techniques.

Results and conclusion-Data was analysed separately for male and female and for both genders together. All the parameters correlate significantly with stature but foot length in both the sexes depicts higher correlation coefficients with stature ($r=0.850$) than that any of the parameter. Estimation of stature using multiple regression analysis using multiple parameters (foot length, hand length and head length) gives the multiple correlation coefficient 'R' for both sexes together, which is higher (0.879) than the values obtained through simple linear regression equation which uses single parameter. Hence it is concluded that multiple linear regression analysis is better over simple linear regression analysis for estimating accurate stature.

26. ANTHROPOMETRIC STUDY OF BILATERAL VARIABILITY AND PERCENT DIRECTIONAL ASYMMETRIES OF THIGH BONES OF MARATHWADA REGION.

DR.SHITAL S. MASKE, DR.MRS.A.D.PATIL, DR.D.S.JOSHI, DR.S.R.MUTYAL; Department of Anatomy, B. J. MEDICAL COLLEGE, PUNE.

Aims and objectives: Though, there is clear-cut right dominance in upper extremity, reports on lower extremity are ambiguous. Some authors observed preponderance of heavier thigh bones on right side others reported longer and heavier femurs on left side.

Therefore, it was considered worthwhile to report our observations on bilateral variability of thigh bones from Marathwada region and to derive the percent directional asymmetry allowing for direct comparison of asymmetry in various dimensions.

Materials and Methods: Present study was carried out on 168 known sex femurs from bone bank of the Department of Anatomy, Government medical college, Aurangabad. 11 bilateral dimensions were taken. Dimensions were converted into percent directional asymmetry.

Results and Conclusion: All the dimensions were higher on left side; but for the diaphyseal dimensions difference was significant. Percent directional asymmetry for all the dimensions is tabulated and results will be revealed at the time of presentation.

27. ESTIMATION OF STATURE FROM PERCUTANEOUS LENGTH OF ULNA.

ACHARYA VEENA ANAND, A B GUBBI, S R MUTTAGI.
M R Medical College, Gulbarga.

Estimation of stature from bones play an important role in identifying unknown bodies, parts of bodies or skeletal remains. Anthropometric techniques have been commonly used to estimate stature & bone length from skeletal remains & unknown body parts by anthropologists, anatomists & forensic experts over a hundred years. The study is aimed at modeling the stature on basis of percutaneous ulnar length in human subjects. The study is conducted in Department of Anatomy, M. R. Medical College, Gulbarga on 300 students comprising of 150 males & 150 females in age group 18-25 years. The measurements are taken by using standard anthropometric instruments. The length of ulna was measured as straight distance from most proximal point of olecranon process to the most distal point of styloid process with forearm flexed at 90° angle. The data was subjected to statistical analysis & regression formulae was derived to reach best possible estimate of stature. The results & conclusion shall be discussed at time of presentation.

28. ESTIMATION OF STATURE FROM HEAD LENGTH

Dr. Shalini Chaudhary, Dr. Vasudha.R.Nikam, Dr. A.D.Patil,
D.Y.Patil Medical College Kolhapur

The correct determination of stature is a critical requirement in physical anthropology and is considered to be an important assessment in identification of unknown human remains. Many workers have attempted to estimate the stature of the individuals belonging to different races and age groups using different measurements of the body. Head length has been used by some authors to estimate the stature in different age groups. The study was carried out on 200 residents of Kolhapur district. The measurements of head length were taken by sliding caliper. The data was subjected to statistical analysis. Correlation of the head length to the stature was calculated and regression formulae were derived. The details of the statistical results will be presented at the venue.

29. MORPHOMETRIC ANALYSIS OF SUPRATROCHLEAR FORAMEN IN THE HUMERUS OF WESTERN RAJASTHAN POPULATION.

PUSHPA POTALIYA, SUSHMA.K.KATARIA, ABHILASHA DADHICH, SAVITA

To see the racial and sexual differences supratrochlear foramen in the humerus has been studied in 200 dried humeri of known sex from 100 subjects of western Rajasthan (62 males and 38 females). 90% of the subjects showed a aperture or foramen or a transverse thin bony septum at supratrochlear region. Out of 28.5% of total humeri in which septal aperture were seen, maximum were female ie.39%. It was found to be more common on the left side as compared to right side. Findings denied the concept of cause of aperture due to force from olecranon process. The results of present study were also compared with other racial groups. The details of it would be discussed at the time of presentation.

30.IS MIND AN ANATOMICAL TERM?

M. NATARAJAN

Professor, Department of Anatomy, Seth G. S. Medical College, Parel, Mumbai, Maharashtra.

Mind is an english word with widespread usage. In its noun form it is commonly supposed to indicate a medical entity. In medicine it fits primarily into the subject psychiatry. However amongst the subjects taught in the first year, where practically every medical term is introduced, primarily in anatomy, this term finds no place, in its four lettered form. Neither do physiologists dwell on this topic. There are other terms also, like right and left which fall into a similar conundrum, about which an attempt was made to make them official anatomical terms by attempting to define them during the conference at Mumbai, three years ago.

The decade 1991 to 2000 was earmarked by WHO for studying the brain, in which a major part of funding was for research on locating the mind. The conclusion at the beginning of this millenium was that the anterior, supracallosal part of the cingulate gyrus was the most possible site where the mind is located. So we had progressed from midtorso (diaphragm = 'phren'), to upper thorax (thymus), to its most acceptable location the brain, so that the research undertaken is not a waste. This presentation is a suggestion to anatomise a functional term 'mind' by at least defining it in the first year of medical studies, in anatomy, in particular.

An attempt will be made to go into the derivation and varied usages of this term and a synthesis of this analysis will be presented at the conference.

31.ABSENCE OF CORPUS CALLOSUM (AGENESIS) AND ITS CLINICAL IMPLICATIONS – A CASE REPORT

Dr. VILAS. B. HUKKERI

DEPARTMENT OF ANATOMY, BELGAUM INSTITUTE OF MEDICAL SCIENCES, BELGAUM.

Corpus callosum is a large, arched neocortical commissural fibers, which links the medial surface of cerebral

hemisphere of frontal, parietal, temporal and occipital poles except the anterior parts of the temporal lobes. It is responsible for interhemispheric transfer of information which is essential for bilateral responses and learning process.

During routine cadaveric dissection of 1st MBBS students, male donated body 83 year old, I have found out absence of corpus callosum, a rare anomaly in the brain.

The Gross anatomy, development and clinical implications will be discussed at the time of presentation.

32. A Study Of Vertebrobasilar System In Perinates

ANURADHA BARUAH,

ASSOCIATE PROFESSOR, DEPT. OF ANATOMY, ASSAM MEDICAL COLLEGE, DIBRUGARH

AIM: The brain is supplied by branches of the Internal Carotid and the Vertebral Arteries. Although composing 2% of body weight, the brain receives about 17% of cardiac output and consumes about 20% of the oxygen used by the entire body. Therefore a better understanding of the distribution of the arteries is very essential.

MATERIALS AND METHODS: The study was conducted in the department of Anatomy, Assam Medical College, Dibrugarh. For this study human cadavers of 50 perinatal babies of both sexes were taken. Routine dissection procedures were followed to take out the brain.

RESULT: Variations are observed in the formation of basilar artery with one vertebral artery dominating while the other vertebral artery is narrow. The length of the basilar artery, course, termination, its branches and other abnormalities are also observed. Absence of vertebral artery on any side is not observed in this study.

CONCLUSION: Many syndromes have been described as resulting from small infarcts due to occlusion of individual branches of the vertebral and basilar artery. So, a detailed knowledge of the formation, course, branches and termination of basilar artery has its practical importance.

33. PTERION: A SITE FOR NEUROSURGICAL APPROACH

CHANDANA BHARGAVI, VASUDHA SARALAYA, LATHA V PRABHU.

Department of Anatomy, Kasturba Medical college, Mangalore, Manipal University.

The Pterion, the most commonly used neurosurgical landmark, is defined as point of sutural confluence seen in the norma lateralis of the skull. This study is aimed at determining the position of the pterion using the MPZ and FZS as palpable points. Seventy dry skulls (34 male and 36 female) were used for this study. Measurements were taken on both sides of the skull from the pterion to the midpoint of zygoma (MPZ) and to the frontozygomatic suture (FZS) using a Sliding vernier calipers. The distance between pterion to FZS among male skulls on right and left side were significantly different but that of female was not significant. The right and left side distance between pterion to MPZ among male skulls and even in female skulls were statistically not significant. The distance between pterion to FZS and pterion to MPZ on right side and left side of male and that of female skulls were significantly different from each other. So, Gender differences were significant. In the present study the pterion is located more superiorly and more posteriorly in males compared to that of the female on both sides. Since there was minimal side differences among the right and left side measurements of male skulls and also in comparison to female right side measurements to female left side used to locate the pterion, this landmark can reliably be located using the FZS and MPZ according to the sexual differences. This anatomy may render pterional craniotomy safer.

34. SEXUAL DIMORPHISM IN THE CORPUS CALLOSUM.

Dr RAVIKIRAN GOLE, Dr S.D.GANGANE, Dr S.J.PUNDGE.

Each half of the brain is separate and interacts with one half of the body. The reason why we are only aware of oneself is that the two distinct minds are orchestrated into a single personality by the corpus callosum. There is some evidence previously that states females perform better than males the tasks that require interhemispheric transfer.

The aim of the present study was that if an association between callosal anatomy and sex was found, then it would support the notion of anatomical variation as the basis of functional and psychological asymmetry.

Material & methods:- 80 cadaveric brains were taken and the corpus callosum was photographed after taking a mid sagittal section. The photographs were adjusted to actual size and printout were taken on a millimetre graph paper. The corpus callosum was divided into seven regions and there areas were measured. The length and total area of the corpus callosum was also measured and correlated with the weight of the brain.

Results & conclusion:- The total area of the corpus callosum and the anterior midbody was significantly larger in males. As females tend to have a smaller brain size, the measurements of area were correlated with the brain weight. On correlation with the brain weight, significantly positive correlation was found with total area, genu, anterior midbody, posterior midbody and isthmus in males, and in females with total area, posterior midbody and splenium.

35. A STUDY ON HISTOLOGICAL STRUCTURE OF HUMAN MAMMARY GLAND IN REPRODUCTIVE AND POSTMENOPAUSAL AGE GROUP

Santona Thakuria, K.L.Talukdar

Department Of Anatomy, Gauhati Medical College, Guwahati, Assam

The "mammary" or "breast" is a modified, ectodermal, glandular structure located in the superficial fascia of the anterior chest wall. It undergoes various changes during the period of life cycle of a woman i.e. the changes from childhood to puberty, during the menstrual cycle, during pregnancy for preparation of milk and lactation to secrete milk for the nourishment of offspring and finally involutes in postmenopausal years. Worldwide, breast cancer comprises 10.4% of all cancer incidences among women, making it the second most common type of non-skin cancer (after lung cancer) and the fifth most common cause of cancer death. The aim of the study is to ascertain that the research work could contribute to the better understanding of the normal anatomy and its correlation with that of pathological conditions. The study was conducted in the Department of Anatomy, Gauhati Medical College. In each group, i.e. reproductive and postmenopausal age group 10 samples were collected from the fresh unclaimed human cadavers from Department of Forensic and state Medicine. The tissues were fixed, processed and slides were prepared using the standard laboratory procedure of H&E staining. During the study the diameter of lactiferous ducts were measured in both the age group and compared. Significant histological changes were noted in human mammary gland between the two age group. The details of study will be presented at the time of conference.

36. THE EFFECT OF SMOKING ON BUCCAL MUCOSA IN ADULT POPULATION OF RURAL AND URBAN AREAS OF WESTERN RAJASTHAN.

MISS HEM KANWER JOYA, DR.SUSHMA K. KATARIA

The Study was planned on Bidi smokers and Cigarette smokers in Western Rajasthan populations, for finding the effect of smoking tobacco on Buccal Mucosa of Oral cavity.

The study was conducted on 50 healthy subjects, 50 Bidi smokers and 50 cigarette smokers attending at E.N.T.OPD at Mathura Das

Mathur Hospital, Dr. S.N.Medical College and its associated groups of Hospitals, Jodhpur Rajasthan.

Buccal smear were collected from the inferior labial frenulum, adjacent to vestibule. The slides were immediately fixed in 100%, Ethyl Alcohol, stained by papanicolaus staining method and slides were examined under both bright field and phase contrast illumination to determine the prevalence of the cells containing the multinucleated, binucleation, karyolysis and condensed chromatin cells in the smokers.

Multinucleated, binucleated, karyolysis and condensed chromatin cells showed a highly significant relation in Bidi smokers and cigarette smokers when the results were compared with healthy controls ($P < 0.001$). Condensed chromatin cells showed a non significant relation ($P < 0.05$) in Bidi smokers when the result were compared with cigarette smokers.

37. HISTOMORPHOLOGICAL STUDY OF THE THYMUS IN DIFFERENT AGE GROUPS OF HUMAN FOETUS

DR. JAYANTA KUMAR SARKAR

Silchar Medical College, Silchar, Assam

Aim of The study

The study was based on morphological and histological changes of foetuses between 9-38th weeks of gestation.

Materials

The study was carried out on 90 human foetuses in seven groups at G.M.C.H Assam following spontaneous loss, MTP, stillborn and neonatal death without congenital anomalies.

Methods

Thymus was extirpated by dissection and fixed and stained with Haematoxylin & Eosin and Leishman's stain. Parameters were recorded within 24 hours.

Result : Mean weight of thymus and foetus were calculated with standard deviations. The weight of the thymus increased steadily from 9-20 weeks. Thereafter growth rate was more up to 38 weeks of gestation. Therefore, growth rate of thymus with respect to gestational age and body weight of foetuses was nonlinear and relative weight of thymus increased more steeply than the foetal weight. The statistical analysis was done by (ANOVA) GraphPad InStat Software that revealed Pearson's Correlation coefficient (r) = 0.94, 95% confidence interval: 0.85 to 0.98 and Coefficient of determination (r squared) = 0.89. As the r value is closer to +1, the correlation between weights of thymus with respect to gestational age is significant.

Lobulation was evident with pale stained medulla. Lymphocytes were heavily infiltrated by 32 wks in cortex. Hassall's corpuscles which appears in 12-14 weeks increasing their numbers at the end of 38wks.

Conclusion

The relationship of the growth of thymus to gestational age is non linear. The cortico-medullary differentiation starts at 9 weeks and completed by 14 weeks.

38. A COMPARATIVE HISTOLOGICAL STUDY OF LIVER IN ALBINO MICE AFTER MONOSODIUM GULTAMATE EXPOSURE.

TAPATI BHATTACHARYA, A.M. TARNEKAR, M. CHATTERJEE, S.K. GHOSH

Department of anatomy, Medical College kolkata, Monosodium Gultamate known as Ajinomoto is one of the most popular flavouring agent of modern times. It increases the perception of sweetness and diminishes the sourness and bitterness of food and responsible for creating Umami taste sensation in brain. It was extensively used in packed food, chinese cuisine and baby food. It is a powerful neurotransmitter and essential Amino Acid. After 1950's it is proved toxic to human as well as in experimental animal. As it was used in baby food its toxic effect in liver in adult life is a matter of debate. So in this experiment mice were exposed

to Monosodium Gultamate by giving 5 subcutaneous injections in neonatal

period. Animals were sacrificed after 75 days and liver was studied histologically. Characteristic dose dependent changes were found in liver when compare to control animal. These findings will be discussed with documentation in conference.

39. HISTOGENESIS OF SUPRARENAL GLANDS AT DIFFERENT GESTATIONAL AGE GROUPS

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GEMS, Srikakulam, S.V.Medical College, Tirupati, SV Institute of Medical Sciences Tirupati, Andhra Pradesh

AIM OF THE STUDY: To study the Histogenesis of Suprarenal Glands at Different Gestational age groups.

MATERIALS: Twenty Eight formalin preserved dead embryos and fetuses of both sexes, obtained from the Govt. Maternity Hospital & S.V.Medical College, Tirupati. Andhra Pradesh.

METHODS: Specimens were grouped according to their gestational age groups (A,B,C,D) A= 0-12 weeks, B= 13-24 weeks, C=25-36 weeks and D= more than 36 weeks of gestation. Specimens from group A were subjected to serial section as this group consists of embryos, and other groups were sectioned coronal and subjected to routine Histological processing for H&E Staining. Sections were observed for Cellular Details under light microscopy with 10X and 40X magnifications, and the same were photographed by microphotography.

RESULTS: Based upon the gestational age groups, histogenesis of the suprarenal gland observed and correlated with the available literature, and the detailed results, discussion will be discussed at the time of presentation.

CONCLUSIONS: Histological observation of the all the specimens observed in the present study are in agreement with those reported in the literature excepting that they appeared earlier in the present study than that reported in the literature. Capsule of supra renal gland appeared at 12 weeks, sympatho-chromaffin bundles appeared before 6 weeks and zonation of cortex was observed at 8 weeks in the present study when compared to the time of appearance reported in the literature as 14 weeks, after 6 weeks and after 12 weeks respectively in the literature.

40. HISTOLOGICAL EFFECTS OF PYRETHROID INHALATION ON LUNG AND CNS – AN EXPERIMENTAL STUDY IN ALBINO RAT

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Department of Anatomy, Department of Pharmacology* J. N. Medical College, A.M.U., Aligarh.

Aim: Pyrethroid based mosquito repellents are commonly used in developing countries throughout the year. This leads to continuous exposure of these toxic agents for prolonged period. Neurotoxic effects of pyrethroids have been reported earlier but studies regarding their effects on respiratory system are scanty inspite of its direct and maximal exposure.

Material and Methods: Twelve albino rats were divided into control and experimental groups of six animals each. Experimental rats were exposed to 3.2% w/v prallethrin vapours 12 hourly daily for 180 days. Control animals were kept under identical conditions without exposure to said repellent. All the rats were perfused with 10 % formalin and histological sections were obtained from lung, cerebral and cerebellar cortical tissues. Sections were stained with H/E, thionin and V.G.

Results: Cerebral cortex showed loss of cellular details along with presence of inflammatory cells. Cerebellar cortex depicted degenerated and irregularly placed Purkinje cells with separation of medullary layer. Lung parenchyma presented peribronchial and peribronchiolar infiltration of inflammatory cells and dilatation, congestion and proliferation of the capillaries.

Conclusion: Prolonged pyrethroid inhalation produces chronic inflammatory changes in lung and CNS. A planned study is further needed to find out the reversibility of aforementioned changes.

41. SCANNING ELECTRON MICROSCOPY OF ERYTHROCYTES OF ALUMINUM TREATED RATS: REVERSAL OF MORPHOLOGICAL ALTERATIONS BY BRAHMI (BACOPA MONNIERA)

MAHDI HASAN*, SANDEEP TRIPATHI**, ABBAS ALI MAHDI** & KALYAN MITRA***

Department of Anatomy*, Department of Biochemistry**, C.S.M. Medical University and CDRI***, Lucknow

Aluminum is found in soil (8.3% in earth's crust), water, air (dust and air exhaust), industries, food 1-20 mg/day (in processed cheese), baking powder, cookware and pharmaceuticals (antacids, vaccines, buffer in drugs). Aluminum absorption through intestine increases with age. On the other hand, the efficacy of blood brain barrier (BBB) declines with advancing age. Transferrin is a common receptor both for iron and aluminum. Transport of aluminum is likely to alter the morphology of erythrocytes. Male rats were administered Aluminum chloride 100 mg/kg b.w. for 90 days by gavage method (n=6), while the control group (n=6) received equal volume of physiological saline. The third group of rats (n=6) were co-administered B. monniera extract + 100 mg AlCl₃ for 90 days. Fixation of red blood cells was accomplished by 3% glutaraldehyde and standard processing for SEM was done, using critical point drying method and sputter-coating. While remarkable deformation of the surface ultrastructure was detected in the aluminum treated rat erythrocytes, the ones co-administered AlCl₃+ Brahmi exhibited great majority of almost normal-looking RBCs. Thus protection by Brahmi was apparent.

42. COMPARATIVE STUDY OF MORPHOLOGY AND HISTOLOGY OF MAMMALIAN TONGUE

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& RC, DIGDOH HILLS, HINGNA ROAD, NAGPUR.

The tongues of mammals share certain important characteristics, but there are also important differences. It varies in form and size and demonstrates morphological diversity that is greatly influenced by feeding habits. The dorsal surface of the oral part shows the lingual papillae. On the basis of their appearance four types of papillae can be distinguished – filiform, fungiform, circumvallate and foliate papillae. Taste buds on the mammalian tongue are confined to the epithelium of three types of gustatory papillae: the fungiform, circumvallate, and foliate. 10 cadaveric tongues of human, rabbit, rat, pig, buffalo, bull, goat and sheep (10 mammals with 10 specimens each & tissue from anti 2/3, sulcus terminalis, lateral area, post. 1/3 pharyngeal, & at the root areas of the tongue are taken for histological studies. All the samples are fixed in Bouin's fluid. After paraffin-embedding, 5-7 micron thick are cut and mounted serially & stained with H & E stain and special stain. The following significant points are noted. In Rat, Rabbit, Goat, Dog, Pig, and Buffalo, the anterior part of the tongue is longer. Intermolar eminence is present in the tongue of Rat, Rabbit, Goat, & Buffalo. Three sub types of filiform papillae have been noted in Rat, Rabbit, Goat, and Buffalo tongue. These are simple conical, giant conical, and true filiform papillae. Soft conical papillae are present in the pharyngeal part of the Dog and Rat tongue. These are longer in the tongue of Dog. Fungiform papillae are well developed in goat tongue. Single circumvallate papillae have been noted in rat tongue and is surrounded by incomplete trench. Circumvallate papillae in goat tongue form double row on the posterolateral part of the intermolar eminence. Foliate papillae are well developed in the tongue of rat, rabbit and dog, rudimentary

in human, absent in goat tongue. All of the circumvallate, foliate papillae and most of the fungiform papillae bear taste buds. Comparison with Human tongue will be presented at the time of presentation.

43. HISTOLOGY OF THE DEVELOPING HUMAN FEMUR

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Development of long bones at various gestational ages in fetus has always been a subject of interest for many clinicians. Some morphometric parameters such as length etc. are considered as standard parameters for evaluation of gestational age of the fetus. However, much emphasis is not laid upon to assess the histological changes in these age groups.

Therefore, the present study was undertaken to determine the various steps occurring in a growing bone. 14 fetuses obtained from the Deptt. Of Obstetrics and Gynaecology which were sent to the Deptt. Of Anatomy for routine fetal autopsy, were selected for microscopic study of femur. The right femora were extracted and transverse and longitudinal sections from both epiphysis and diaphysis were taken and stained with hematoxylin and eosin.

The epiphysis of the growing bone exhibited the formation and proliferation of different zones in different age groups. Also, formation and distribution of distinct cartilage canals has been evidenced as early as 14 weeks of gestation. The diaphysis showed the formation of cancellous bone starting from the centre of diaphysis and spreading towards both upper and lower ends. The above observations are discussed in the light of available literature. Key words: Femur, Developing bone, Cartilage canals, Cancellous bone

44. HISTOLOGY SLIDES FROM CADAVERS-OUR EXPERIENCE

Poonam Singh, Anu Sharma, Anshu Soni

Dayanand Medical College and Hospital, Ludhiana-Punjab

Scarcity of human histological slides and routine wear and tear prompted us to experiment making slides from tissues taken from cadavers. We took 3-5mm tissue from various sites and did the routine processing and staining. The successes and failures of our endeavors will be presented in the paper

45. BILATERAL NASAL PROBOSCIS WITH ABSENT NOSE — A RARE ANOMALY

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Nasal proboscis is a rare craniofacial malformation with rudimentary tubular nose like structure located off centre from vertical midline of face, most of the case arising from medial orbital roof.

Aim: Study the associated embryological defect of bilateral basal proboscis

First described by Foster in 1861. In 1884, Selenkoff reported proboscis lateralis. Koo provided a review of 34 cases in 1894 on proboscis lateralis. Proboscis lateralis is a rare anomaly with reported incidence of 1: 100000. Bilateral nasal proboscis is very rare with very few cases reported and review of literature regarding bilateral nasal proboscis free downloads not available.

Boo chai classified proboscis lateralis to 4 groups.

Group 1 - normal nose with proboscis lateralis.

Group 2 - nasal abnormalities with ipsilateral proboscis.

Group 3- eye or other adnexial defects occur besides ipsilateral nasal defect.

Group 4 - nasal anomaly, ocular defect, cleft palate.

Gross findings- Dissection done in Department Of Anatomy, Govt Medical College Thrissur in an IUD fetus of 28 weeks got from Department of Gynaecology Govt Medical College Thrissur, showed bilateral nasal proboscis of size 1 x .5 cm and 1 x .5 cm (length

x diameter) on both sides near median orbital wall with absent nose and a small central tract which ended blindly. Proximal end of canal was blind showing no connection with nasal cavity. Malformations associated were microphthalmia of right eye with microcornea of 3mm diameter. Left eye appeared normal with cornea of 5.5mm diameter. Left ear was low set 1cm below lateral angle of left eye. Cleft palate was present with no associated cleft lip. Photographs of all anomalies were taken. Heart and lungs showed no gross anomaly. Kidney on right side was 2.1 cm and left 2.6cm in length. Liver was flattened and small. Umbilical cord showed no anomaly. Fetus lacked nasal bone. Brain could not be examined as it was mutilated.

Histological finding : Sections of proboscis showed stratified epithelium lining the lumen with hyaline cartilage in each section. Histology of umbilical cord was normal. Photographs of histology slides included.

We regard this anomaly as gene mutation or an abnormality of blastogenesis with early damage to organizing tissues of frontonasal region as it occurs along the embryonic fusion line between the maxillary process and the frontonasal process.

Details regarding the developmental anomaly associated with bilateral nasal proboscis to be discussed during presentation.

46. STUDY OF PLACENTAL SIZE AND ITS GROSS ABNORMALITIES ON INTRAUTERINE GROWTH RETARDATION IN HIGH RISK PREGNANCIES

ABHILASHA DADHICH*, DR. SUSHMA K. KATARIA, PUSHPA POTALIYA, ANJU CHOUDHARY.

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Aim: The aim of the study was to determine the relationship between placental size and its gross abnormalities (histological lesion) with insufficient fetal growth.

Materials & Method: 111 patients with suspected intrauterine fetal growth retardation were studied. After delivery all the subjects was divided into two groups control and research group according to their birth weight. Placental thickness, placental weight, cords insertion were observed and routine histological examination were performed. The new born were weighed and fetoplacental weight ratio was calculated.

Results: Mean placental thickness was larger in control group. Mean placental weight was statistically significantly less in research group than in control group. The fetoplacental weight ratio and place of cords insertion didn't show statistically significant difference. Multiple placental infarction was prominent in research group but 21 cases showed no histological abnormalities.

Conclusion: Placental weight and thickness are associated with intrauterine growth retardation cord insertion place has no effect on fetal growth. Multiple placental infarctions are only lesions found during routine histological examination

47. A STUDY ON CONGENITAL ANOMALOUS HANDS

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Congenital hand deformities are the result of defect of four independent developmental processes like morphogenesis, cell differentiation, pattern formation & growth. The objective of this study was to determine the embryogenic basis and anatomical factors causing the various anomalous hands, which will act as a guide in planning the surgical procedures for correction of the deformities.

During a period of two years of study (2008-2010) five cases of thumb Polydactyly, one case of complicated Syndactyly and one case of Cleft hand, the age group ranging from new born to six years, were reported from the Department of Paediatrics, S.C.B. MCH, Cuttack. They were photographed, analysed and a pedigree analysis was done.

By 10th wk, all musculoskeletal elements in human embryonic limbs are in their appropriate position. But sometimes relevant anomalies occur due to altered embryological development of limb buds. The Polydactyly results from inappropriate splitting of the anlage and the Syndactyly may occur due to separation failure between sixth to eighth week of intrauterine life. Cleft hand occurs if the interdigital indentation would occur in the middle of the long finger instead of on both sides of it along with necrosis of condensed mesenchymal cells of the bone matrix. There is need for reinterpretation of Hox gene expression in the developing limb in recent advances and thus knowledge of these anomalies are of considerable importance to the Hand Surgeons because if they are left untreated, they can be "a functional triumph, but a social disaster"

48. CONGENITAL MUSCULOSKELETAL DEFECTS—A STUDY IN NEWBORNS

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A clinical study of a spectrum of congenital malformations, its incidence and the role of environmental factors in the causation of these congenital malformations was undertaken in 7268 births in the dept of obstetrics and gynaecology, S.C.B. Medical College hospital.

The study was carried out for a period of 1 year from 1st of May, 2008. The babies were examined within first 3 days of delivery. All live babies born during this period along with still born after 28 weeks of gestation or whose weight was above 1kg were included in the study. Products of conception expelled by midtrimester abortion were not included in the study.

In this study the incidence of congenital malformations of neonates per thousand births was found to be 15.9. The commonest system involved was musculoskeletal system (22.4%).

The various musculoskeletal defects were observed in 32 cases out of the 116 malformed babies. Talipes was the commonest malformation seen (15 cases). One case each of cleft hand, cleft foot, myotonia congenita & absent pectoralis major was seen. Polydactyly was the 2nd most common abnormality seen in our study. It was usually seen in babies with other associated defects.

49. A STUDY ON RESULTS OF FOLATE SUPPLEMENTATION ON TERATOGENIC EFFECTS OF THE ANTICONVULSANT LAMOTRIGINE IN MICE

PRAKASH, JAYANTHI V, T RAJINI, ARCHANA R, GEETHANJALI B S, SIVACHARAN P V, GAJENDRA SINGH.

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Present work has undertaken to study the impact of folic acid supplementation on lamotrigine caused teratogenicity at different dose levels in mice.

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-- Folate 50 ug/kg body weight equivalent of 0.4mg of adult human dose in 0.5 ml saline per 20 g body weight was administered at three different gestational stages including early gestation (1-6 days), mid gestation (7-12 days), and late gestation (13-17). The fetuses were collected from uterus of pregnant mice on day 18 of gestation and were observed for gross changes, malformations and histological changes.

Lamotrigine administration along with folate supplementation resulted in statistically significant decrease in teratogenic

manifestations during early gestation (1-6 days), and mid gestation (7-12 days) in all treated groups. On the other hand no significant decrease was seen in late gestation (13-17 days) administration in all treated groups. Similar trends were confirmed by gross and microscopic examinations of brain.

Folate supplementation with lamtrigine administration should be considered during early pregnancy, as far as fetal well-being is considered.

50. BILATERAL INCOMPLETE DISCOID LATERAL MENISCUS: A CASE REPORT FROM MANIPAL

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Abstract We report a case of bilateral discoid lateral meniscus which was observed in the knee joints of a female fetal cadaver. It was an incomplete type of discoid meniscus, observed on both the sides. The morphology, embryological basis and clinical implications of this anomaly are discussed. The basic knowledge about this anomaly is enlightening for the orthopedic surgeons who are involved in the management of knee problems in day to day practice. The information is also important for the morphologists and embryologists.

51. OTOCEPHALY ASSOCIATED WITH LUNG HYPOPLASIA, CARDIAC AND GUT ANOMALIES —A RARE CASE REPORT

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Department of Anatomy, Pt. B. D. Sharma PGIMS Rohtak

ABSTRACT Otocephaly is characterized by mandibular hypoplasia, agnathia, ventromedial auricular malposition, microstomia with oroglossal hypoplasia or aglossia. It is an extremely rare anomaly with frequency of less than 1 in 70,000 births. First branchial arch anomalies account for less than 8% of all branchial arch anomalies. Their rarity and diverse presentation have frequently lead to misdiagnosis. A 25 year old primigravida was admitted with 28 weeks amenorrhea and preterm labour pains. History revealed nothing significant. Per abdomen examination of patient showed increased liquor. She underwent USG, which showed 28 weeks fetal maturity, proboscis, hypotelorism, low set ears with no other anomaly. Sagittal, coronal MRI was done which confirmed USG findings. In addition to that, mandible was found absent and there was a single umbilical artery. Pregnancy was terminated and autopsy confirmed all above findings. Additional findings were stomatodeum was seen. Lips, mandible and palate were not formed. Eyes were obliquely placed, protruded and open. Buccopharyngeal membrane was present. Tongue was vertically placed. Sphenoid bone was placed just above the tip of tongue. Nasopharynx and oropharynx were not well formed. Thorax showed hypoplastic lung and enlarged heart. Cut section of heart showed hypertrophied ventricles. Abdomen showed nonfixed ascending colon. All the above findings confirmed that life was not possible for the fetus. This was a case of grade 5 otocephaly with associated anomalies. It could be a result of genetic or chromosomal mutation or teratogen. Surviving babies of otocephaly pose a significant challenge for reconstructive and rehabilitation specialists. Together with good understanding of embryology and anatomy, diagnosis can be made earlier at the time of initial presentation and has potential for the best treatment outcome.

52. MALROTATION OF GUT WITH ASSOCIATED ANOMALIES.

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GOVERNMENT MEDICAL COLLEGE, MIRAJ.

ABSTRACT:

Sound knowledge of relevant anatomy of abdomen is very crucial. The present study aims to detect morphological variations in gastrointestinal tract. During routine dissection in 2 consecutive years from 2009-2011, we dissected 24 cadavers of which only one cadaver showed significant variations. In a 70 year- old male donated cadaver, we found that the caecum was in right hypochondriac region below the liver, all the 3 parts of duodenum were mobile & the common hepatic artery originated from superior mesenteric artery. The present study confirmed variations in the G.I.T. in the form of malrotation of gut along with unusual origin of common hepatic artery. There were no other anomalies detected. Embryological basis of this will be discussed.

53. FEMORAL ARTERY PASSING IN FRONT OF THE FEMORAL VEIN: A RARE RELATIONSHIP IN THE FEMORAL TRIANGLE.

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Key words: Femoral artery, anatomical variation, right lower limb
Variation is a rule in anatomy. Anatomical variations of the femoral vessels within the

femoral triangle has been widely documented in the literature. Although these variants rarely lead to clinical manifestations, technical difficulties can take place during surgical procedures. The femoral vessels are commonly utilized for various clinical procedures, particularly for arterial and venous cannulation. We report the case of complete transposition of the femoral artery and vein within the femoral triangle. The femoral artery is a continuation of the external iliac artery below the inguinal ligament. In the femoral triangle it is commonly found lateral to the femoral vein. During a routine dissection, a variation of the femoral artery was found passing in front of the femoral vein in the right lower limb of a 50-year-old male cadaver. This case is reported because of its rare occurrence in the literature. The variation is discussed on the basis of the possible embryological development of the lower limb arteries. This has got a clinical relevance as arteriovenous fistulas can occur in the groin region as a complication of the percutaneous angioplasty or cardiac catheterisation of the femoral vessels. A crossing deep femoral artery in front of the femoral vein may also cause obstruction to the femoral vein. This reported variation must also be regarded as a possibility during the surgical repair of femoral hernias.

54. Neurobehavioural Teratogenicity Of Zidovudine : An Experiment on Two Generations Of Mice

CH. RAJLAKSHMI, ASIMA BHATTACHARYYA, ANSHUMAN TRIGUNAYAT, BL PANDEY

Zidovudine is administered to pregnant women with HIV to prevent vertical transmission of the disease. Several animal studies reported behavioural alteration in zidovudine prenatally exposed offspring, possibly resulting from an action of this drug on CNS targets. The aim of the present study was to assess the neurobehavioral effects of one-stage zidovudine exposure during pregnancy and lactation in F1 and F2 generation of mice. Zidovudine (50 mg / kg/ day) was administered to female Swiss mice given orally from day 8 of gestation through pregnancy and upto day 10 of postnatal life. Control mice were given equal volume of distilled water. Ten F1 generation mice (60-90 days age) each of control and treated line underwent neurobehavioural testing for propensity towards anxiety and disturbances of learning and memory in the open field test, elevated plus-maze and Morris water-maze test. F1 generation mice were crossed to produce F2 mice. On attainment of 60-90 days, ten F2 mice of control and treated line each were also subjected to same neurobehavioral testings. Perinatal Zidovudine exposure caused significant decreased mobility suggesting certain degree of anxiety in F1 mice whereas the contrary is true in F2 mice. No derangement of motor activity was detected at maturity in the zidovudine exposed generation of F2 mice whereas reduced motor

activity was observed in F1 mice. Results of elevated plus maze test and Morris water maze test will be discussed along with the graphs in the conference. Overall result suggests that neurobehavioural functions are affected in F1 generation and recovery in F2 generation.

55. MORPHOMETRY OF THE PALMARIS LONGUS TENDON: A PILOT STUDY

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Aim of the study: To find whether the length and width of the palmaris longus tendon could be estimated by measuring the forearm length

Materials and Methods: We examined 20 forearms and dissected out the tendons to measure their lengths and widths. The width of the tendon was measured at its maximum width. The forearm length were measured from the styloid process of the ulna to the tip of the olecranon in neutral position.

Results: The mean length and width of the palmaris longus tendon were 14.3 cm & 0.69 cm. The mean forearm length was 27.07 cm. A significant correlation ($p < 0.05$) was found between the length and width of palmaris longus tendon and forearm length.

Conclusion: The results of this study indicate that the length and width of palmaris longus tendon can be estimated based on forearm's length. This estimation might be useful for surgical intervention.

56. VARIATIONS OF ANTERIOR CEREBRAL ARTERY IN HUMAN CADAVERS.

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Anterior Cerebral Artery is an important terminal branch of internal carotid artery. It forms the anterior component of circle of Willis along with the anterior communicating artery. The knowledge of anatomical variations in anterior cerebral artery is of considerable help to the neurosurgeons. Morphology and variations of the anterior cerebral arteries and the anterior communicating artery were studied on 88 formalin preserved brain. Anterior part of the circle of Willis was exposed. Branching pattern and course of the anterior cerebral artery and anterior communicating artery were observed and the variations were sketched and photographed. The diameter and length of the proximal segments of the anterior cerebral artery (ACA), distal segments of the anterior cerebral artery (DACA) and anterior communicating artery (ACoA) were measured. The diameter is measured by vernier caliper. Length is measured by the thread and reading was taken by measuring scale. Variations were found in 28% cases (25/88). Variations of the size, course, segments, communications and terminations of the anterior cerebral artery were noted. The mean diameter and length of the ACA was 3.2 mm and 15.5mm, ACoA was 2.4 mm and 3.3 mm and DACA was 2.5 mm and 43.9 mm respectively. These and other observations like hypoplasia and aplasia of ACA, azygos ACA, double ACoA, extra communications, aneurysm, variation in the DACA in its terminal branches were seen and findings were compared with those of the previous workers. Findings of significant variations shall be discussed during presentation.

57. VARIANT ANATOMY OF CYSTIC ARTERY

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Rural Medical College (PIMS) Loni Tal- Rahata dist- Ahmednagar
Variations in the arterial supply of the extra hepatic biliary apparatus are common and surgically very important. In a study carried on extra hepatic biliary apparatus in 34 cadavers at rural medical College, Loni, we found variations in the origin and course of cystic

artery. Cystic artery originated from right hepatic artery in 94.12 % of cases and the rest were aberrant. Out of the aberrant cystic arteries, the replaced arteries originated from hepatic artery proper or common hepatic artery while accessory arteries were observed to originate from hepatic artery proper, aberrant right hepatic artery or right hepatic artery itself. Origin of cystic artery from right hepatic artery within the Calot's triangle was seen in 21 cases and outside the Calot's triangle was seen in 11 cases. Aberrant cystic arteries were observed to originate outside the Calot's triangle in 6 cases. Out of 17 cystic arteries arising outside the Calot's triangle, 11 arteries crossed the hepatic duct anteriorly, 3 crossed posteriorly, 1 crossed the common bile duct posteriorly and 2 did not cross the common hepatic duct or common bile duct at all. These variations make the cystic artery prone to injuries during surgical procedures of extra hepatic biliary apparatus. The clinical significance of these variations will be discussed during the paper presentation.

58. STUDY OF WORMIAN BONES IN DRIED HUMAN ADULT SKULLS

SHIVALEELA C., SARITA SYLVIA, K SANDHYA, V B NANDYAL, S R MUTTAGI.

structural skull matrix in response to discrete changes. The present study describes wormian bones seen in 47 out of 108 dried human adult skulls at different sites. Wormian bones and its applied aspects will be **M R Medical College, Gulbarga.**

Wormian bones are isolated bones of variable sizes and shapes found at or near sutures and fontanelles. These cases display the possibility of discrete diversification of the ossification centres, as well the relative stability of the discussed during the presentation.

59. A STUDY OF THE VARIATIONS OF THE GREATER PALATINE FORAMEN: THE KEY TO SUCCESSFUL PALATAL ANESTHESIA

DR. NAMITA SHARMA
DR. RS GARUD²

The greater palatine foramen (GPF) is of tremendous clinical importance not only while doing an intraoral maxillary nerve block but also, while repairing a cleft palate, a muco-periosteal flap needs to be raised on the greater palatine artery and to approximate such flaps in the midline, the medial edge of the foramen might require nibbling.

This study, done on 81 adult human skulls, aims at measuring the distance of the GPF from adjacent anatomical landmarks including the mid-palatine suture, posterior palatine border, pterygoid hamulus and incisive canals using a vernier caliper with a precision of 0.01mm. The right and left distances were evaluated for bilateral symmetry.

Other parameter included the position of the foramen as related to the maxillary molars, patency of the canal, direction of the foramen (this being of clinical interest as a laterally directed foramen would be difficult to negotiate and in the present study was seen in only 3 skulls) and the presence of lingular projection which, if present, would aid in the intra surgical location of the foramen by being easily palpable.

Two skulls showed the **complete unilateral absence** of the greater palatine foramen. This has not been reported in the available literature. In one of these skulls, the ipsilateral lesser palatine canals were present and one can conjecture the passage of the greater palatine neurovascular bundle through the lesser canals. However, in the other skull, both greater and lesser canal were absent, associated with other gross foramen abnormalities including the complete absence of the ipsilateral carotid canal, which, though rare, has been reported.

60. RARE ANOMALOUS ARTERIAL SUPPLY OF LIVER

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ABSTRACT : The variations and anomalies of arterial supply of various organs have been reported in the text books and literature in the past. The presence of accessory and aberrant arteries supplying the liver has also been reported. The accessory or aberrant arteries of liver are usually described from the artery of foregut i.e. coeliac trunk but sometimes accessory artery has been reported from superior mesenteric artery. In the present study a rare anomaly was found in the arterial supply where the arteries supplying the right and left lobes of liver were arising from two different sources. The artery supplying the left lobe was arising from the left gastric artery and entering the porta hepatis separately. The artery supplying the right lobe of liver, gall bladder and cystic duct was arising from superior mesenteric artery and entering porta hepatis. Thus there were two arteries, one supplying the right lobe of liver, gall bladder, cystic duct and common bile duct from superior mesenteric artery, the artery of midgut and one artery from left gastric artery, a branch of coeliac trunk, the artery of foregut and supplying left lobe of liver. The study was followed further in 24 cadavers in consecutive years but however this type of anomaly was not found in any other cadaver so far. Such anomalous arterial supply of liver was not found to be reported in the available literature.

61. EVOLVING SIGNIFICANCE OF HUMAN MITRAL COMMISSURES IN CARDIAC ANATOMY

DR.M.KAVIMANI. M.B.B.S. ,M.S

Balaji Medical college, Chrompet .Christilda Felicia jebakani, Retired director, Madras Medical College .

AIM: Aim of the present study was to analyse the morphologic and morphometric details of the human mitral commissures.

PLACE OF STUDY: This study done was in the department of Anatomy at Madras Medical College, Chennai.

MATERIALS AND METHODS: 45 fresh normal human postmortem heart specimens were taken at autopsy from the Institute of forensic medicine, Madras Medical College, Chennai, within 24 hours from the time of death

The postmortem specimens were collected from 25 male and 15 female adults and who had died due to non-cardiac causes mostly from road and train traffic accidents. There was no evidence of cardiac disease. Full term foetal specimens were also collected from the institute of Obstetrics and Gynaecology, Egmore, Chennai.

OBSERVATION: All the specimen shows two commissures.. Average length and breadth of the commissures are measured. In advancing age Commissures are increased gradually.

CONCLUSION: The present study will be useful for cardiologists and cardiac surgeons in, invasive cardiology and surgical reconstructive of mitral valves. The morphometric analysis is useful for cardiac surgeons for commissuroplasty and commissurotomy.

62. SACRUM WITH FIVE PAIRS OF SACRAL FORAMINA

DR. RAJANI SINGH

CSM Medical University, Lucknow. UP

Abstract: Normally, the sacrum is formed by fusion of five sacral vertebrae and it possesses four pairs of sacral foramina. But, a sacrum with five pairs of foramina is an anatomical variant. An unusual gross variation nurtures interest of anatomists and causes concern for clinicians when it mimics a pathology. The author observed a sacrum with fifth anomalous pair of sacral foramina which prompted her to scan the available sacrum in the osteology lab of Department of Anatomy CSM Medical University Lucknow, UP, India. Thus, the purpose of this study is to analyse the anomaly and to bring out its clinical implications. Five pairs of sacral foramina develop due to incorporation of an extra vertebra at cranial end due to fusion of L-5 to S-1 vertebra known as sacralisation of lumbar vertebra and at caudal end due to fusion of Co-1 to S-5 vertebra in

the sacrum. Of the total sixty six observed sacra, sacra with five pairs of sacral foramina due to sacralisation of lumbar vertebra were found in eleven cases (16.6%) while those due to sacralisation of coccygeal vertebra were observed in nine cases (13.6%). Sacralisation of lumbar vertebra may compress the fifth sacral nerve causing sciatica and back pain. It may cause herniation of disc above sacralisation. Sacralisation of coccygeal vertebra may influence the caudal block anaesthesia in different surgical procedures and also result in prolonged second stage of labour and perineal tears.

Keywords : anatomy, Coccyx, Sacral foramen, Sacrum, vertebra

63. RADIAL AND MUSCULOCUTANEOUS NERVE CONTRIBUTION TO BRACHIALIS IN THE INDIAN POPULATION

Dr. Shalini Chaudhary, Dr. R.S.Humbarwadi, Dr. V.R.Nikam, Dr. A.D.Patil

D.Y.Patil Medical College Kolhapur

A study of the innervations of the brachialis muscle was carried out on 40 upper limbs of 20 embalmed Indian cadavers. In all specimens, brachialis was supplied by musculocutaneous nerve while only 70% (28/40) cases received branch from radial nerve. Among the brachialis muscles with a dual nerve supply, two patterns of branching from the radial nerve were observed: in one pattern the branch to the brachialis had a descending course and in other pattern the nerve recurred to innervate the muscle. These anatomical facts have implications for humeral surgery including both anterior and anterolateral approaches as brachialis with a dual innervations may be spared significant denervation. The basis for the dual innervations may result from fusion of two different embryonic muscular primordia. Details of the observations will be presented in conference.

64. "OSSIFICATION OF INTERSPINOUS AND SUPRASPINOUS LIGAMENTS OF ADULT 5TH LUMBAR VERTEBRA"

PRAVEEN KUMAR, DR. S. SARITHA

S.V.S MEDICAL COLLEGE, MAHABOONAGAR, AP.

Human beings vertebral column plays an important role in stability and weight transmission. The vertebral column is the site for many orthopaedic disorders, pathological or developmental, like low back pain, kyphosis, scoliosis and spondylitis.

During routine osteology classes, processed bones from the department of Anatomy, S.V.S. MEDICAL COLLEGE, MAHABOONAGAR, Unusual general features were found in 5th lumbar vertebra. It was ossification of interspinous & supraspinous ligaments of vertebra which are features of Ankylosing Spondylitis.

Ankylosing Spondylitis is a chronic disease characterized by progressive inflammatory stiffening of joints due to ossification of ligaments of vertebrae. Ankylosing spondylitis has a predilection for mainly the axial skeleton.

Ossification of interspinous & supraspinous ligaments is possible due to proliferation of fibroblasts or chondroblast cells in the region in response to external stimulus.

The present study is to highlight the students with its clinical application and possible role in pathogenesis of low back pain in Ankylosing spondylitis.

65. LOCATION AND INCIDENCE OF THE ZYGOMATICO-FACIAL AND ZYGOMATICO-ORBITAL FORAMINA IN DRY HUMAN SKULLS: AN ANATOMICAL STUDY

MANGESH LONE, ANJALI TELANG, LATA MUNDE, LAKSHMI RAJGOPAL, PRITHA BHUIYA. DEPARTMENT OF ANATOMY, SETH GSMC AND KEM HOSPITAL, MUMBAI

Aim of the study : To study the incidence, location, and the number of the zygomatico-facial and zygomatico-orbital foramina in dry

human skulls.

Materials and methods : Seventy adult human dry skulls were studied. The incidence of zygomatico-facial and zygomatico-orbital foramina were noted. Measurements were made to analyse the degree of variability in the location of zygomatico-facial foramina by dividing the zygoma in four regions (A, B, C, and D). All measurements and variations were done and noted bilaterally.

Results : In the present study the number of zygomatico-facial foramen were found to be in the range of 0-3, location wise it was found that the incidence was more in the 'C' region but the incidences in other regions were also statistically significant. The measurement of distances of the zygomatico-facial foramen from important surgical landmarks also showed differences from the literature of studies in other populations.

Conclusion : The anatomical and surgical implication of the measurements and variations found will be discussed in the conference.

66. A STUDY OF THE SHAPE, HEIGHT AND LOCATION OF THE LINGULA IN DRY MANDIBLES

DR. BHARAT P. THAKRE DR. PRITHA S. BHUIYAN

Seth G. S. Medical College, Mumbai.

Introduction: Lingula is an important clinical landmark which is to be identified for performing bilateral sagittal split ramus osteotomy. Lingula is used for locating the site for injection of the local anesthetics to operate on the mandible.

Aim: To study the shape, height and location of the lingula in relation to the mandibular ramal landmarks.

Material and Method: Dried mandibles were included in the study without sex differentiation. Shape of the lingula was studied in 100 mandibles and classified into four types i.e., triangular, truncated, nodular and assimilated. 120 sides of the mandibles with at least a premolar and a molar were studied for various measurements, using sliding caliper.

Result: The most common shape was 'triangular' and the least common was 'assimilated'. The mean height of the lingula was 7.76 mm. The mean distance of the lingula from anterior border, posterior border and notch of the mandibles was 17.37 mm, 15.96 mm and 16.25 mm respectively. The mean distance from distal surface of the second molar was 30.71 mm. In 103 sides the lingula was located below and in 17 sides above the occlusal plane of the molars. The mean width of the mandibular foramen was 3.32 mm.

Conclusion: This study provides additional information to the literature concerning shape, height, and location of the lingula. Thus, this study will assist surgeons to locate the lingula and avoid intraoperative complications.

67. A Study of Branching Pattern of Femoral Artery in Femoral Triangle in Cadavers

Dr Kulkarni Shripad Prakashrao, Dr. M. Natarajan

Introduction: The exact knowledge of branching pattern femoral artery helps in avoiding injuries to arteries during clinical procedures in this region by surgeons and radiologists.

Materials and Method: Ramification pattern of femoral, profunda femoris, medial and lateral circumflex femoral arteries, their position of origin and distances of origins from mid-point of inguinal ligament studied in 60 lower limbs of 30 cadavers during educational dissection.

Results: The level of origin of profunda femoris was varying from 15-70mm from mid-point of inguinal ligament. The profunda femoris originated posteriorly from femoral artery in 32 cases. Left profunda femoris origin found more proximal than right. Medial circumflex femoral artery was originating from femoral artery on 24 cases on left and 7 cases on right side.

Conclusion: The origin of profunda femoris artery in our study is placed more proximally than other studies. It originated laterally

from the trunk of femoral artery when closer to inguinal ligament. Medial circumflex femoral artery was originating from femoral artery more frequently than lateral circumflex femoral artery.

68. A MORPHOLOGICAL STUDY OF THE PALMAR ARTERIAL ARCHES IN CADAVERS

ANJALI TELANG, MANGESH LONE, LATA MUNDE, LAKSHMI RAJGOPAL, PRITHA BHUIYAN
DEPARTMENT OF ANATOMY, SETH GSMC AND KEM HOSPITAL, MUMBAI

Aim of the study:

To study the pattern of arterial arches of hand and its variations.

Material and method: Thirty hands of fifteen formalin fixed cadavers were dissected to note the different patterns of palmar arterial arches.

Result: Variations were found in superficial palmar arch (SPA). Superficial palmar arch was found to be single in all 30 limbs (complete in 84.33% and incomplete in 16.67%). Deep palmar arches (DPA), in all specimen were found to be of complete variety.

Conclusion: The surgical importance of the different pattern of the arterial arches of hand and its ontogenic basis will be discussed in the conference.

69. VARIATIONAL ANATOMY OF SEGMENTAL BRANCHES OF SPLENIC ARTERY

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Abstract: The human spleen is highly vascular and friable organ. Its blood supply is by splenic artery which is a branch of coeliac trunk. The knowledge of variational anatomy of splenic artery is of fundamental importance for surgeons in splenectomy, resection of tumors, extirpation of cysts etc. The aim of this study was to identify accurately the segmental branches of splenic artery and to find out variations in their branching pattern. In the present study 111 human spleens were studied. The segmental branches of splenic artery were traced by piece-meal dissection. In 85.58% of specimen two primary branches and in 14.42% of specimen three primary branches of splenic artery were found. Superior polar branch was found in 40.53% while inferior polar branch was found in 50.07% of the specimen. The primary branches and polar branches of splenic artery which supplied the corresponding lobes of the spleen divided the spleen into segments, separated by definite avascular plane are called as segmental branches. In the present study the number of segmental branches varied between 2 to 5. Intersegmental anastomosis was observed in 1.80% of the specimen.

70. MORPHOMETRY OF THE SEMITENDINOSUS AND GRACILIS

TENDONS WITH APPLICATION TO ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION

S.RAMESH KUMAR AND S.MELANI RAJENDRAN

Sri Ramachandra Medical College & Research Institute, Chennai

An Orthopedic Surgeon replaces the damaged ligament with a new one, either from a cadaver or the patient's own body to repair a torn Anterior Cruciate Ligament (ACL). Although ACL reconstruction by means of Semitendinosus and Gracilis autografts has become a popular procedure, descriptions of morphologies of these two tendons are rare.

The objectives of this cadaveric study is to explore the morphometric variations of the Semitendinosus and Gracilis tendons in length and cross-section and to determine any statistical relationship between the length, cross-section and height, and to explore the frequency with which they are of adequate length for grafts. We studied a total of 74 cadaver

legs (37 right, 37 left) in 37 adult humans (21 males, 16 females). We found considerable differences in the length and cross-section of the Semitendinosus and Gracilis tendons with a significant correlation between the two. For the length of the Semitendinosus and Gracilis tendons respectively, the length of the femur had a statistically significant influence. Males had a significantly large cross-section of Semitendinosus and Gracilis tendons than the females. For the cross-section of Semitendinosus and Gracilis tendons a statistically significant difference in gender was observed. This study demonstrates that some techniques for reconstruction of the ACL cannot be applied to every patient because of inadequate tendon length and width. Insufficient tendon length may be caused by anatomical variations rather than tendon harvesting technique.

71. A Study On Course, Branching Pattern And Variation Of Brachial Artery In The Region Of Maharashtra.

MRS.PADMASHRI, MRS.HARITHA, DR.KAVITA TYAGI.

Department of Anatomy, MGM Medical college, Navi Mumbai

AIM: To study the course, branching pattern and variations in the brachial artery in the region of Maharashtra.

OBJECTIVES: Brachial artery is the artery of upper limb. It has many variations in its course as well as branching pattern. The study on the branching pattern as well as the variations leads to important modulations during clinical practice as well as surgeries. Hence, the objective of our present study is to find out the prevalence of variations and pattern of branching of brachial artery.

MATERIAL AND METHODS: A total 25 limbs were dissected in MGM Medical college, Navi Mumbai for the brachial artery in embalmed cadavers. The brachial artery was neatly dissected from the origin to the termination. Its normal course, as well as its variations in its course, branching pattern and its termination were noted.

OBSERVATION AND RESULTS: Out of 25 limbs, 4 limbs consist of brachial artery which accompanies the median nerve behind supracondylar process. In two cases the brachial artery pass between heads of Pronator teres. In 2 limbs of same cadaver the brachial artery was giving off radial branch in the upper part of arm which is passing lateral and downwards upto cubital fossa. At the cubital fossa the brachial artery is passing lateral to the median nerve which is lying in between the continuation of brachial artery and radial artery. The details of observations and results will be discussed in details during presentation.

72. "LOCATION OF MAXILLARY SINUS OSTIUM AND THEIR APPLICATIONS IN ENDOSCOPIC SINUS SURGERY"

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ABSTRACT The endoscopic sinus surgeons must have a detailed knowledge of inconsistent location of maxillary sinus openings in any interventional maxillary sinus surgeries as it relates to the orbital floor, ethmoidal infundibulum and the nasolacrimal duct.

The ostium of the maxillary sinus is on the superomedial aspect of the maxillary sinus and its drainage was no longer due to gravity; in addition it does not open directly into the nasal fossa but into narrow ethmoidal infundibulum, inflammation of which can further interfere with drainage.

Forty cadaver head and neck specimens had been cut sagittally through the nose and findings were documented with an emphasis on location of the maxillary sinus openings.

In the present study maxillary sinus ostium opened more commonly into posterior third of the hiatus semilunaris followed by middle and anterior 1/3 of hiatus. Accessory maxillary ostium seen in three

fourth of cases which opened into membranous meatus inferior to the uncinat process.

Key words : Accessory maxillary ostium; Maxillary os; Maxillary sinus

73. BIOMETRICAL STUDY OF HUMAN ADULT MANDIBLES IN MAHARASHTRIAN POPULATION.

DR. V.R.WAGHMARE, DR.N.G.HEREKAR, DR. R.B.VAIDYA.
GOVT. MEDICAL COLLEGE, MIRAJ, (MAHARASHTRA).

Skeletal material has been a subject of study of physical anthropologists for a long time. Anatomists are frequently called upon to give their expert opinion regarding age, sex and probable cause of death in medico-legal cases. Examinations of the skeletal remains form the basis of their opinion. Man lives in a physical environment, which varies in different lands and often in neighboring localities of the same land. The achievement of accuracy in anthropometry requires a good deal of practice. In the Indian literature the metrical study of mandible is not much available.

In the present study the 208 human adult mandibles in Maharashtra population of various medical colleges in Maharashtra with prior permission of Ethical Committee of Government Medical College Miraj, were collected. Biometrical study of the all mandibles did to study metrical aspects and sex characteristics and to correlate and compare the present study with available data of previous workers.

74. OSTEOLOGICAL STUDY OF LUMBAR VERTEBRAE IN WESTERN MAHARASHTRA POPULATION.

PATIL A. R., KATTI A.S., HEREKAR N. G.
GOVT. MEDICAL COLLEGE, MIRAJ

Anatomical studies have been conducted in different ethnic groups to measure the bony vertebral dimensions and to determine the normal limits which will serve as guidelines in assessing lumbar stenosis. The present study aims to determine the normal range of measurements of lumbar vertebrae in Western Maharashtra population. Various dimensions of lumbar vertebrae from L1 to L5 were measured in 320 lumbar vertebrae. Mean transverse diameter of vertebral body as well as of spinal canal & anteroposterior diameter of vertebral body were minimum at L1 and maximum at L5. Mean anteroposterior diameter of spinal canal showed a gradual decrease from L1 to L5 in both sexes. Making use of above parameters, canal-body index and spinal index of Jones were calculated. The present study showed regional and ethnic variation in parameters of lumbar vertebrae, thus emphasizing the need to determine normal range of values for different populations. Details will be discussed.

75. CRANIAL CAPACITY OF CRANIA FROM WESTERN INDIA

RUTA N. RAMTEERTHAKAR, B.N. UMARJI

Content: The cranial capacity of 310 dried crania (155 males and 155 females) was measured using the Breiter's mustard seeds technique. The mean cranial capacity for male crania was 1285cc and for female crania it was 1176cc. The sex difference in the mean values of cranial capacity of male and female crania was statistically significant. The knowledge of the cranial capacity is important because it indicates indirectly the brain volume.

76. DETERMINATION OF HUMAN HEIGHT FROM ANTHROPOMETRIC MEASUREMENTS OF HEAD IN VIDARBHA REGION

K. P. WANKHEDE, M.P. PARCHAND

Department of Anatomy, Gov. Medical College, Nagpur

Aim of study: -Estimation of stature is considered as important parameter in medico legal examination. In many occasions only skull or remain of skull without long bones came for examination and stature estimation. In such scenario it was difficult to estimate stature. With this study an attempt to derive regression formula,

correlation coefficient and multiplication factor between body height in living and Head Length, Bizygomatic Diameter, in Vidarbha region.

Materials and methods: - In the present study 470 subjects were taken between age group 18 to 24 years (males 260 and females 210). All measurements of Height, Head and face Dimensions were taken by author following recommended standard methods and techniques at a fix time (2 to 5 pm) to eliminate diurnal variation. The study was subjected to statistical analysis for regression formula, correlation coefficient, multiplication factor and standard error of estimate estimation.

Results and Conclusion:- In male head length is a better parameter to estimate the stature than bizygomatic diameter. In female & for combine subjects Bizygomatic diameter a better parameter to estimate the stature than head length. Thus this study certainly useful to the anatomist and forensic experts where skull or only part of the skull available and is subjected as medicolegal examination.

77. A MORPHOMETRIC STUDY OF FORAMEN OVALE AND FORAMEN SPINOSUM IN DRIED HUMAN INDIAN SKULLS

Authors: Dr. Kulkarni Shripad Prakashrao, Dr. M. Natarajan

Introduction : Recognition of the foramina ovale and spinosum with structures that pass through them and their possible variations will help in distinguishing normal from potentially abnormal foramina during computerized tomography and magnetic resonance imaging examinations. Detail knowledge of these foramina can help practitioners in treatment of trigeminal neuralgia, skull base tumors and abnormal bony outgrowths.

Materials And Methods: Measurements of the foramina ovale and spinosum were taken by placing a pair of dividers on the anteroposterior (length) and transverse (width) diameters of the foramina in 100 dried human Indian skulls.

Results: Length of foramen ovale was ranging from 5 to 9.5 mm and that of foramen spinosum was 2-4mm. Width of foramen ovale was ranging from 2.5 to 5 mm and that of foramen spinosum was 1 to 3.5 mm. Lengths on right and left sided foramina ovale were comparable. Widths of left sided foramina spinosum are found less as compared to right side. Incomplete and divided foramina spinosum seen more frequently on left side than right.

Conclusion: Thus this study is of anatomical and clinical significance.

78. SEXUAL DIMORPHISM OF GLENOID CAVITY

P.SIRISHA,

Dr. R. Shekar, Dr. S. Jaleswararao, Dr. Ravindra Kumar. B
Sri Venkateswara Institute of Medical Sciences, Tirupati, Andhra Pradesh

AIM OF STUDY: To study the morphometric measurements of Glenoid cavity of human scapula as an aid for sexual dimorphism and other clinical procedures.

MATERIALS AND METHODS: Present study was conducted on 25 adult human scapulae collected from Department of Anatomy, SVIMS and Department of Anthropology, SVU, Tirupati. Measurements were carried out along the length, breadth, and circumference of glenoid cavity along with its surface area. The materials used for this study were inch tape and measuring scale, sliding vernier caliper.

RESULTS: The detailed results were analyzed and correlated with the available literature.

CONCLUSION: Detailed findings and Conclusions, clinical implications will be discussed at the time of presentation.

79. ANTHROPOMETRIC MEASUREMENTS IN YOUNG FEMALES OF PUNJAB AND HARYANA AND THEIR

CORRELATION WITH OTHER RISK FACTORS OF CORONARY ARTERY DISEASE

NIDHI PURI, KARAN JOT KAUR, VVG PATNAIK, DEEPAK PURI**

MMIMSR, Mullana-Ambala

*Fortis Hospital, Mohali

Anthropometric measurements such as height, weight, body mass index (BMI) and waist-hip circumference ratio (WHR) are traditionally important methods to study prediction of risk factors of many complex diseases in human health. Overweight and obesity are important determinants of health and lead to adverse metabolic changes. Present study was conducted with the aim to identify the young population with deranged anthropometric measurements and to correlate these measurements with other risk factors of coronary artery disease. The study was conducted on 250 females of 18-25 years of age of Punjab and Haryana region. The subjects were evaluated for coronary risk factors like hypertension, lifestyle, stress, smoking, medical unhealthy diseases and family history of hypertension, diabetes mellitus, CAD. Anthropometric measurements height, weight (to find out BMI), waist circumference and hip circumference (to calculate WHR) and abdominal adiposity were taken. Mean BMI was 22.07 ± 4.06 while mean WHR 0.77 ± 0.04 . BMI was > 24.9 in 20.4% while WHR was > 81 in 26.4% while 33.2% had abdominal adiposity > 30 . BMI and WHR both were positively correlated with each other as well as with abdominal adiposity and mid thigh circumference. When we correlated diet intake with BMI a significant association ($p=0.0003$) was found. WHR and lifestyle (diet and physical activity) also had significant association ($p=0.02$) [35,36]. ($p=0.04$) stress and hypertension ($p=0.0002$) are highly associated with WHR, increase in weight ($p=0.0001$) also shows significant correlation with WHR which shows WHR is significantly correlated with many other risk factors of CAD in young female population. Abdominal adiposity is also significantly associated with lifestyle ($p=0.001$), overweight ($p=0.0005$) and WHR ($p=0.0002$).

80. LIP MORPHOMETRY AND DENTOFACIAL ANALYSIS – A DATA BASE STUDY FOR COSMETIC SURGERY

Dr. ARCHANA, Dr. PATNAIK VVG

Department of Anatomy, MM Institute of Medical Sciences & Research, Mullana (Ambala)

ABSTRACT- The study comprises of lip morphometry and dentofacial analysis of 600 North Indian adults (300 males & 300 females). Prior informed written consent for this study was obtained. The exclusion and inclusion criteria for the subjects were predefined. The purpose of the study was to create base data of linear, vertical measurements of the upper and lower lips, the width of the mouth and to demonstrate their relationship to each other and to analyze the esthetic components of the smile, standard position of upper and lower lip, teeth exposed during smile. This standard may serve as a guideline for restoration or enhancement of esthetic and plastic surgery for lips and smile of north Indian population which will enable the surgeon to offer a better cosmetic result. Mean value for cutaneous upper lip in males 12.53, in females 11.18, mean vermilion upper lip in males 8.85, in females 8.05, mean upper lip in males 20.51, in females 18.72, mean cutaneous lower lip in males 7.91, in females 7.03, mean vermilion lower lip in males 9.70, in females 9.15, mean lower lip in males 16.00, in females 14.52, mean integumental lip in males 19.52, in females 18.15, mean mouth width in males 47.17, in females 44.27. All the calculated 8 indices are more in males except IV which is significantly more in females. Sexual dimorphism was observed in most parameters of lip region being more in males. Smile is more esthetic in females.

81. CRANIOFACIAL ANTHROPOMETRY OF 400 NORTH INDIAN MALES AND FEMALES

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Department of Anatomy, MMIMSR, Mullana-Ambala, Haryana

The present study was conducted on 400 adults comprising of equal number of males and females above the age group of 18 years of North Indian origin. Prior informed written consent was obtained from the subjects. Inclusion and exclusion criteria for the study were predefined. A spreading caliper was used for the measurements. The purpose of study was to access the head length, head width, face length and face width and to find out the relationship of these parameters with each other. Cephalic and facial indices were calculated. The data so obtained was compiled and analyzed statistically to observe base line data and then compared with previous available data. This data can be useful for experts in forensic science and allied surgical branches. The average head breadth, head length, facial breadth, facial length found in study were 138.6mm, 186.7mm, 125.3mm, 108.8mm respectively in males and 135.8mm, 178.0mm, 118.8mm, 103.5mm in females. The Cephalic index was 74.29 in males and 76.44 in females. Prosopic index was 86.66 in males and 86.26 in females. On the basis of this study it can be said that North Indian males have dolichocephalic type of head and females had mesocephalic type of head. Mesoprosopic type of face was found in both sexes.

82. PERCEPTIONS OF POSTGRADUATE STUDENTS AND TEACHERS IN ANATOMY ON THE CURRICULUM IN HISTOLOGY TECHNIQUES

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Department of Anatomy, Seth G.S.M.C & K.E.M.H. Parel, Mumbai

AIM AND OBJECTIVE Revisiting the curriculum in histology techniques for postgraduate students in Anatomy

MATERIAL AND METHOD: Postgraduate students and teachers in Anatomy from the medical colleges in Mumbai were included in this study. A prevalidated questionnaire was made on the basis of the problems faced with the current curriculum of histology techniques in anatomy. This questionnaire was circulated to the postgraduate students and teachers and their response was recorded graphically.

RESULT

The qualitative and the quantitative analysis of the perceptions was done and will be presented in the paper. The paper also deals with the possible solutions to overcome the obstacles if any.

83. OBJECTIVE STRUCTURED PRACTICAL EXAMINATION AS AN ASSESSMENT TOOL

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Practical examination plays an important role in the assessment of practical skills acquired by the students. Many attempts have been made in the past to improve the reliability and validity of practical examination. Objective Structured Practical Examination (OSPE) is a method of assessing a student's practical skills which is objective rather than subjective. The various components of practical skills are assessed by various procedure stations and question stations. These stations are carefully planned by the examiners. At the procedure stations, the student's performance is observed and assessed by the examiner with the help of a checklist. The checklists provide a good system of marking. Here the student's performance can be observed in a systematic way. At the question stations, the student has to write answers to the given questions.

In OSPE all the students of a batch perform the same practical exercises and answer the same set of questions. Here the element of chance or luck is minimised considerably. Most of the students supported OSPE, as it encourages them to learn the practical skills properly and in a systematic way. OSPE is a more valid and reliable

assessment tool which gives importance to objectivity and is organised in a planned manner. The organisation of OSPE with examples, importance of checklists and students' feedback on OSPE will be discussed.

84. BODY DONATION: A BOON FOR MEDICAL SCIENCE

AUTHORS: DR. SANDEEP MADAAN, DR. K. L. TALUKDAR, DR.

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Donation of one's body is in fact a boon for medical science. Body can be donated for following noble purposes:

1. Department of Anatomy: where dissection of bodies done for teaching of undergraduate and post graduate students.
2. Forensic Anthropology(for Body Farming): where human decomposition can be studied in a variety of settings.
3. For donation of organs (immediately after brain death) to save life of someone else.

There are certain laws regulating body donation and also certain myths and beliefs of people which influence body donation. As authors we have tried to cover all aspects of body donation and this will be discussed in details during presentation.

85. USE OF 3 (THREE) DIMENSIONAL MODELS OF HUMAN ANATOMY AS TEACHING MATERIAL FOR UNDERGRADUATE MEDICAL STUDENTS.*

BANESWAR BARO ; H. BAYAN ; K.L. TALUKDAR

Department of Anatomy Gauhati Medical College, Guwahati

Aim of the study: To improve the learning of Human Anatomy for undergraduate medical students by showing 3 (three) dimensional models. **aterials:** 12(Twelve) different 3(three) dimensional models were prepared.

Methods: First professional M.B.B.S. students of Gauhati Medical Collegewere asked a questionnaire after the completion of lecture classes and before starting dissection of cadavers from 2007 to 2010. Many students did not understand properly about some parts of human body even after completion of demonstration classes which were taught by conventional class room teaching.

Those students were taught by the help of models before they start dissection and again there was a revision of the same.

Results: Percentage of pass in the first professional M.B.B.S anatomy examinations were very satisfactory than the results prior to the use of models. The latest result of pass in the first professional M.B.B.S anatomy examination conducted by Gauhati university, Guwahati held in July 2010 was 92.36%.

Conclusion: Students remark model study is helpful in present 1(one) year M.B.B.S course and every student can study such models in any time, at any place outside the institution without the help of teachers and at the time of non-availability of cadavers also.

86. AWARENESS ABOUT BODY DONATION AMONG THE GENERAL PUBLIC - A PILOT STUDY

Dr. JYOTHILAKSHMI G.L. , Dr. SHUBHA R , Department of Anatomy

Dr JAYANTHI, Department of Community Medicine Kempegowda Institute of Medical Sciences , Bangalore .

Need for the study: The dissection of human cadavers is a crucial aspect in the training of medical students. The awareness about body donation among the people is critical because of the low availability of cadavers for medical education and research.

Objectives: To define the socio demographic of the population under study and to assess the relation of socio demographic factors to awareness among the general public.

Materials and methods: The pilot study involved 100 participants chosen randomly. A pre structured questionnaire was given to the subjects and responses were recorded.

Results: Of 100 subjects, 40% of subjects who had awareness about body donation were of the age group 36-55yrs, 26% belonged to 56-75yrs, 30% were graduates, 27% were post graduates, 51% were employed. Source of information was TV for 39% of the people, newspaper was the source for 44% of the subjects.

Conclusion: The socio demographic factors are strongly related to awareness among the subjects. Older age, higher education and income, male gender correlated positively with the awareness. TV and news paper played a significant role in providing information to the participants whereas radio influenced the people less. Younger age, lower socioeconomic status, female gender had a negative correlation with awareness. Efforts to increase awareness about body donation among the general public must be carried out in order to meet the requirements and expanding needs in the medical education and research.

87. SIGNIFICANCE OF THE ROLE OF N.G.O. IN VOLUNTARY BODY DONATION FOR UPLIFTMENT OF UNDERGRADUATE LEARNING

BORNALI HAJARIKA, H. BAYAN, K. L. TALUKDAR.
Gauhati Medical College, Assam.

Introduction: Comprehensive human anatomy knowledge can be acquired only by exploring the real human body. In most of the medical colleges of our country sufficient numbers of dead bodies are not available to the students for dissection. But for the last few years, significant numbers of dead bodies are available at Gauhati Medical College with the initiative of Assam based N.G.O. 'Ellora Vigyan Mancha'. The posthumous body donation for medical research has been gaining momentum in Assam at the initiative of the N.G.O.

Aim of the study: The aim is to ascertain the improvement of learning of human anatomy amongst the students of Gauhati Medical College after availability of significant number of cadavers for dissection at the initiative of the N.G.O.

Materials and methods: Results of undergraduate students of Gauhati Medical College were collected from the year 2000 to 2010. List of dead bodies donated voluntarily at the initiative of the N.G.O. and data of unclaimed bodies received in the anatomy department were also collected. Relation between numbers of bodies available and percentage of students passed was analyzed.

Results: There is marked improvement of results of 1st year students after increase in total number of dead bodies as significant number of voluntary body donation took place at Gauhati Medical College at the initiative of the said N.G.O.

Conclusion: There is high significance of the role of N.G.O. in encouraging voluntary body donation for upliftment of undergraduate learning.

88. "VOLUNTARY BODY DONATION" THE GIFT THAT LIVES ON FOREVER A SURVEY IN S.V.S. MEDICAL & DENTAL COLLEGES MAHABUBNAGAR

Dr. M. VITTOO RAO, Dr. S.Saritha, Dr.Bhilal, Mr.Praveen.
S.V.S MEDICAL COLLEGE, MAHABUBNAGAR, AP.

Body donation is a gracious act, **Shankaracharya** firmly believed in concept of body donation or organ donation and said **Iddham shariram paropkarum**. (The body is for use of others) Death is not the end it is the beginning. We need to understand and accept this philosophy.

Anatomy is difficult but important subject full of facts. Basic science foundation is essential, especially human Anatomy knowledge to surgeons & physicians. For both U.G & P.G dissection is best method for learning Anatomy. Cadavers remain principle

teaching tool for Anatomist and medical educators. Human cadavers for purpose of study is a scarcity, with mushrooming of medical institutions in this country.

Unclaimed bodies are no more origin of cadavers but bodies coming from **whole body donation program is only a ray hope.**

Body donation is defined as the act of giving ones body after death for medical research and education. **Whole body donation is the need of the hour.**

In this paper we have discussed our approach towards body donation program by the faculty members of S.V.S. MEDICAL COLLEGE.

It includes **questionnaire** which is circulated among the faculty members regarding the importance of body donation and various factors such as age, sex, religion, culture and personality characteristics of donor attitude etc. which will be discussed at the time of conference.

89. SESSION GOALS IN GROSS ANATOMY: PERCEPTION OF M.B.B.S. STUDENTS

Author- Dr. Vrushali Nikade, Dr. Bharat Thakre, Dr. Shripad Kulkarni, Dr. P. S. Bhuiyan

Introduction: Department of anatomy has introduced "session goals" as a methodology to teach gross anatomy for first M.B.B.S. students. These power point slide-shows, presented before dissection, highlight what is expected from them on that day.

Materials and Method: Session goals on upper limb and lower limb gross anatomy were conducted for first M.B.B.S. students. Their feedback was taken on a questionnaire on session goals with respect to dissection, examination and style and content of presentation.

Results: 60.87 % students agreed that session goals highlighted what was expected from the students on that day. 52.80% students agreed that figures shown in session goals helped them to identify structures in practical examinations. 53.42% students agreed that selection of diagrams used in session goals gave clear view of the area to be dissected.

Conclusion: Session goals highlights what is expected from the students in dissection, on that day, motivates them to make prior preparation for the topic of dissection, helps them to understand the steps of dissection, creates interest in dissection and makes them familiar with the key words and unfamiliar terms in anatomy. It helps them to understand the subject better, to solve theory paper more effectively, and to identify structures in practical examinations and thus increases their confidence level in examinations.

Thus 'session goal' is an effective methodology to teach gross anatomy for first M.B.B.S. students.

90. MENTORSHIP PROGRAM TO IDENTIFY POOR ACHIEVERS. Dr Sanikop M B.

DEPT. of anatomy. Sri devaraj urs medical college,tamaka,kolar
Introduction - During first year of the profession colleges,there is a need to identify the poor achievers so that remedial measures

could be initiated early Material and methods- Two batches of new

admissions at sri devaraj urs medical college we are selected. The format prepared

to monitor their progress,attendance and co curricular activities. Results-After first internal assessment the poor achievers were identified and they

were monitored for both attendance and progress.The remedial measures were taken and

analysed. There was an improvement over the last year.. Conclusion -the

identification of poor achievers there by the remedial measures is the key for

success

91. A STUDY ON PHYSICAL AND PSYCHOLOGICAL REACTIONS OF 1ST M.B.B.S STUDENTS TOWARDS DISSECTION HALL.

PRABAHITA BARUAH, K.L.TALUKDAR

Department Of Anatomy, Gauhati Medical College, Guwahati

Aim- the present study was conducted to evaluate the physical and psychological reactions of 1st M.B.B.S students towards dissection hall, after 1 week and 6 months of their exposure.

Materials and methods- a structural questionnaire containing 18 items, based on Likert scale, focusing on degree of fear, physical and psychological reactions towards cadaveric dissection were administered to 76 randomly selected students in the academic year 2009-10, in the department of anatomy, Gauhati Medical College, 1 week and subsequently after 6 months of their first exposure to dissection hall.

Results and observations- varying degrees of reactions were reported on exposure to dissection hall. Most frequent reaction was fear of infection which is about 52.6% after 1 week and 53.9% after 6 months exposure to dissection. Next frequent complains during 1st week of dissection were watering from eyes and foul smell accounting for about 28.9% and 18.4% respectively which drop to 6.6% and 11.8% at the end of 6 months.

Students responses on remaining questions were statistically calculated, tabulated and graphically represented.

Conclusion- from the present study, it was found that students were suffering from physical and mental stress during their dissection curriculum. So a paper has been prepared and will be discussed in the conference

92. ASSESSMENT OF ADEQUACY OF PROTECTIVE MEASURES ADOPTED BY THE 1ST YEAR M.B.B.S STUDENTS IN THE DISSECTION HALL

PRADIPTA RAY CHOUDHURY, K.L.TALUKDAR

Department Of Anatomy, Gauhati Medical College, Guwahati

Aim- to evaluate the adequacy of protective measures adopted by the 1st year M.B.B.S students in the dissection hall.

Materials and methods- a preformed questionnaire containing 15 items was distributed among 95 randomly selected students of 1st year M.B.B.S after 1 month of their exposure to dissection hall, in the Department of Anatomy, Gauhati Medical college, during 2010-2011 academic year.

Results and observations- the present survey in the form of questionnaire shows that although all students wear apron in the dissection hall, only 50.53% (male-46.4% and female-56.4%) students always use gloves and only 12.63% (male-14.3% and female-10.3%) students sometimes use facial mask during dissection. Moreover, method of hand washing and sterilization of dissecting instruments are also not adequate. The results obtained were computed, analysed, tabulated along with graphical representation.

Conclusion- the potential infections, formalin hazards and physical injuries with dissecting instruments are the risks of being a student in anatomy department. Special care must be taken to reduce such risks to a minimum. Keeping these risk factors in mind, a paper has been prepared to focus on the protective methods used by students in the dissection hall.

93. HISTOCHEMICAL STUDY OF HUMAN FOETAL TRACHEAL GLANDS

Dr.PATIL S.M. Dr.LALA B.S,

Department of Anatomy R.C.S.M.Government Medical College ,Kolhapur.)

The glands in the trachea of 20 human foetuses were studied by histochemical methods .The age of foetuses was from 25 weeks

to 30 weeks. This study is carried out to study the mucin pattern of human foetal tracheal glands and correlate it with functional significance.

Serial coronal sections were stained with H & E , Alcian blue at pH 1.0 and pH 2.5 , Periodic acid schiff , combined Alcian blue and Periodic acid schiff , Aldehyde fuchsin –Alcian blue pH 2.5 , Phenyl hydrazine –PAS .

The submucosal glands and goblet cells of human foetal trachea contained neutral and sulfated acid mucosubstances ..

94. EFFECTS OF SILVER NANOPARTICLES ON INTESTINAL MUCOSA: A HISTOCHEMICAL ASPECT

MADHU YASHPAL, BRIGESH SHAHARE, GAJENDRA SINGH

Department of Anatomy, Institute of Medical Sciences, Banaras Hindu University, Varanasi.

The antibacterial effect of silver nanoparticles (AgNPs) has resulted in their extensive application in health, medicinal, electronic, consumer, pesticide, and home products; however, AgNPs remain a controversial area of research with respect to their toxicity in biological systems. For nanotechnology, to move forth in a responsible and sustainable manner, the health effects of AgNPs are of great importance. Therefore, the present study was designed to explore whether AgNPs would modulate the secretion of intestinal mucus, a major component of physiological defense mechanisms. To investigate the effects of AgNPs, 10 weeks old mice, weighing about 25±5 gm were exposed to AgNPs through oral routes. The animals were sacrificed after the 14 and 21 days of exposure period and the small intestine was dissected out immediately. The tissue was fixed in Aq. Bouin's fixative for light microscopy and carnoy's fixative for histochemistry to observe the reaction and changes following AgNPs administration in intestinal mucosa. To evaluate changes in the mucosubstance properties of the goblet cells in the intestinal epithelium, a range of histochemical methods were employed. These included methods for the characterization and simultaneous visualization of glycoproteins (GPs) with oxidizable vicinal diols, with O-acyl sugars, with O-sulphate esters and with sialic acid residues with and without O-acyl substitution at C7, C8 or C9. This study investigated the changes in the histological structures and properties of mucins to assess the effects of oral exposure to silver nanoparticles

95. ARE SILVER NANOPARTICLES POTENTIAL MALE REPRODUCTIVE TOXICANTS?

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The rapid advancement of nanotechnology has prompted the need to investigate the health effects of nanoparticles and nanomaterials. The current focus of health and safety investigations has targeted routes of exposure and potential deposition, translocation, and adverse effects in primary and major secondary target organs. Few studies have looked at deposition in reproductive organs. While there is speculation that nanoparticles might pose potential reproductive harm, there has been little substantive evidence to support or refute these concerns. Therefore, the objective of the present study was to evaluate the effect of silver nanoparticles. Therefore, the present study was undertaken to study the toxicity of silver nanoparticles (AgNPs), which are likely to become a medicine replacing antibiotics or as thrombosis preventing agents, etc. The animals used for this study were 10 weeks old mice, weighing about 25±5 gm. After 14 and 21 days of AgNPs administration, the mice were sacrificed and the testis was dissected out immediately. The testis was fixed in Aq. Bouin's fixative for light microscopy, and karnovsky's solution for Transmission electron microscopy to observe the reaction and changes following AgNPs administration. The results suggest that silver nanoparticles could

suppress testicular function in mice and the alterations in the testes raise concerns because it is possible that these materials may accumulate at higher quantities over a longer period and may have adverse effects on male fertility.

96. STUDY OF VAGINAL CYTOLOGY IN REPRODUCTIVE AGE GROUP WITH REFERENCE TO ANATOMICAL PATHOLOGY
INDRANATH SUTIA, **ANURADHA BARUAH

** Département of Anatomy, Assam Medical College, Dibrugarh.

AIM: Vaginal cytology is an easy and cheap method of a type of endocrine assay. Tracking changes in the morphology of vaginal epithelium provides a convenient means of assaying changes in the oestrogen level.

The aim of the study is to find out any infectious and non-infectious pathogens causing infections which provide a routine screening test.

MATERIALS AND METHOD: The study was carried out at Silchar Medical College upon more than 100 cases. A cotton swab is applied into the posterior fornix to collect the material, smeared on a slide, stained by PAP staining and observed under microscope.

OBSERVATION: A majority of the cells observed are not surprisingly vaginal epithelial cells. In addition, varying number of leucocytes, erythrocytes, bacteria and small numbers of other contaminating cells and microorganisms are also observed.

Analysing a vaginal smear is largely an exercise in classifying the epithelial cells into 1.Parabasal, 2.Intermediate, 3.Superficial cells.

CONCLUSION: The present study reveals that the morphology of vaginal epithelium varies from woman to woman specially during ovulation, premenstrually and during pregnancy.

It is also observed that variety of infectious and non-infectious pathogens are normal inhabitant of the vagina. The rest of the details will be discussed at the time of presentation

97. A MORPHOLOGICAL STUDY OF CD1A POSITIVE LANGERHANS CELLS IN THE TONGUE OF HUMAN FETUSES.
ASWATHY MARIA OOMMEN; SUNIL J HOLLA; INBAM INDRASINGH.

DR.SOMERVELL MEMORIAL C.S.I MEDICAL COLLEGE AND HOSPITAL, KARAKONAM, THIRUVANANTHAPURAM, KERALA.

CONTENTS:
Aim of the study: To study Langerhans cells (LCs) on the dorsal and ventral surfaces of the tongue, of human fetuses.

Materials: Specimens were collected from nine fetuses, with estimated gestational ages ranging from 14 to 38 weeks. The fetuses were categorized into 5 groups. The sections were stained immunohistochemically with CD1a antibody.

Methods: The paraffin embedded tissue sections of the tongue, of human fetuses, were stained using an immunohistochemical technique, with CD1a antibody. This is considered to be the most reliable immunohistochemical staining technique for the identification of LCs. The stained sections were examined to study the morphology and pattern of distribution of the CD1a positive LCs in the epithelium of both surfaces of tongue tissue. The number of LCs, their diameter, and the number and length of their dendritic processes were measured. Descriptive statistics was used to summarize these study parameters. The relationship between the study parameters and the estimated gestational age of the fetuses was assessed using Pearson's correlation coefficient.

Results and Conclusions: LCs are present in the epithelium of the tongue of human fetuses. The number of different types of LCs present in the tongue increases significantly as fetal age advances. Their diameters do not increase with fetal age. The number of dendritic processes of LCs is the same in all age groups. The length of the dendritic processes is variable. The processes are less branched in the earlier gestational age groups. LCs acquire adult morphology in the third trimester.

98. CAN IMMUNOHISTOCHEMISTRY UNRAVEL THE MYSTERY OF CLEFT PALATE?

C. S. Janaki, Usha kothandaraman, Gomathi, Geetha Prakash. Meenakshi Medical College & Research Institute Enathur, Kanchipuram.

Aim of this study:

a To study the Microscopic anatomy and also the Immunohistochemistry of Bilateral cleft palate.

b.Morphometry of Bilateral cleft palate.

Materials & Methods: The Premaxilla and the Palatal Processes of the full term Anencephalic fetus with Bilateral cleft lip and palate and related Craniofacial Anomalies were procured by careful dissection in the Department of Anatomy, Meenakshi Medical College & Research Institute after obtaining the informed consent from the parents.

The weight of the palatal tissue was measured as 20 gms. The length, breadth and height of premaxilla were measured to be 2.5, 1.0 and 1.0 cms and that of palatal process was 2.0, 1.0 and 0.5 cms. Both the pieces were processed by routine paraffin blocking for Haematoxylin and Eosin staining and Masson's trichrome staining to reveal the microscopic details. Simultaneously it was also processed for IHC study using specified markers for the palate like cytokeratin.

Results: Histology, Morphometry & Immunohistochemistry of bilateral cleft palate will be discussed during presentation.

99. Expression analysis of Wnt/B-catenin pathway components: B-catenin. Disheveled-1 in the Carcinoma of Uterine Cervix

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1Department of Anatomy, 2Department of Obstetrics & Gynecology, 3Department of Histopathology, Vardhman Mahavir Medical College & Safdarjung Hospital New Delhi

Background and Aim: Wnt/ β -catenin pathway is one of the most frequently altered pathway in various human cancers. Over expression of the pathway proteins like β -catenin, Dishevelled-1 is implicated in the malignant transformation of the cell. The present study aimed to evaluate the clinical significance of the Wnt/ β -catenin pathway proteins in the development of the Squamous Cell Carcinoma (SCC) of uterine cervix. **Methodology:** Expression of β -catenin, dishevelled-1 (Dvl-1) was examined in 60 patients of Squamous Cell Carcinoma (SCC) of cervix (stage Ia - IIb) by immunohistochemical analysis. **Result:** Of the 60 SCCs analyzed 47% (24/60) of cases showed cytoplasmic as well as nuclear expression of Dvl-1 protein, while 53% (36/60) showed distinct nuclear localization. Loss of cell surface but increased cytoplasmic expression of β -catenin was observed in 50% (29/60) SCCs, whereas 47% SCCs showed nuclear accumulation suggesting the activation of Wnt/ β -catenin pathway in SCCs. Nuclear β -catenin showed significant association with nuclear Dvl-1 ($p=0.003$, OR = 6.25) as well as with increased tumor stage and histological staging of cancer. **Conclusion:** Our study demonstrated the up regulation of Wnt/ β -catenin pathway components in SCCs and their association with advanced tumor stage underscoring the clinical significance of canonical Wnt/ β -catenin pathway activation in cervical cancer.

100. Expression of Calcitonin Gene-Related Peptide In The Spinal Nucleus Of The Trigeminal Nerve Increases After Administration Of Nimodipine, A L-Type Calcium Channel Blocker, In Rats

L. VIJAYAN and S. B. RAY, Department of Anatomy, All India Institute of Medical Sciences, N. Delhi

Pain from the orofacial region like in migraine is transmitted to the caudal part of the spinal nucleus (Pars caudalis) by the trigeminal nerve. Activation of the trigeminal neurons lead to the release of glutamate and calcitonin gene-related peptide (CGRP), which excites the second order neurons situated in the spinal nucleus. Administration of CGRP has been shown to produce migraine-like headache. Also, antagonists of CGRP provide relief from migraine in clinical trials. Since release of neurotransmitters/neuropeptides are dependent on influx of calcium ions, it was hypothesized that nimodipine, which is a L-type calcium channel blocker, might prevent the release of CGRP. The study was conducted on Wistar rats (n=12), which were divided into two equal groups. One group of rats was injected normal saline (control) while the other group was treated with nimodipine (2 mg/kg once daily by intraperitoneal route) for 2 weeks. At the end of this period, the rats were sacrificed and the brain removed after paraformaldehyde fixation. The lowest part of the medulla oblongata was isolated and processed for immunohistochemistry using anti-CGRP antibody (1:400). The images of the stained sections were analysed using an image analysis software. Selective staining for CGRP was observed over the spinal nucleus of the trigeminal nerve in both the control and nimodipine treated groups. However, the nimodipine treated group showed higher expression of CGRP. This could be due to decreased synaptic release of CGRP following nerve stimulation. It is speculated that chronic nimodipine intake could prevent the incidence of migraine.

101. A STUDY OF PLACENTAL MORPHOMETRICAL & HISTOLOGICAL CHANGES OBSERVED IN PREGNANCIES WITH PRECLAMPICIA IN SOUTHERN ORISSA.

bijaya Kumar Dutta, Sadananda Rath, Lalatendu Swain Sabita Singh, Bichitra Roul.

Aim : To assess the frequency 7 types of histological changes in placenta in pregnant ladies complicated by preeclampsia.

Materials & Methods : This is a prospective study conducted in the dept. of Anatomy, MKCG Medical College, Berhampur during a period during a period of one year (Aug-2009-july 2010)

100 human placenta were collected for this study. 50 nos. of placenta from normal pregnant women taken as control group & rest 50 nos. from pregnancies complicated with pre-preeclampsia as the study group for morphometrical & histological study as per standard procedure followed and the observations were subjected to statistical analysis.

Observations : It was observed that there was significant reduction ($P < .05$) in diameter, volume, thickness and no. of cotyledon in preeclamptic placenta. Out of 50 preeclamptic placenta, it was observed that infarcts of various stages and volume in (77.77%), Cytrophoblastic proliferation (55.55%), Syncytial knots (76.46%), fibrinoid necrosis (61.11%), Stromal fibrosis (50%) and calcification (61.11%) were found.

Details of observations will be discussed which will be presented as per the references available.

102. RADIOLOGICAL STUDY OF THE FRONTAL SINUSES IN RAJASTHANI SUBJECTS

ANJU CHOUDHARY, DR D. S. CHOWDHARY, ABHILASHA DADHICH, PUSHPA POTALIYA

Department of Anatomy, Dr S.N. Medical College, Jodhpur, Rajasthan

The aim of this study was to find out various dimensions of frontal sinus.

Study has been conducted on a total of 100 Rajasthani male subjects of age group 18 to 25 years. All were normal in appearance. The following measurements were taken on radiographs (postero-anterior view and lateral view) with a scale (least count : 1mm):

vertical dimensions, transverse dimensions and antero - posterior dimensions.

The result obtained showed variations in extent, shape, size, incidence and the presence and position of midline septum. The data obtained were analyzed statistically and compared with results of other workers too.

103. RADIOLOGICAL ASPECTS OF CERVICAL RIB

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KEMPEGOWDA INSTITUTE OF MEDICAL
SCIENCES,BANGALORE

Cervical rib is an extra rib present in neck in 1-2% of population which is usually unilateral.

It refers to an abnormal protrusion in the cervical region which can either be due to abnormal enlargement of the transverse process of C7 vertebra or a small rib or fibrous band running from the 7th cervical vertebra to the first true rib or to the sternum. It is usually diagnosed in middle age group persons though it is present since birth.

Cervical rib may be an incidental finding in a small percentage of normal people This condition, which appears more frequently in women is usually asymptomatic.

To determine if a cervical rib is present, requires a plain skiagram. Knowledge of clinical appearance & radiographic characteristics of cervical rib would enable differential diagnosis in and around this area with aim of easier orientation and faster arrival

at final diagnosis. This study deals with the radiological types of cervical rib, pathophysiology, differential diagnosis & treatment. The anterior part of transverse process of C7 vertebra gives rise to costal element which may sometimes develop into rib known as cervical rib.

Chest x-ray with apical lordotic views and cervical spine should be obtained. Complete

& incomplete cervical ribs were observed in the study with some being unilateral and others bilateral.

104. RADIOLOGICAL EVALUATION OF CERVICAL SPINE IN WESTERN MAHARASHTRA POPULATION

Dr. MAHENDRA A. KATHOLE, Dr.MRS. RAJANI A. JOSHI,
DR. N. G. HEREKAR

Department of Anatomy, Govt. Medical College, Miraj Dist – Sangli, State –Maharashtra.

The dimensions of cervical vertebral body, spinal canal and intervertebral discs have an important consideration in the diagnosis, prognosis and treatment of diseases related to cervical spine and spinal cord. The present study was aimed at studying the normal dimensions of cervical spine in Western Maharashtra population. Third to seventh cervical vertebrae were studied with normal lateral radiographs of cervical spine of three hundred Western Maharashtra adult subjects with known age (between 25 to 40 years) and known sex (150 males and 150 females). The parameters used in the study were viz, anteroposterior diameters of spinal canal and vertebral bodies, height of vertebral bodies and height of intervertebral discs. Anteroposterior diameter of cervical spinal canal and vertebral body were found to be smallest at C5 level and largest at C3 level, in both sexes. Whereas C5 and C7 vertebrae were found to have smallest and largest height respectively, in both sexes. The mean height of intervertebral disc at the level of C5-C6 was greater than the other intervertebral discs of cervical spine, in both sexes. The canal body ratio (Torg's ratio) was almost constant at each level of cervical spine, in both sexes. On comparison, all the diameters showed sexual dimorphism, as well as significant racial variation.

105. EVALUATION OF CONGENITAL, ENDOMETRIAL AND TUBAL PATHOLOGIES BY HYSTEOSALPHINGOGRAPHY (HSG)

Dr. Kanchan Wankhede, Dr. Jawahar Rathod, Dr. M.M Meshram.

AIMS & OBJECTIVES: -

1. To know the various causes of Infertility by HSG.
2. To know the exact percentage of infertility because of change in the anatomical configuration of uterus.

MATERIAL & METHODS: - Hysterosalpingography was carried out during 1 year period from November 2008 to October 2009 in 500 infertile patients at Radiology department, GMCH Nagpur.

RESULTS: - 95 patients had congenital anomalies starting from unicornuate uterus to uterine didelphys uterus. Endometritis was seen in 70 patients. Cornual block was seen in 190 patients.

From this, we can say that, apart from the acquired causes like infection & cornual block, changes in the anatomical configuration of the uterus which also can cause infertility.

CONCLUSION: - Hysterosalpingography can reliably diagnose congenital, endometrial and tubal pathologies with change in anatomical configuration causes infertility in approx. 19% cases. This simple investigation can provide significant information which is responsible for infertility and it can be treated with medical line of management in endometritis and by Fallopiian tube Recanalisation in patients with Proximal tubal block.

106. VIDIAN CANAL – A RADIOLOGICAL STUDY.

Dr. Viveka S, Dr. Ajay Udyavar, Dr. Santhosh Kuriakose, Dr. Suresh Bidarkotimath.

Department of Anatomy, A J Institute of Medical Sciences, Mangalore.

The vidian or pterygoid canal is the osseous tunnel for both the vidian artery and nerve. The greater petrosal nerve (containing preganglionic parasympathetic fibres from facial nerve) joins with the deep petrosal nerve (containing postganglionic sympathetic fibres from cervical sympathetic chain) to form the Vidian nerve (nerve of the pterygoid canal) and passes through the vidian canal before entering the pterygopalatine fossa where it joins the posterior angle of the pterygopalatine ganglion. Vidian artery is a small inconsistent branch arising from the inferior aspect of the horizontal part of petrous internal carotid artery. The aim of the current study is to delineate the vidian canal in CT scans of head and to establish the landmarks for swift and easy localisation of the canal. It is also intended to focus on the functional correlations of the structures present in the canal with its anatomy. The vidian canal is studied in 40 adult CT scans and its measurements including its internal diameter, relationship with the internal carotid artery, sphenoid sinus pneumatization pattern are noted. The distances of the canal from the vomerine crest, from superior & inferior sphenoid sinus wall and from the foramen rotundum also noted. It was concluded that the course of the vidian canal vary widely interpersonally and also within the subject and thorough evaluation of the canal morphology by imaging techniques is essential in understanding the physiological and pathological events associated with the structures passing through this canal.

107. MAGNETIC RESONANCE IMAGING STUDY OF NORMAL MENISCI

DR. RUPALI M.PAWAR, Dr. M. Natarajan, Dr.V.G. Sawant

Department of Anatomy, Dr.D.Y.Patil Medical College, Navi Mumbai

Aim: To determine the dimensions of menisci by using MRI.

· To determine age changes in the dimensions of menisci by using MRI

Materials and methods:

100 Indian patients with history of non-specific knee pain were subjected to MRI. None of the patients had any pathological signal intensity suggesting meniscal tear.

Result and conclusion:

· It was found that there was difference between the dimensions of medial and lateral meniscus.

· As age increases significant changes were seen in the dimensions of menisci.

Result and conclusion will be dealt with in detail.

108. EVALUATION OF CENTRAL NERVOUS SYSTEM ANOMALIES BY ULTRASOUND AND ITS ANATOMICAL CORRELATION

DEEPALI ONKAR, D.D. KSHIRSAGAR, KAJAL MITRA, PRASHANT ONKAR

NKP Salve Institute of Medical Sciences and Research, Nagpur.

Central nervous system malformations are common and are most dreaded and life limiting. They occur in frequency of about 1.4 to 1.6 per 1000 live births. Ultrasonographic study at different gestational age helps to identify and evaluate the central nervous system well before birth. Earlier is the detection more is the time available for the clinician and would be parents to think and plan about the outcome of pregnancy.

The study was done with the aims (1) To identify and evaluate the Central nervous system anomalies in utero by ultrasound and (2) To compare the autopsy findings with pre natal ultrasound. **Material and Methods-** All the Antenatal care patients attending out patient department were screened during routine ultrasound at the Department of Radiodiagnosis. Patients with ultrasound findings of Central nervous system anomalies were included. If termination of pregnancy was done autopsy was conducted to confirm the diagnosis. These aborted fetuses were also examined for other associated anomalies.

Results - Amongst Central nervous system malformations various anomalies found were Anencephaly, Encephalocele, Spina Bifida, Craniorachischisis, Arachnoid cyst etc.

Conclusion- Fetal autopsy provided a definite final diagnosis and confirmed the ultrasound findings in most of the cases.

109. ANTHROPOMETRIC MEASUREMENTS: AN ANATOMICORADIOLOGICAL COMPARISON

MIR JAFFAR, VASUDHA V. SARALAYA, B.V. MURLIMANJU, LATHA V. PRABHU, PRASHANTH K.U., D. SAMIULLAH

Department of Anatomy, Kasturba Medical College, Manipal University, Bejai, Mangalore, Karnataka.

Objectives: To compare the anatomical morphometric readings with that of radiological measurements.

Methods: The study was done at Kasturba Medical College, Mangalore, Manipal University. One cadaveric femur bone was radiographed with the X ray tube at a distance of 33 inches. Few measurements like the length from the upper lip of fovea capitis to the most prominent part of greater trochanter, from the upper most part of greater trochanter to the isthmus, width of medullary cavity at the isthmus, width at the distal root of lesser trochanter were taken from the digital film using the softwares. Later the femur was cut transversely at the level of isthmus and the same measurements were repeated anatomically using the digital vernier caliper. The data were compared with the radiological ones.

Results: In all the readings, the anatomical measurements were slightly higher than the radiological measurements.

Conclusion: The radiological measurements using the softwares are becoming popular now a day because of advanced technology. But there were some differences observed in the present study between the anatomical and radiological measurements. Considering the variations in the values, the implants can be designed for a particular case in orthopedic surgery. We believe

that this study adds an important reference in the anatomical, radiological and orthopedic literature

110. RADIOLOGICAL STUDY OF LUMBAR DISC DEGENERATION IN THE INDIAN POPULATION IN REGION OF MAHARASHTRA

Dr. Mrinalini S. Gaikwad, Dr. Kavita Tyagi, Dr. Mathur, Dr. Bhagirath
MGM Medical College, Kamothe, Navi Mumbai

Aim of Study : Present aim is to study the Lumbar disc degeneration in the Indian population in region of Maharashtra

Objective : Spondylosis or degenerative disc disease of Lumbar spine is common musculo skeleton disorder in the elderly

· The prevalence of lumbar spondylosis increase with age also the occurrence of low back pain & disability

· Epidemiological study of lumbar disc degeneration resulted in different features among different region.

· The objective of the present study was to identify the prevalence and related factors of identify the prevalence and related factor of lumbar spondylosis in population of Maharashtra

Grading as follows in my study :

0 – Normal

1 – Mild

2 – Moderate

3 – Sever

Materials & Methods :

MRI from 50 elderly people ranging from 40 years above were taken & divided into 4 consecutive groups such as people between 40 to 50, 50 to 60, 60 to 70 & above 70 yrs.

The MRI are assessed for presence of lumbar disc degeneration and than noted

Observation & Results :

Further results will be discussed during presentation.

111. MORPHOLOGY AND MORPHOMETRY OF MENTAL FORAMEN

KISHWOR BHANDARI

Mahatma Gandhi Mission's Institute Of Health Sciences,
Navi Mumbai.

Introduction: The mental foramen is a small foramen located on the antero-lateral aspect of the body of mandible. It transmits mental nerve and vessels. Morphological and morphometric study of mental foramen helps to localize the mental nerve which is a branch of the inferior alveolar nerve. This study is of great clinical significance during anesthesia, dental procedure and acupuncture. **Materials And Methods:** Fifty adult dry mandibles were included in this study irrespective of sex. The morphological study like position, shape, and number were studied in detail. Morphometric study like distance from (a) Symphysis menti (b) Inferior border of mandible (c) Alveolar ridge were measured.

Result: In this study, the most frequent position of mental foramen was found in the line of longitudinal axis of the II premolar tooth, although the position varies from I premolar tooth to I molar tooth. Out of 50 mandibles, 48 possessed single mental foramen on each sides whereas 2 mandibles had accessory mental foramen only on right sides. The shape of the mental foramen was found oval in 72 % and round in 28%. In 26% of mandibles, it was not same on the both sides. The finding of the measurement from symphysis menti, inferior border of mandible and alveolar ridge will be discussed in details in the conference.

112. RADIOLOGICAL STUDY OF TRABECULAR PATTERN IN THE NECK OF FEMUR IN POST MENOPAUSAL WOMEN IN INDIAN POPULATION ESPECIALLY IN THE REGION OF MAHARASHTRA

REENU KUMARI, Dr. KAVITA TYAGI, Dr. MATHUR^δ

Department of Anatomy, MGM Medical college, Navi Mumbai.

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ABSTRACT:

AIM: The present aim of our study is to study radiologically, the pattern of trabeculae in the neck of femur in post menopausal women in the region of Maharashtra.

OBJECTIVES: After menopause the level of estrogen decreases due to which there is accelerated bone loss and decreased secretion of parathyroid hormone, which leads to increased level of calcitonin and functional impairment in 1,25 hydroxylase activity, which ultimately causes decreased calcium absorption and hence the trabecular width and density also decreases causing osteoporosis in these women. Hence the objective of our study is to find the trabecular pattern in the neck of the femur in post menopausal women. However the degree of severity depends on menopause and its duration.

MATERIALS AND METHODS: The Present study has been done in women of age group 45-75 years in M.G.M. Hospital, Kamothe, Navi Mumbai. With the help of radiographs we had studied the trabecular pattern of neck of femur. This study is helpful in getting an idea about severity. The study has taken into consideration the age factor, menopause and its duration. Because as the age increases with associated hormonal deficiency, the severity and grade of disease also deteriorates.

OBSERVATIONS AND RESULTS: Our present study will increase the diagnostic value of radiographs for finding the severity of osteoporosis. Further findings will be discussed during presentation.

113. A CASE OF CONGENITAL DIAPHRAGMATIC HERNIA – EMBRYOLOGICAL AND CLINICAL CORRELATION

DR RAKHI M. MORE, DR MILIND P. MORE

Dept. of Anatomy, K. J. Somaiya Medical College*, Mumbai

Abstract: Congenital Diaphragmatic hernias (CDH) occur with estimated incidence of 1 / 2 –4000 live births. Uniform agreement on the mechanisms of closure of the pleuripotent canals cannot be found in literature. It is generally believed that defect in congenital diaphragmatic hernia results from the pleuripotent canals to close at the end of the embryonic period (8th gestational week). It is assumed that the gut could enter the thoracic cavity through this defect, causing compression and finally hypoplasia of the lung. In this paper we discuss the embryological and clinical basis of the Congenital diaphragmatic hernia (CDH) seen in case of a five year old female child.

Key words: Diaphragm, Normal development, Congenital diaphragmatic hernia (C.D.H.)

114. BIRD'S BEAK OESOPHAGUS

S. JAYAGANDHI & VIRENDER KUMAR NIM

DEPARTMENT OF ANATOMY PONDICHERRY INSTITUTE OF MEDICAL SCIENCES PONDICHERRY.

Achalasia also known as Achalasia cardia, oesophageal achalasia, cardiospasm, oesophageal aperistalsis is an oesophageal motility disorder. The smooth muscle layer of the oesophagus loses normal peristalsis and the oesophagus and the lower oesophageal sphincter (LES) fails to relax properly in response to swallowing it is characterized by incomplete LES relaxation, increased LES tone and aperistalsis of the oesophagus.

During Routine dissection of the thoracic region for teaching, while reflecting the right lung I had incised one dilated structure along with right lung, the interior of that structure appear like stomach. So initially I thought it may be a case of hiatal hernia of stomach. After reflection the left lung and heart, the oesophagus was found to be dilated the lower end had a diverticulum projecting towards the right side, the oesophagus showed BIRD'S BEAK appearance a typical characteristic of achalasia.

I sent the tissue for pathological analysis and also received an opinion of gastroenterologist. Achalasia affects about 1:100,000 per person and also this is a uncommon disorder, no known

underlying cause. This Case report presents rare abnormality Achalasia.

115. STUDY OF THE EXTENSOR TENDONS OF THE INDEX FINGER

DR. SHARADKUMAR P. SAWANT, DEPT. OF ANATOMY, K.J.SOMAIYA MEDICAL COLLEGE, SION, MUMBAI

AIM: To study the extensor tendons of the index finger in 150 embalmed cadaveric hands. **MATERIAL AND METHOD:** 150 embalmed cadaveric hands of different ages were dissected and pattern of extensor tendons of the index finger was noted. **CONCLUSION AND RESULT:** The various pattern of distribution of extensor tendons of the index finger were observed. The surgeon operating on dorsum of hand must bear in mind the existence of these variations while performing any surgical correction or common tendon transfer. **Keywords:** extensor digitorum, extensor indices, dorsum of the hand, dorsal digital expansion.

116. VARIATION IN DIGASTRIC MUSCLE WITH ITS CLINICAL RELEVANCE

T. AHMAD

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Digastric muscle consists of anterior and posterior two bellies. These two bellies are united by an intermediate tendon which is attached to the body and greater cornu of hyoid bone by a fibrous sling. Variations in digastric muscles are not uncommon seen in their number and site of insertion. Usual variations are the absence of the intermediate tendon, augmentation of posterior belly by a slip from styloid process or arise totally from it, presence of accessory muscle on one or both the sides, anterior belly of digastric may cross the midline abnormally and fuse with the mylohyoid unilaterally or bilaterally. The fibers anterior belly of digastrics muscles which crosses the midline can be mistaken for the infarcted lymph nodes. Now further studies are being done to see the comparison of jaw movements in such subjects. Details will be discussed in full length paper.

117. A CASE REPORT OF ACUTE DISLOCATION OF PATELLA DUE TO DEFICIENT MEDIAL PATELLAR FACET AND ABNORMAL Q ANGLE.

Dr Minu Bedi, Dr Samit Grover, Dr V.V. Gopichand Patnaik

Department of Anatomy, MMIMSR Mullana, Ambala

A student of 5th Semester MBBS from MMIMSR Mullana, Ambala presented with a laterally dislocated patella in the OPD after falling on his back while playing badminton. In such an agonizing state only clinical photographs were taken and post reduction radiographs could be taken to assess the injury.

On examination of the X-rays no gross abnormality was seen on antero-posterior or lateral view but skyline view showed that he had a vertical comminuted fracture on medial aspect of patella. Also it was seen that medial articular surface of patella was much smaller than medial femoral condyle. The opposite patella on skyline view showed a similarly small medial facet which was attributed for dislocation by this trivial injury after fall from a standing height. Such cases are prone to recurrent patellar dislocations.

Q- Angle was very much increased from the normal range which in this case was 20 degrees. Elevated Q-angle represents an estimate of lateralizing forces on patella. Q angle more than 15 degree may predispose the individual to lateral patellar tracking and possible dislocation. Some authors have noted that 60 percent of patients with patello femoral symptoms have normal Q angles. Post et al in 2009 has surmised that Q angle is a measurement of valgus force. The aim of study, material methods, results will be discussed during the presentations.

Conclusion: In the case being discussed Q angle was raised. There was a congenital deficiency in medial patellar facet and both of these factors contributed to lateral dislocation of patella after a trivial injury.

118. ABSENCE OF PALMARIS LONGUS TENDON IN NORTH EAST INDIAN POPULATION

RAJAT DUTTA ROY, RUBI SAIKIA, TARU HANDIQUE

Department of Anatomy, Assam Medical College and Hospital, Dibrugarh

AIM: Palmaris longus is a phylogenetically degenerating muscle. It has been extensively used as graft material in various reconstructive surgeries. The prevalence of its absence has been seen to vary among different ethnic groups worldwide. However, a data regarding its absence is lacking in the people of North East India. Therefore the present study has been undertaken.

MATERIALS AND METHODS: A total of 170 medical students from this region were clinically tested for the presence of Palmaris Longus tendon using the standard test (Schaeffer's test). In those subjects with suspected absence, three other tests were performed to confirm the result.

RESULT: Out of the 170 students, 99 were males and 71 were females. Unilateral absence of the tendon was found in 5 cases (2.94%), but no bilateral absence was noted. 2 out of 99 males (2.02%) and 3 out of 71 females (4.22%) showed absence of the Palmaris Longus tendon. Furthermore, 3 cases were absent in the right side (3.52%) and 2 on the left (2.85%).

CONCLUSION: Majority of findings in the present study is comparable with those of the rest of the world. However, the bilateral absence of the tendon which was not found needs further evaluation.

119. UNILATERAL ABSENCE OF STYLOHYOID MUSCLE WITH OTHER ASSOCIATED MULTIPLE NECK ANOMALIES

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A.J. Institute of Medical Sciences, Mangalore

Nature has a unique way of passing on the characteristic features from one generation to the other. By this way nature maintains profound similarity between individuals of the same species. Yet, no two individuals are alike. This distinct feature of an individual is influenced by several environmental factors. Developmental anomalies manifest in an individual as an absence, duplication, an accessory, or abnormal course of a structure. Few of such variations are commonly observed and many of them are very rarely seen. One such combination of variants observed in a female cadaver is presented here. Stylohyoid muscle was absent on the left side. Scalenus anterior muscle had an additional slip of origin between which the roots of the brachial plexus emerged. Further, a well developed levator glandulae thyroideae and thyroidea ima artery was also seen. Review of literatures indicated that the stylohyoid muscle is absent in some species. However, absence of stylohyoid muscle in man is very rarely reported. Additional slips of origin of the scalenus anterior may entrap the roots of the brachial plexus. The embryological background and the clinical significance of the variations thus observed will be discussed.

120. CORONARY ARTERY DOMINANCE AND ITS CLINICAL SIGNIFICANCE

Surekha Meshram, * U. L. Gajbe, ** S.V.Pandit***

* Shri V. N.G.M.C, Yavatmal ** J.N.M.C, Sawangi, Wardha *** Shri V. N.G.M.C, Yavatmal

Aim of study: To find out which coronary artery dominance i.e. whether the right or the left coronary artery predominance is related to myocardial infarction in human hearts.

Material and Method: The study was carried out in 50 human hearts which were obtained from dissected cadavers from department of anatomy J.N.M.C, Sawangi, Wardha. The hearts were studied by fine dissection method.

Result: The original concept of coronary artery dominance was based on sole criterion so as to which artery crossed the crux of heart and thus supplied the opposite chamber. The left coronary artery is more prone to cause myocardial infarction because it has more transverse course as compare to right coronary artery. Due to typical transverse course atherosclerosis and obstruction is more common in left coronary artery which are the predisposing factors for myocardial infarction. In this study right dominance of hearts were found the details of which will be discussed during the conference.

121. An Anatomical Study On The Various Level Of The Division Of Sciatic Nerve

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INTRODUCTION: The sciatic nerve is the broadest nerve of the body; it is about 2cm broad at its origin. The sciatic nerve usually ends half-way down the back of the thigh and then divides into common peroneal and tibial nerves. The position of this division of the sciatic nerve is variable. These anatomical variations may contribute to some clinical conditions such as; piriformis syndrome, sciatica, coccygodynia

AIM: Aim of the present study is to know the various levels of division of sciatic nerve in north-eastern population.

MATERIALS AND METHODS: The division of the sciatic nerve was studied in 80 lower limbs (30 normal fetuses and 10 normal adult cadavers) by thorough dissection.

RESULTS: The position of the nerve division showed large anatomical variation. All the readings were tabulated and results of the study will be presented during conference.

CONCLUSION: This study is an attempt to increase the existing knowledge of the division of the sciatic nerve and would help the surgeons and clinicians in diagnosis and treatment of related diseases.

122. AN ANATOMICAL STUDY OF CORONARY ARTERY DOMINANCE IN HUMAN CADAVERIC HEARTS.

RASHMI REKHA BORDOLOI, SUKUMAR MAHANTA,
RUBI SAIKIA, MUKUL SARMA

Department of Anatomy, Assam Medical College, Dibrugarh,

AIM: The aim of the present study is to observe the incidence of coronary artery dominance in 50 human cadaveric hearts. The knowledge of right or left coronary artery dominance is important from the point of view that left coronary artery dominant people are more susceptible for coronary heart disease.

MATERIALS AND METHOD: By simple dissection method, study of 50 human cadaveric hearts was carried out in the department of anatomy, Assam Medical College and the dominance was noted.

RESULTS: In the present study, right dominance was observed in 76% of hearts, and left dominance was observed in 20% hearts and 4% of hearts revealed balanced dominance. Further details about the findings will be discussed at the time of presentation.

CONCLUSION: The study reveals that most of the cases were having right coronary predominance.

123. AN ANATOMICAL STUDY OF THE HUMAN RENAL PELVI-CALYCEAL SYSTEM

SHOBHANA MEDHI, ANURADHA BARUAH, TARU HANDIQUE

Department of Anatomy, Assam Medical College and Hospital, Dibrugarh, Assam.

Aim: To describe the human renal pelvi-calyceal anatomy to aid in interpretation of excretory urograms and safe endourological manipulations.

Materials and methods: A total of 40 pairs of human foetal kidneys were meticulously dissected. All specimens were preserved in 10 % Formaldehyde solution. These were then sectioned longitudinally, dried with blotting paper and studied specifically to see the pelvis, major and minor calyces. The branching pattern of the pelvi-calyceal system was delineated.

Results: The present study showed that the renal pelvi-calyceal anatomy shows wide variations. The most common pattern being the tri-calyceal type in which the pelvis branches into three major calyces, followed by the bi-calyceal type with two major calyces. Some unusual types were also noted, the details of which will be discussed during the presentation.

Conclusion: The number and pattern of the pelvi-calyceal anatomy of the human kidney show wide variations and may also not be the same in the two kidneys of the same individual. A thorough and detailed understanding of the subject is of utmost importance to the radiologists and urologists in performing safe endourological interventions. The present study will contribute to the existing knowledge of the pelvi-calyceal anatomy and aid in safe endourologic procedures.

124. VARIATIONS OF AZYGOS VENOUS SYSTEM - A DISSECTION BASED STUDY.

SANTANU KUMAR SARMA, TARU HANDIQUE, ANURADHA BARUAH, RUBI SAIKIA.

DEPARTMENT OF ANATOMY, ASSAM MEDICAL COLLEGE, DIBRUGARH.

AIM: The fact that variations commonly exist in the azygos venous system should be kept in mind by one and all in the medical profession, especially by the radiologists and surgeons. So it is decided to conduct a study to observe variations in the formation of azygos venous system.

MATERIALS AND METHODS: The perinatal cadavers from the department of Obstetrics and Gynaecology, A.M.C., Dibrugarh, and adult cadavers in the dissection hall of Anatomy department and 10 specimens were observed in postmortem hall in the Forensic department, A.M.C.

A midline incision was given from the suprasternal notch to the pubic symphysis. After removing the sternum, all viscera were taken out from the thorax and abdomen. Thereafter the azygos venous system was observed.

RESULTS: During the routine dissection of 44 numbers of cadavers, multiple variations of the azygos venous system were observed. The hemiazygos vein was either absent or underdeveloped in some cases. There were also variations in the tributaries of azygos vein. Details of these will be discussed at the time of presentation.

CONCLUSION: Out of the 44 cadavers, variations in tributaries of azygos vein do exist. Also in some cases, we have found that hemiazygos vein was either absent or underdeveloped.

125. MORPHOLOGICAL STUDY OF THE MENISCI OF THE KNEE JOINT IN PERINATAL CADAVERS

NATASHA GOHAIN, TARU HANDIQUE, ANURADHA BARUAH,
DEPARTMENT OF ANATOMY, ASSAM MEDICAL COLLEGE,
DIBRUGARH

Aim of the study: To evaluate the morphological variation of the lateral and medial meniscus of the knee joint for different interventional procedures.

Materials and Methods: The study undertaken in the Deptt. Of Anatomy, AMC included 92 menisci from 46 perinatal cadavers which were preserved in 10% formaldehyde solution after simple

dissecting procedure. The morphological variation of the menisci were morphologically studied and classified

Results : Large number of variations have been described in the literature as regard the size, shape and the attachment of the two menisci. In almost all the cases studied, the lateral meniscus was found to be circular and the medial meniscus was semilunar in shape. There is slight deviation from the normal shape of menisci observed.

Conclusion : The menisci of the knee joint play an important role in the mechanics of the knee joint. They make the tibia and femoral condyles more congruent and produce efficient lubrication of the joint by reducing contact. Detailed study of the meniscus help in :-

- 1) Management of the injuries by arthroscopic surgery.
- 2) Synthetic meniscal replacement.

126. Study Of Arterial Supply Of Suprarenal Gland

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ASSAM MEDICAL COLLEGE AND HOSPITAL, Dibrugarh

AIM:

The suprarenal gland is supplied by Superior, Middle and Inferior suprarenal arteries. On review of literature it is obvious that variations in the arterial supply are not uncommon.

The aim of this study is to observe the normal pattern and variations of arterial supply of suprarenal gland.

MATERIAL AND METHODS: The was done in the Department of Anatomy, Assam Medical College and Hospital. 60 specimens of perinatal and adult suprarenal gland were dissected by routine dissection method and then studied.

RESULTS: The suprarenal gland has greatest arterial supply per gram tissue. The gland is supplied by 3 arteries-

1. Superior Suprarenal artery arises from Inferior phrenic artery.
2. Middle Suprarenal artery arises from Abdominal aorta.
3. Inferior Suprarenal artery arises from Renal artery.

Variations in the arterial supply of suprarenal gland can be seen. During the study, Superior Suprarenal artery was found normal in both sides. Variations in origin and distribution are mainly observed in the Middle and Inferior Suprarenal arteries.

CONCLUSION: A detailed study of arterial supply of Suprarenal gland helps the surgeon during operations of various retroperitoneal pathologies of upper abdomen, laparoscopic adrenalectomy. It is also important for radiological and embryological study. Loss or obstruction of blood supply to the gland as a result of arterial disease is a possible cause of Addison's disease or Acute adrenal failure.

127. COMMUNICATIONS BETWEEN MUSCULOCUTANEOUS NERVE AND MEDIAN NERVE-A STUDY

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The Musculocutaneous Nerve of the arm is known for its frequent variations.

A detailed study was done on the Musculocutaneous Nerve to note it's communications with the Median Nerve. 50 cadaver arms were studied from Medical Colleges in Bangalore. 16/17 of the variant arms show intercommunications between Musculocutaneous Nerve and Median Nerve. **Communications from the Musculocutaneous Nerve to the Median Nerve** are seen in 76.47% of the variant arms. Of these, 53.8% are in the upper 1/3 of the arm, 38.46% in the middle 1/3 and 7.69% in the distal 1/3 of the arm. The communicating branches from the Musculocutaneous Nerve to Median Nerve which are given in the upper 1/3 of the arm before the Musculocutaneous Nerve pierces Coracobrachialis is considered as II lateral root of Median Nerve.

A communicating branch from the Median nerve to the Musculocutaneous Nerve is found only in 5.88% of the variant

arms. In 11.76% of the variant arms, the whole lateral cord joins the medial root to form the Median Nerve. The Musculocutaneous Nerve then arises from this Median Nerve. When the **communications** are **classified** according to that of earlier authors, the percentage agreed with those of the earlier studies.

The results of the study discussed, clearly show that most of the variations of Musculocutaneous Nerve are it's intercommunications with the Median Nerve. These variations are frequent and have to be studied in detail by every surgeon so as to prevent any iatrogenic damage during surgery. These can result in neuropathies with atypical presentation. Incorrect diagnosis and unnecessary surgeries (e.g, carpal tunnel release) can be avoided if the surgeon keeps in mind these variations and the clinical presentation of these variant nerves in case of an injury.

128. A STUDY IN ANATOMICAL VARIATION OF MUSCULOCUTANEOUS NERVE.

Dr. Sushil Jiwane, & Dr. R. R. Fulzele

Department of Anatomy J.N. Medical College Sawangi (M) Wardha
To study the variation in course, branching pattern, and termination of Musculocutaneous nerve was carried out in at Jawaharlal Nehru Medical college Sawangi (M) Wardha, Maharashtra. During routine dissection of 40 upper limb from 20 embalmed adult cadavers. The aim of this study was important for clinical investigation and surgical treatment of peripheral nerve injury. Details will be discussed during paper presentation.

129. STUDY OF CORONARY PREDOMINANCE IN 100 HUMAN HEARTS

DR. KANAN SHAH, DR. B. D. TRIVEDI

DEPARTMENT OF ANATOMY, Smt. N. H. L. Municipal Medical College, AHMEDABAD, GUJRAT.

AIMS & OBJECTIVES: To Find out incidence of right and left coronary predominance.

MATERIAL & METHODS: We have dissected fifty human hearts in dissection hall of anatomy department, Smt. N. H. L. Municipal Medical College, Ahmedabad. We have seen for coronary predominance in fifty angiographs done in cathlab of Sheth V.S. General hospital.

RESULTS & CONCLUSION: It was observed that 82% of heart showed right coronary predominance, 17% showed left coronary artery predominance and 1% were of balanced type. Posterior interventricular artery was arising from right coronary artery in 82% of hearts. In 17% of hearts it was arising from circumflex artery, branch of left coronary artery. That shows in 82% cases right coronary predominance and in 17% cases left coronary predominance.

130. CLINICO-ANATOMICAL REVELATION OF A RARE BILAMINAR CONSTITUTION OF THE GENIOHYOID MUSCLE - UNIQUE DISPOSITION OF SUPRAHYOID MUSCULATURE

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Geniohyoid (GH) plays a vital role in maintaining upper airway patency and anomalies pertaining to this muscle should not be overlooked. In fact, a careful recognition of these variations is mandatory while planning any interventional procedure in the suprahyoid region. We report a rare muscular anomaly in the suprahyoid region of the neck. The significance of the stratification of the GH muscle could be related to the physiological role of the muscle of elevating the larynx during deglutition. Additionally, GH is an important muscle which is preferably preserved in procedures such as mandibulotomy. The presence of this unusual constitution

of GH muscle could possibly alter the steps of this operational procedure. While performing routine educational dissection, the suprahyoid region displayed a rare bilaminar constitution of the Geniohyoid (GH) muscle bilaterally. The configuration of Geniohyoid muscle revealed stratification into two layers or lamina, superficial and deep. The attachments of the muscle were as usual and the deep lamina of GH was found to be in the same plane as Genioglossus muscle. The accessory muscles received innervation from the hypoglossal nerve.

Key Words: Geniohyoid, anomaly, stratification, supra-hyoid

131. THE STUDY OF NASAL PARAMETERS IN MAHARASHTRAIAN POPULATION

BHASKAR. B. REDDY, B.R. ZAMBARE. SUDHIR. E. PAWAR, SANTOSH.V.SHINDE

P.D.V.V.P.F's Medical College & Hospital, Ahmednagar.

ABSTRACT

Introduction & Aim of the study: Facial anthropometry has become an important tool used in genetic counseling, reconstructive surgery and forensic investigation. The nose is the most prominent 3-Dimensional structure located on the central area of the face. It is also the first part of the air channel to the lungs. Its shape including the nasal bridge, slope of the tip, the septum and nares differ from race to race, tribe to tribe and from one environmental region of the world to the other. The nose can be categorized on the basis of Nasal parameters (Nasal height, Nasal width and nasal index). Nasal analysis is the first step a surgeon takes before performing rhinoplasty (plastic surgery) to change the shape of the nose.

Materials and Methods: This study has taken up in PDVVPF's Medical College, Ahmednagar and the study population consisted of 300 subjects (160 male and 140 female with ages ranging from 18-25 years). Sliding Vernier caliper was used in measurement of nasal height and width and the data was statistically analyzed.

Results and conclusion: Significant differences were observed in the nasal indices of Maharashtraian population when compared with other populations previously studied. This data is an important anthropometric tool and it has tremendous relevance in forensic investigations, clinical practice and plastic surgery. Details of the study results will be discussed during the time of presentation.

132. ANTHROPOMETRIC STUDY OF THE NOSE AND FACE AND THEIR CORRELATION IN NORTH INDIAN ADULTS

DR NEETA CHHABRA, DR VV GOPICHAND PATNAIK, DR MINU BEDI

Department of Anatomy, MM Institute of Medical Sciences & Research, Mullana, Haryana.

This study was conducted on 600 Adults (300 males and 300 females) of North Indian origin in age group of 18 to 40 years. Prior informed written consent was obtained from the subjects. Exclusion and inclusion criteria for the subjects were predefined. The purpose of this study was to establish morphometric standards for nose and face of North Indian population which will help the surgeons to offer a better cosmetic result in aesthetic or reconstructive rhinoplasty. Nasal height, length, breadth, depth, facial length and breadth were measured using a sliding and spreading caliper. The average nasal height was 51.32mm in males and 50.30mm in females, nasal length 46.55mm for males and 45.26 for females, nasal depth 16.12 mm for males and 15.80 for females, nasal breadth 39.48mm for males and 35.79 for females. Face length was 112.84 mm for males and 108.84mm for females, face breadth 124.70 mm for males and 121.51 mm for females. The mean nasal index was 77.39 for males and 72.28 for females, facial index 90.68 for males and 89.59 for females, nose face width index 31.77 in males and 29.94 in females, nasofacial index 45.56 in males and 46.56 in females and elevation of nasal index 40.98

in males and 45.48 in females. Sexual dimorphism was observed in most parameters of nasal region with all linear measurements being more in Males. Males also had a higher nasal index. Mesorrhine type of nose was found in both sexes. Females had mesoprosopic face whereas males had leptoprosopic face.

133. A Study On Morphometry Of Human Ear Prints And Ear Photographs In 200 North Indian Adults.

DR SURESH KUMARI, DR VV GOPICHAND PATNAIK, DR NIDHI PURI

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Present study was conducted to elicit differences in morphometry of ears of males & females using ear prints & ear photographs. It was a random study comprises of 200 north Indian adults of either sex in equal ratio. Prior informed consent for this study was taken. The exclusion and inclusion criteria for the study were predefined. The purpose of study was to create baseline data of ear shapes from ear prints & photographs for forensic and anthropometric sciences. The prints of both ears were taken separately, on a clean transparency sheet & made prominent with help of black powder. Both ears were photographed with digital camera of above 7 m pixels. Length & breadth of both ears & their respective lobules of each subject was measured. Ear prints & photographs were classified for various shapes. Mean length of ear prints & photographs of whole ear of males was 6.9±0.46cm & 9.5±0.46cm & females was 6.2±0.42cm & 9.1±0.42 & mean breadth of ear prints in males & females was 3.6±0.38cm & 5.5±0.38 & 3.3±0.35cm & 4.6±0.35 respectively. There was a significant gender dimorphism in length (P<0.001) & breadth (P<0.001) of males & females. It was found that mean length of lobules of ear prints & photographs of males was 2.6±cm, 3.06±cm & females was 2.3±cm, 3± and mean breadth of lobules of ear prints in males & females was 2.3±, 2.6±cm & 2.1±, 2.7±cm respectively. Ears were classified according to shape as triangular, round, oval, & rectangular.

	Triangular	Rectangular	Oval	Round
Males	75	08	12	5
Females	48	30	18	04

So, north Indian adults have triangular shaped ears. Males have more percentage of triangular shaped ears than females followed by rectangular shaped ears.

134. DETERMINATION OF PERSONAL HEIGHT FROM FOOT LENGTH IN

MAHARASHTRA REGION

SUDHIR. E. PAWAR, B.R. ZAMBARE, *V.G. SAWANT, S. V. SHINDE, BHASKAR. B. REDDY

PDVVPF's Medical college Ahmednagar, * Dr.D.Y Patil medical college, Navi Mumbai.

Aims and objective: In this study an attempt is made to find out correlation and to derive a regression formula between foot length (posterior most part of calcaneus to tip of 1st or 2nd finger, whichever is longer) and total body height in Maharashtra region.

Material and Methods: The study is conducted on 250 medical and paramedical students (130 male and 120 female from Maharashtra region. The age was in range of 18 to 25 years. The foot length is measured between the two fixed points i. e. between posterior most part of calcaneus to tip of 1st or 2nd finger, whichever is longer. To measure this length the osteometric board is used. Along with this we have measured the foot breadth (between head of 1st and 5th metatarsal) with spreading Vernier caliper as an additional parameter. The height is measured by height measuring rod. These measurements were done between fixed times to avoid the diurnal variation. The result obtained was analyzed and attempt was made to derive the formula between foot length and total height of an individual by using statistical formulas.

Result: The result from this study shows definite correlation between foot length and height of an individual, in spite of racial and ethnical variation. The observations and results will be explained in detail during presentation.

Conclusion: The data from present work will be definitely useful not only for anatomist but also for anthropologist and also in forensic medicine science.

135. ESTIMATION OF STATURE FROM HAND LENGTH IN THE TRIBAL POPULATION OF GUJARAT REGION.

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P.D.V.V.P.F's Medical College & Hospital, Ahmednagar., *
Sinhagad Dental College, Pune.

Estimation of an individual's stature is an important parameter in forensic examination and anthropological studies. Morphometry of hand provides important evidence in a crime scene investigation of structure of a criminal. Only few studies of other racial groups, exists which emphasis the need to establish standard in different ethnic population. There for this study was carried out in the 249 male & female above 23 years of individuals of tribal community from Aslona area of Gujarat region.

The height of the individuals was measured standing erect in anatomical position, using a standing height measuring instrument. The hand length direct linear distance between the distal wrist crease and the distal end of the most anterior projecting point of the middle finger, was measured using the sliding caliper capable of measuring to the nearest 0.01mm and to investigate the relationship between personal stature and hand length among a group of male or female.

The differences of hand length between the sexes were found to be highly significant. A positive correlation between height & hand length was observed in both the sexes and it was statically significant. Regression equation for stature has estimated using the hand length for both sexes. The result indicate that hand length provides precise means of estimating the stature of an unknown individual. The regression formula derived in this study will be useful for anatomists, archeologist, anthropologist and forensic scientist. The detailed results will be discussed at the time of presentation.

136. COMPARATIVE ANALYSIS OF CRANIAL CAPACITY, CEPHALIC INDEX, BMI & IQ OF FIRST M.B.B.S. STUDENTS.

ARATHI.M.S., VATHSALA VENKATESAN, W.M.S.JOHNSON.
SREE BALAJI MEDICAL COLLEGE AND HOSPITAL, CHENNAI - 44.

It is an established fact that there exists a relationship between cranial capacity and volume of brain and this in turn can reflect one's intelligence. This is proved by the fact that lower mammals are with small head size compared to highly evolved human cranium. Most of the studies in the past have been made on dry skulls or by radiological methods which estimate cranial volume that indirectly reflects brain volume. Also studies have been done on various age groups. In this study an attempt has been made to estimate the cranial capacity, BMI, Body Fat %, Cephalic Index and to find the correlation between the above. 100 students of first M.B.B.S of age group 18 to 20 years, studying in Sree Balaji Medical College & Hospital, Chennai were selected for this study and categorized based on their academic performance. Even though, brain size and cranial capacity had a positive correlation; BMI had more direct correlation with cranial capacity.

137. INCOMPLETE SUPERFICIAL PALMAR ARCH WITH PERSISTENT MEDIAN ARTERY

DR.PARINEETA SUMAN, DR.S.SARITHA
S.V.S Medical College, Mahabubnagar, A.P.
Content - Knowledge of anatomical variations of the arterial pattern of hand is crucial for safe & successful hand surgery.

A classic superficial palmar arch is defined as direct continuity between the superficial branch of ulnar artery & the superficial branch of radial artery.

During routine dissection of 10 upper limbs in 3 male & 2 female adult cadavers, we observed incomplete superficial palmar arch in one male cadaver on right side.

Most striking feature was persistence of median artery which had significant contribution in formation of superficial palmar arch.

Medial half of the arch is formed by superficial branch of ulnar artery & lateral half by median artery.

The superficial branch of radial artery is absent & there is no communication between two halves.

Details of the study along with its embryological basis & clinical significance will be presented in the conference.

138. MORPHOLOGICAL ANALYSIS AND MORPHOMETRY OF THE VERMIAN FOSSA IN DRY SKULLS

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PRASHANTH K.U., LATHA V.

PRABHU, GANESH KUMAR C.

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Objectives: To find the incidence of vermian fossa in South Indian population and to measure the width and length of these fossae. Also we aimed to classify them according to the shapes.

Methods: The study included 20 cranial base (vault removed) and 15 occipital bones. These specimens belonged to the neuroanatomy laboratory of Kasturba Medical College, Mangalore. The inner aspect of the posterior cranial fossa was examined for the presence of the vermian fossa. The fossae were classified macroscopically as triangular shape (type 1) and quadrangular shapes (type 2). The fossae which were other than these shapes were included under atypical type (type 3). Finally the length and width of these foramina were calculated with a digital vernier calliper.

Results: The vermian fossa was observed in 25 specimens (71.4%). It was triangular shaped (type 1) in 19 specimens (54.3%) and quadrangular (type 2) in 2 (5.7%). In 4 (11.4%) specimens it was having unusual morphology and considered as atypical (type 3). The mean length and width of the fossa was 13.6 ± 4.4 mms and 11.9 ± 3.3 mms respectively.

Conclusion: The details about the vermian fossa are scarce in the literature. The present study recorded the incidence rate of 71.4% in South Indian population. It was triangular in shape in majority of the specimens. We believe that the data obtained in the present study is of importance in neurosurgical literature. The findings may give an idea about the inferior cerebellar vermis of the brain. The study is also enlightening for the neuro anatomists and morphologists.

139. CRANIO-FACIAL ANTHROPOMETRY IN SOUTH INDIAN POPULATION

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ABSTRACT: AIM: Anthropometry is the standardized scientific technique of measuring human body of which cephalometry continues to be the most versatile technique. It is useful in identification, forensic medicine, plastic surgery, orthodontics, and archeology and examines differences between races and also in evaluating a patient before craniofacial surgery for studying the growth trends and in Orthodontics. Also, this has been widely used in systematic description of populations both living and extinct. This study is aimed at applying the international cephalometric methods to assess cranio-facial characteristics of human skulls of

South Indian population and to compare among the male and the female skulls.

Materials and methods: 50 human adult skulls from the Department of Anatomy, Kasturba Medical College, Mangalore were selected of (19 male, 31 female). Maximum cranial length, maximum cranial breadth, cranial height, upper facial height and maximum facial breadth were measured. Based on the above values, Horizontal Cranial Index, Vertical Cranial Index, Transverse Cranial Index and Upper Facial Index were calculated. Unpaired t test was applied to the various indices in both male and female skulls.

Results: Based on the Martin – Saller classification majority of skulls were Dolicocephalic (HCI), Moderate Hypsicephalic (VCI), Acrocephalic (TCI) and Mesene type (UFI).

Conclusion: We have made an attempt to obtain the cranio-facial characteristics of ethnical groups of South India, which helps us in understanding the frequency distribution of human morphologies and provides us the basis for a future comparison among skulls of different regions of India and other parts of the globe.

140. DETERMINATION OF SEX FROM FOOT MEASUREMENTS OF MAHARASHTRAIAN POPULATION.

BHASKAR B. REDDY, B.R. ZAMBARE, SUDHIR E. PAWAR, SANTOSH.V.SHINDE

P.D.V.V.P.F's Medical College & Hospital, Ahmednagar.

Introduction & Aim: When unidentified human remains are found, a biological profile is created by a forensic anthropologist to estimate the sex, ancestry, age, and stature of the individual. Among all of this, sex is one of the most important aspects, as it is a key element in the process of identification especially in medico-legal practice. Although many forensic anthropologists tend to first look at the skeletal remains when estimating the sex, many times the skeletal elements are not recovered intact due to certain limitations such as bomb explosions and animal scavenging. The problem mainly arises when the body is recovered in advanced stage of decomposition, mutilated state. Sometimes fragments of limbs and other parts of the body are found and brought to forensic anthropologists for examination and sex determination.

In the present study, attempt has been made to find out co-relation of foot measurements with sex (male/female).

Material & Methods: This study has taken up in PDVVPF's Medical College, Ahmednagar and the study population consisted of 350 subjects (185 male and 165 female with ages ranging from 18-25 years). Sliding Vernier caliper was used in measurement of foot length and foot breadth.

Results: The data was statistically analyzed. The foot index was calculated and has been used for determination of sex. The results indicate a positive co-relation between an individual's foot measurements and gender. The details of the study results will be discussed at the time of presentation.

141. SEX DETERMINATION FROM THE MORPHOMETRIC ANALYSIS OF NASAL BONE

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The skull appears to be the main reliable bone, apart from pelvis, exhibiting sexually dimorphic features. **AIM:** The aim of the study is to do the craniometric analysis of nasal bone and study its role in sexual dimorphism. **MATERIAL:** The skulls of 60 individuals of known sex (30 male and 30 female) of Indian Punjab region were taken as material for the present study. **METHOD:** A series of three

metric variables: nasal height, nasal breadth and nasal index were taken using the sliding caliper. **RESULTS:** Upon statistical analysis (stepwise discriminant function analysis) 71.7% of the skulls were correctly classified as male and female skulls. **CONCLUSION:** Thus the present study has established specific craniometric standards of the nasal bone for the population of this region and the data is of significance in the field of forensic medicine and physical anthropology.

142. A 3D MODEL OF THE KNEE JOINT: AN EASY WAY TO DEMONSTRATE ANATOMY AND ITS MOVEMENTS

RACHITA MALWATKAR, YUVARAJ BHOSALE, LAKSHMI RAJGOPAL, PRITHA BHUIYAN

DEPARTMENT OF ANATOMY, SETH G.S.M.C. AND K.E.M. HOSPITAL, MUMBAI

INTRODUCTION: The knee joint is a complex joint. Hence, it is difficult for the students to comprehend its anatomy and movements. In this presentation, an innovative teaching modality in the form of a model of the knee joint has been designed and presented for better understanding.

AIM AND OBJECTIVE:

To demonstrate the anatomy and movements of the knee joint

MATERIALS AND METHOD:

The knee joint model was made using the following materials-

- Lower end of femur
- Upper end of tibia and fibula
- Patella
- Rubber bands for ligaments
- Plaster of Paris for menisci
- Stand

RESULT AND DISCUSSION:

The advantages and disadvantages of the knee joint model will be explained

143. THE SCOPE OF "OBJECTIVE STRUCTURED ORAL EXAMINATION" FOR FIRST PROFESSIONAL EXAMINATION IN ANATOMY

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Objective Structured Practical Examination (OSPE) and OSCE are in vogue for decades now. However, to our knowledge, the more 'subjective' oral examination has, not yet, been subjected to objectivity and structural analysis. In consonance with the curricular reforms already adopted by our Anatomical Society of India for quite some time, it would be in the fitness of things if ways and means to improve upon the oral examination are now discussed and rationalized. It is proposed that examiners may prepare questions for oral examination well in advance with their difficulty indices in ascending order from the "must know" to "desirable to know" and finally "nice to know". Post-card size (5" x 3.5") thick paper may be used for typing the questions and proper weightage should be given to different regions of the body (for gross anatomy) or for various topics of general and systemic embryology. The examinee may be asked to pick up, at the outset, one of the masked cards from the "must know" set and thereafter, if he/she answers satisfactorily the question of the basic category, the cards from the next 2 sets may be allowed to be picked up and attempted. The evaluation may be based on successfully answering category 1 questions (50% of maximum marks), "desirable to know" questions (60-75% of max. marks) and "nice to know" questions (above 75%).

144. SIMPLE INNOVATIVE FUNCTIONAL MODEL OF LARYNX

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Undergraduate medical student very often find anatomy of larynx difficult to understand. Demonstration of larynx through sagittal section of head and neck does not reveal all the structures hence it is difficult for the students to conceptualize the shape of laryngeal cartilages, rima glottidis and movements of vocal cords. Aim: To make a simple functional model of larynx to show the shape of laryngeal cartilages, joints between them, vocal cords and their movements. Materials & Methods: Using commercial epoxy compound (M-seal) the thyroid, cricoid and arytenoid cartilage models were made. For cricoarytenoid and cricothyroid joints, metal rods were implanted within the cricoid and between cricoid and inferior cornu of thyroid cartilage. Rubberbands were used to represent vocal cords. They were stretched from vocal process to lamina of thyroid and fixed with help of pins. Various movements of vocal cords can be demonstrated by moving arytenoid and thyroid cartilages. Result: Students were able to easily understand the structure of larynx and vocal cord movement through this model. Conclusion: Such simple, economical and reproducible model can be handled by the students with great ease and makes the teaching learning experience memorable.

145. ANATOMY: NEW HORIZONS

Dr. HIRAK DAS¹, Dr. D. Ravichandran², Dr. Varun Malhotra³.
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Medical education is undergoing tremendous changes. This has been facilitated by Medical Education Units set up in different colleges. The main aim of Medical education is to bring about an upliftment in knowledge, skill and attitude of the faculty and students. Anatomy, being a basic Medical science, is one of the pillars on which the Medical Science stands. A need has therefore come up to increase the awareness of Anatomy. This is possible if we are able to come out of the straight-jacket of traditional styles and incorporate new ideas, thoughts and technologies. There has also been a long felt need among the faculty members about the need to introduce higher studies and increase the scope of research in Anatomy. This study is therefore an endeavor to initiate this process. It covered Medical undergraduates, postgraduates and faculty across India, whose feedback had been taken in form of a questionnaire. An attempt has been made to understand the general attitude towards Anatomy among the faculty and students. It also sought opinions and suggestions from participants about new ideas to bring about this change. Most members agreed that more scope for research should be introduced in Anatomy. For this many supported that necessary changes need to be introduced in the post graduate curriculum itself. The need for new avenues of research and scopes for higher studies was also expressed. This study would explore new horizons for the development of Anatomy and in the field of Medical education.

146. INCORPORATING TEAM-BASED LEARNING (TBL) PROCESS IN THE MEDICAL CURRICULUM FOR ENHANCED LEARNING

DR. SADHANA ROYCHOUDHURY, DR. IBRAHIM INUWA, Dr. VARNA TARANIKANTI
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Team-Based Learning - TBL (Michaelsen, Knight & Fink, 2002), a new instructional strategy in undergraduate medical education, dramatically shifts the focus of classroom time used for conveying course concepts by the instructor to a passive audience, to application of course concepts by student teams. In the TBL process, students acquire their initial exposure to the content through readings and are held accountable for their preparation using a Readiness Assurance Process (RAP). Following the RAP, class time is used to practice applying content in a series of team

application exercises. The components of TBL are adaptable to many situations.

TBL ensures;

- 1) primary objective of teaching moves away from **knowing concepts** to **using concepts** for problem solving.
- 2) the teacher shifts from being an **expert** to a **guide**.
- 3) students shift from being **passive learners** to **active learners** in a cohesive group.
- 4) participation of **every member** of a team, hence improves attendance.
- 5) involvement of **slow learners** thereby helping them catch up.
- 6) efficient **utilization of resources** where there are limitations such as having large classes with few teaching personnel.

This aim of this presentation is to

- Illustrate the TBL Instructional process
- Introduce the four essential elements of the TBL process
- Highlight the benefits of TBL strategy to students and faculty.
- Propose ways in which TBL could be incorporated into a traditional curriculum, to enhance the teaching, learning and practice of medicine

Key Words: TBL, Readiness assurance process, active learning, teamwork

147. WHITHER ANATOMY : THE FUTURE OF ANATOMY TEACHING: PART- I

Col BK Mishra, Army College of Medical Sciences
In recent decades wide-ranging changes have occurred in medical school curricula. Time spent studying gross anatomy has declined amidst controversy as to how, what, and when teaching is best delivered. This reduced emphasis has led to concerns amongst clinicians that new generations of doctors are leaving medical school with insufficient anatomical knowledge. Adding to the woes is a dearth of cadaveric material for teaching. There is no way to increase the time available for learning. However there are various ways to increase the availability of anatomical material for learning. One is by use of anatomical models, of which many types are available. Models have their limitations. Another is using virtual cadavers. However computer aided learning of anatomy has been shown to be inadequate by itself for proper understanding of anatomy. The other is by motivating people for body donation. Body donation is the way organs for transplant are obtained. It is also the way medical schools abroad have progressed in their quest for adequate teaching material. In our own country, BJ Medical College in Pune is also obtaining all its requirements by voluntary body donation. However computer aided teaching of anatomy may have its own advantages if utilized properly. In this article advantages & disadvantages of cadavers vis-à-vis virtual cadavers will be discussed. How to maximize the advantages of virtual cadavers will be discussed in the next paper.

Key Words: Medical education, computer aided teaching, virtual reality, body donation

WHITHER ANATOMY : THE FUTURE OF ANATOMY TEACHING: PART- II

ABSTRACT: In the last paper there was a comparison between cadaveric and virtual material for teaching and how the disadvantages inherent in virtual material can be overcome. However in this paper will be discussed how the anatomist can go far beyond what is possible with cadaveric material, with the use of already existing technology. Adding Haptic (Touch sensation) & force feedback into the experience so that Virtual objects can be felt as well as manipulated can give better learning experience. Virtual dissection and surgery can be carried out. Tele surgery and Robotic surgery can be done with force feedback giving the surgeon proprioceptive control over surgery. Subsequently haptics & force feedback can be refined so as to give near/real sensation of the

body and its parts during surgery/dissection eg cutting skin, clamping vessels, retracting ribs etc. This will enable students and practitioners of all specialties and subspecialties to learn and practice new techniques on a virtual patient before the actual procedure

Key Words: Medical education, computer aided teaching, virtual reality, haptic, Immersive technology

148. YOGA IN MEDICAL EDUCATION IS A NEED OR DILEMMA **DR. RAJ KISHORE MAHATO DR. PARINEETA SUMAN.**

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Contents–Aim–To know whether yoga has any role in health and medical education or not.

Materials and Methods – The present study involving 562 persons was conducted on both doctors and yoga practicing persons in two sections.

Section I include 211 doctors from different health sectors and section II include 351 persons of both sexes practicing yoga for their good health:

In section I : Persons were divided into 4 titles:

- Title A (Doctors view on yoga practice)
- Title B (Doctors advising yoga)
- Title C (Doctor himself practicing yoga)
- Title D (Doctor using addiction substances)

In section II persons were divided into 4 groups according to duration of yoga practice:

- Group A (158) : > 2yrs regularly
- Group B (81) : < 2 yrs regularly
- Group C (20) : > 2 yrs but irregularly
- Group D (92) : < 2 years and irregularly

Results and Conclusion – The study indicates that 68% yoga practicing persons were benefited by yoga. 72% Doctors are advising yoga, 34% Doctors practicing yoga and 54% are using addictive substances. So yoga is a need of hour and should be included in medical education.

Study will be discussed in detail during presentation.

149. ATTITUDE TOWARDS BODY DONATION AMONG VARIOUS CLASSES OF EMPLOYEES OF MGM MEDICAL COLLEGE, NAVI MUMBAI

Dr. Mini Mol. P., Mrs. Haritha, Dr. Kavita Tyagi

AIM: To study the attitude of different classes of employees towards body donation in MGM Medical College, Navi Mumbai.

OBJECTIVES: During medical courses, for the students, it is compulsory to go through anatomical dissections on cadavers. Hence there should be adequate inflow of cadavers for the various health science courses. Eventhough the requirement for the cadavers is on large scale, there is shortage of the cadavers. This can be solved by bringing awareness of body donation among various classes of people. Hence, the objective of our present study is to know the attitude of different classes of people for body donation.

MATERIALS AND METHODS: Different classes of people, a total of 250 were selected from MGM Medical College, Navi Mumbai such as teaching staff, non teaching staff, workers, students. Purpose of the study was explained to them. A questionnaire was prepared in three different languages, English, Hindi and Marathi and given to them. On the basis of this questionnaire the data was collected and the conclusions were recorded.

OBSERVATIONS AND RESULTS: Among all the classes of people, most of them were not willing for body donation where as some of them were not aware of body donation. Few others were tied to their religious beliefs. The details of observations and results will be displayed during presentation.

150. PERSONALITY DEVELOPMENT PROGRAM IN MEDICAL STUDENTS

PATIL MANISH, GUPTA JITENDRA, RANJAN RAJIV, JAIN AMIT, RD GARDI MEDICAL COLLEGE, UJJAIN

Medical profession is a society based profession. It is not necessary that every medical professional is a successful professional. It depends not only upon his/her knowledge of the subject but also on his/her skill to communicate with the common man (patient).

All other professions related to public interactions have adopted personality development programs to improve their efficiency. But medical science is still lagging behind in this aspect.

Considering these facts we, at R D Gardi Medical College, Ujjain (M.P.) have started a PERSONALITY DEVELOPMENT PROGRAM. We started it from the very basic level i.e. from 1st year students. In this program we not only teach them how to employ their knowledge practically but we also stress on the various aspects of improving their communication skill, expression of their knowledge (through seminars, presentation) and last but not the least English conversation skill. These are mouldings to shape-up a future doctors.

Key words: Medical Education, Profession, Personality Development

151. MAKING LECTURES EFFECTIVE – STUDENTS AND TEACHERS PERSPECTIVE

Dr. Deepa Bhat, Assistant professor. J S S Medical College, Mysore

The lecture in its many forms is the most commonly used method for transferring information in medical education. The ubiquitous presence of lectures is deeply ingrained in the academic culture. It is practiced in classrooms, seminars, in-hospital teaching, continuing medical education and conferences. Recently, with growing popularity of learner-centered approaches in education, several questions have naturally surfaced regarding the appropriateness of lecture.

The purpose of this presentation is to:

- Examine the characteristics of a lecture
- Understand the advantages and limitations of lectures
- Deliver lectures using a variety of instructional methods
- Evaluate approaches to maximize students' understanding and retention during lectures
- Stress the need for faculty training in presenting effective lectures.

A questionnaire is prepared separately for faculty and students of MBBS. This has wide variety of questions to collect the opinion of faculty and students regarding the objectives of this study. The results of it will be analyzed and will be presented in the paper.

Efforts are to improve the teaching of medical and other healthcare professionals so as to focus on changing the role of the student from passive observer to active participant.

152. DERMATO GLYPHICS (FINGER PRINTS) OF ABORIGINAL TRIBES IN VISAKHAPATNAM DISTRICT ANDHRA PRADESH.

Dr. K. P.S. Adi Narayana

AIM :- The object of Present study is to examine the different finger print patterns of certain group of population in Visakhapatnam District. The present study is discussed as finger print patterns and divided into qualitative and quantitative depending on the type of characters.

MATERIALS AND METHODS:- Finger Prints were taken from male and female population of aboriginal tribes in visakhapatnam. Before taking finger prints hands were washed with soap and water and allowed to dry. Thin film of ink is spread over fingers and prints were obtained over normal sheet, Age and sex, Name of the individual is Noted. Unclear and blurred prints were not taken into consideration. Finally 141 samples 69 males and 72 females were taken for the present analysis. The finger prints were analyzed qualitatively and quantitatively.

In qualitative aspect distributions of pattern and incidence on fingers Noted.

On quantitative aspect number of tirade, finger pattern intensity index, turhamatas index were taken.

RESULTS AND DISCUSSION:- The results of finger print data were analyzed. The distribution of finger prints as per henrys classification arches, loops, composites, whorls are present. Ulnar loops show highest incidence (51.6%). The frequency of whorls is less than that of Ulnar loops 35.5%. The incidence of arches is 6.8%. Composites are found in lowest frequency. Right hand exhibit more Number of arches, loops compared to left hands.

Regarding the pattern intensity index equal values are present among male and female populations.

CONCLUSION:- The present study Adds certain information to dermatoglyphics which was not touched for this population.

153. STUDY OF PALMAR DERMATOGLYPHICS IN CARCINOMA OF BREAST PATIENTS

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Breast cancer is the second most common cancer in India, with increasing trend in its incidence in most metropolises. Mutations in genes BRCA-1 and BRCA-2 are associated with it .So, dermatoglyphic study which has genetic association was conducted in breast cancer patients.

Aims and Objectives:

- 1.To study the finger and palmar dermatoglyphic patterns in breast cancer patients.
- 2.To compare with normal subjects.
- 3.To compare with previous studies.

Materials and Methods:

The present study was carried out on 100 known breast cancer female patients, confirmed histopathologically, at Ghati Hospital Aurangabad. The control group consisted of 100 normal and healthy females from the same age group with no history of any major disease. Prints were taken by the Ink method. Different parameters like Total Finger Ridge Count, a-b ridge count and 'atd' angle were studied.

Summary and Conclusions:

Significant findings were found and will be presented at the conference.

154. DERMATOGLYPHICS IN EPILEPSY

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Department of Anatomy, Dr. V. M. Govt. Medical College, Solapur, Maharashtra.

Finger print patterns and finger ridge count were studied in 100 epileptic patients (50 males, 50 females) and 100 control population of identical age and sex by standard ink method of dermatoglyphics .The frequencies of arches , radial loop, ulnar loop were found to be increased in male patients but decreased in female patients, compared with controls. Whorls were significantly low in male patients than female patients as compared to controls. Ridge dissociation was statistically increased in male patients than controls. I1, I2, I3, I4 patterns were less in male patients than female patients, compared to controls. Hy/I5 were more in male patients than controls. Simian line, Sydney line did not differ between patients and controls. Mean TFRC, 'C'line termination was increased in male patients than controls. A-B ridge count in both male and female patients showed significant change than controls. Mean 'atd' angle, Mean tri-radius did not differ between patients and controls.

155. STUDY OF PALMAR DERMATOGLYPHICS IN HYPERTENSION

MOHTASHIMAHMAD, D.S.PIMPALKAR
Department of anatomy GMC NAGPUR

Hypertension being multifactorial and genetically determined disease needs a special reference as Dermatoglyphics is also genetically determined. In the present study we have taken the Dermatoglyphics of 100 patients of hypertension and compared them with 100 controls. The finger prints and palmar prints were taken as suggested by Henry on a white paper. Various qualitative and quantitative parameters like Absolute Finger Ridge Count (AFRC), Total Finger Ridge Count (TFRC), Palmar 'atd' angle, Main Line Index (MLI), axial triradii were studied .

The results obtained showed increased whorls pattern in patients, decreased Loop pattern in patients, Arches, TFRC and AFRC were increased, atd angle were decreased in hypertensive patients as compared to controls .Details of the study will be discussed in the conference.

156. "APERT'S SYNDROME-CRANIOSYNOSTOSIS" PREMATURE CLOSURE OF BILATERAL CORONAL SUTURES DR. SUMANGALA, DR. S. SARITHA. S.V.S MEDICAL COLLEGE, MAHABOONNAGAR, AP.

Apert's syndrome is named after the French physician who described the syndrome Acrocephalo syndactylia in 1906. It is a rare autosomal disorder detected in the new born period characterized by craniosynostosis, abnormal head shape craniofacial anomalies and severe symmetrical syndactylia of hands and feet.

Treatment of the child with abnormal head shape requires a team approach. The team includes a neuro-radiologist, craniofacial surgeon, paediatric neurosurgeon, paediatric anesthesiologist, orthotist, orthodontist. Diagnosis begins with a patient history , i.e. mothers pregnancy, the presence of an abnormal foetal position, prematurity, birth trauma and multiple births.

The present study deals with the case report. A single live intra uterine foetus of 30 weeks with asymmetry of skull was confirmed by ultrasonography. Labour was induced by stripping the membranes followed by oxytocin infusion, & a live female baby was delivered normally. Baby lived for one hour.

It had abnormal head shape and deformities of the fingers and toes. Further detailed examination of external features and internal organs will be discussed at the time of conference.

157. PHENOTYPIC DISCORDANCE IN HOMOZYGOUS TWINS A STUDY IN 25 TWIN PAIRS

Dr.S.Arivu Selvan, , Dr.K.S.Krishnakumari,
Department of Anatomy, Medical College, Calicut, Kerala.

It is observed that it is very difficult to identify homozygous twin pairs. Many a time even their own parents make mistakes in identifying them It will be very interesting to explore into such twins and understand the various phenotypic variations in them So an earnest effort is made to reveal these variations in this study. 25 cases of homozygous twins in and around the city of Kozhikode in Kerala state were made use of in this study. A proforma was prepared and filled up in each case. Pedigree charts were prepared. Parents and other relatives were also interrogated to get the maximum correct information and come to a conclusion. Observations are very rewarding. Observations and conclusions to be discussed during presentation.

158. ROUND SPERMATID INJECTION (ROSI) AS A SOLUTION TO MALE INFERTILITY"

LT COL (DR) M S AHUJA, DR R K SHARMA, DR P TALWAR

Infertility affects 10-15% of reproductive age couples. Infertility among these infertile couples is due to 'male factor' in 30-50% cases. The commonest anomalies among male factors are severe oligozoospermia (Sperm count < 5 Million/ml) or azoospermia. In the latter condition sperms are not detectable in semen, and the

couple has to opt for sperm donation as the only recourse for having an offspring. Round Spermatid Injection (ROSI) is an intervention which offers hope for couples in whom male partner has azoospermia & avoid sperm donation-thereby having a child which is genetically 100% theirs. A study on the effectiveness of this technique in treating male infertility is presented here. ROSI also represents a recent advance in Assisted Reproductive Technology which has the potential to overcome many cases of male factor infertility.

Keywords - Infertility; spermatid; azoospermia

159. DIGITAL DERMAL PATTERNS IN PRIMARY EPILEPSY

LT COL K MOHANLAL *, DR RK ZARGAR#, DR PV SWAMY+, DR BV BHANU Dept of Anatomy, AFMC, Pune, 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 digital dermal patterns and were compared with a control group of 60 healthy children of the same age group.

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

Various parameters including frequency of different pattern types in the digits were studied using both Galton's and Bhanu's systems of pattern classification.

The analysis using various pattern indices based on both Galton's and Bhanu's methods of pattern classification showed only slight and statistically insignificant differences between the patients and controls.

160. STUDY OF FLEXION CREASES IN PATIENTS WITH CONGENITAL ANOMALIES OF APLASIA AND HYPOPLASIA OF THUMB.

Dr.Madhuri Dote, Dr.M.G.Savgaonkar, Dr.M.M.Meshram.

Government Medical College, Nagpur.

Present study carried out on 50 patients, in which 25 patients with aplasia and hypoplasia of thumb and 25 patients with aplasia and hypoplasia of fingers with fully developed thumb.

Aim of this study to find out specific association between aplasia and hypoplasia of thumb and formation of thenar crease because of close association between presence of thenar volar pad and thenar crease during embryogenesis of hand. Here we evaluate type of flexion creases either transverse type, transitional type, normal type (having distal, proximal transverse and thenar creases) and presence or absence of thenar crease.

Results of this study shows absence of thenar crease in all patients with aplasia of thumb and poorly formed in some cases of hypoplasia of thumb.

Conclusion of this study shows formation of thenar crease association with presence of thenar volar pad. In aplasia of thumb there is absence of thenar volar pad so there is no formation of thenar crease.

161. Palmar Dermatoglyphics In Patients With Type II Diabetes Mellitus And Hypertension In The Age Group Between 35 and 55 Years

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Aim: Dermatoglyphics is the study of fingertips and palm region. It has been well established as a diagnostic aid in a number of diseases having hereditary basis. Finger print (dactylography/ dermatoglyphic) is considered as the best tool of identification. Diabetes mellitus with hypertension is the most important cause of mortality and morbidity in the world. Dermatoglyphic patterns form on the finger pad and the palm prenatally and remain unchanged throughout life; these features may serve as markers for fetal origin of adult disease like diabetes and hypertension.

Palmar dermatoglyphic features derived from qualitative and quantitative parameters in dermatoglyphics of diabetes mellitus type II with hypertension may throw light on fetal origins of an adult disease. Hence the study has been undertaken.

The present study aims at deriving palmar dermatoglyphic features from quantitative and qualitative parameters in dermatoglyphics of diabetes mellitus type II with hypertension compared to controls.

Materials&Methods: Bilateral rolled finger and palm prints of 100 diabetes with hypertension patients were compared to 100 controls, of either sex and age group between 35-55 years. Palmar dermatoglyphic features derived from quantitative parameters (TFRC, AFRC, 'a-b' ridge count and 'atd' angles) and qualitative parameters (fingertip pattern, palmar pattern-interdigital areas, abnormal palmar creases, ridge dissociation, total tri-radial palm) were analysed.

Results: Comparisons were made in all parameters between homologous fingers of both hands and also the palm. Analysis was done using mean, standard deviation and z - test. Statistical analysis of the data of the study showed 1) Increased in frequency of ulnar loops and whorls in both hands of females. 2) Decreased in frequency of whorls in both hands of males. 3) Presence of decreased I1 pattern in the left hand and increased I3 pattern in the left hand of both sexes. 4) Presence of simian line in the left hand of females. 5) Presence of decreased 'a-b' ridge count of females.

Conclusion: Overall measures of the dermatoglyphic parameters were prominent features of diabetes and hypertension.

162. ECTRODACTYLY WITH MICROPHALLUS: A CASE REPORT.

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Abstract: Congenital upper limb anomalies includes whole of hand or part of it resulting from intrauterine insult, either genetic or environmental. Ectrodactyly is one of component of Split hand -Split Foot Malformation Syndrome. The prevalence of Ectrodactyly is 0.1:10,000. Split hand -Split Foot Malformation Syndrome is a limb malformation involving the central rays of the autopod (the distal division of the limb such as hand or foot) and presenting with Syndactyly, Median cleft of hand and Feet, and aplasia and or hypoplasia of the phalanges, metacarpals. A newborn with unilateral isolated Ectrodactyly also known as lobster-claw hand with microphallus (< 2.5 cm in term newborn), is being reported. During antenatal ultrasonography the knowledge of Ectrodactyly and microphallus, helps in early detection and enable us to differentiate among other anomalies like brachydactyly, symphalangism, multiple synostoses syndrome, amniotic band syndrome, cleft hand and absent tibia syndrome, Adams-Oliver syndrome, Prader-Willy, Robinow, Klienfelder, Carpenter, Noonan, Trisomy 21, Fancony, Fetal Hydantoin syndrome etc. Present case report deals with the clinical examination, radiological findings and treatment modality. Also it will enlighten embryological and etiological factors reasonably contributing for Ectrodactyly and Microphallus. A very rare congenital association.

163. A CLINICAL STUDY OF TESSIER'S CLEFTS.

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Assam Medical College, Dibrugarh, Assam

Aim : To study the prevalence of Tessier's cleft among the cases of cleft lip and palate, ethnic distribution, sex distribution, family history and associated other congenital anomalies.

Materials & methods: The present study was carried out on patients attending the Smile Train Centre at Srishti Hospital, Dibrugarh, Assam, from March 2008 to September 2010. Total no. of cleft patients attended during this period was 500 & among them Tessier's clefts were clinically studied. Cranial clefts were not included in the present study.

Result : Out of the 500 cleft patients, total no. of Tessier's cleft patients were 12. Those included cleft 1, 2, 3, 4, 6, 11 & cleft 30 in varying degree of severity. Age of presentation varied from immediately after birth to 14 years. Among these only 3 cases were male.

Conclusion : Tessier's clefts are very rare. In the present study, they constitute approximately 2.4% of the facial clefts in Upper Assam & adjacent states of Arunachal Pradesh and Nagaland.

164. ANENCEPHALY WITH ASSOCIATED CONGENITAL DEFECTS: A CASE REPORT

HARI CHARAN SARANGSA, PUSPANJALI TAIRAI, PRITANU DEBBARUAH, NATASHA GOHAIN, DHURJATI DAS, SANTANU KUMAR SARMA.

Department of Anatomy, Assam Medical College & Hospital, Dibrugarh.

Aim: To study a case of anencephaly with multiple malformations.

Materials and Methods:- A live born, dead female neonate weighing 800g was collected from the department of Obstetrics and Gynecology, AMCH, Dibrugarh. It was carefully observed, dissected and relevant photographs were taken.

Results : The case was found to have the following defects:-

- (1) Anencephaly,
- (2) Occipital encephalocele (cerebellum),
- (3) Omphalocele (major content was liver),
- (4) Single umbilical artery and
- (5) Contracture of right wrist.

Conclusion: Neural tube defect is a common defect out of which the incidence of anencephaly in India averages to about 0.5-3/1000 deliveries. Omphalocele is associated with a high rate of mortality and severe malformations, such as cardiac anomalies, neural tube defects and chromosomal abnormalities.

165. FETAL AUTOPSIES – PROFILE OF 100 CASES

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Better knowledge of unexpected fetal loss is the promise for better parental counselling and for prevention of recurrences. Fetal autopsy can provide a clue to ascertain cause of death in these cases. There are many variations in the incidence of CMF out of total fetal autopsies in a given time. The variations in the incidence can be attributed to geography, socio-economic conditions and genetic predispositions. Further, there is a need to classify the types of CMF in a given population. The present study was done to help us to develop a databank pertaining to number of autopsies, incidence of still births, number and types of CMF in North-West Indian Population.

Autopsy was done in 117 fetuses as per guidelines provided by fetal autopsy protocol. Prior to autopsy, the prenatal investigations like ultrasound, radiographs were procured; a brief maternal and family history was noted down. Out of total 117 autopsies, 50 (42.7%) were induced abortions, 40 (34%) spontaneous abortions and 27 (23%) were IUD. In total the incidence of CMF was 81 (69%) of the fetal autopsies. The types of CMF were classified as CNS defects 45 (38%), musculo-skeletal 19 (16%), genito-urinary

19 (16%), GIT disorders 16 (14.5%) and genetic disorders in 12 (10%). 52% fetuses presented multiple CMFs. Anencephaly turned out to be most prevalent anomaly (26%). The other common anomalies were rachischisis, congenital polycystic kidney, omphalocele and malrotation of gut. The above findings are discussed in light of available literature.

KEY WORDS: Fetal autopsy, Anencephaly, Rachischisis, Omphalocele, genetic

166. HOLOPROSENCEPHALY – A CASE REPORT

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A case of Holoprosencephaly was detected during routine fetal autopsy in the Department of Anatomy, Government Medical College, Chandigarh. The Female fetus of 16+6 wks was brought to the department after MTP. The gestational history was G 2 P 1 L 0. The cause of death of previous baby was not known. The indication for the termination of the present pregnancy was presence of anencephaly in fetus and polyhydramnios on ultrasound examination. Mother was literate and gave history of consuming some local medicine during the pregnancy. Father was also literate and worked as a labourer. The Pedigree chart could not be drawn as father was not available. On mother's side no history of such deformity was available in her family. On external examination the case presented with proboscis, synophthalmia, microstomia, low set ears, Cyst in the occipital region and hydrps. Cysts were found on the thoracic and abdomen also. In both lower limbs the second toe was found to be overriding over the great toe. On internal examination excess fluid was present in both pericardial and pleural cavities. The brain was in the form of undivided neural tube. The cyclopic eye showed fusion of two eyes in the midline. The fetus also had underdeveloped supra renal. Holoprosencephaly is defined as a loss of midline structure leading to developmental defect in the brain and face along with other anomalies in the body. The spectrum of the defects may range from severe to milder form. In severe form fetal intrauterine death occurs. While in the milder forms child may survive with multiple anomalies which require multidisciplinary management throughout life. The etiological factor of the defect include genetic, environmental and drug intake by the mother. Holoprosencephaly is divided into, lobar, semi lobar and alobar type. The defect has been explained on the basis of defect in the gene which regulates the formation of ventral midline structures and CNS.

Keywords: Holoprosencephaly, Fetus

167. CLOACAL DYSGENESIS SEQUENCE – A CASE REPORT

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Cloacal dysgenesis sequence (CDS) is a very rare anomaly defined as absence of anal, genital and urinary orifices associated with smooth perineum. Other major anomalies which can be associated with these can be absent or dysplastic kidneys, hydroureters and pulmonary hypoplasia.

A case of CDS was found during routine fetal autopsy of a fetus of 22 weeks gestation (CRL-18 cm). The 25 years old mother had gone for medical termination of pregnancy because the prenatal ultrasound revealed a single kidney with a cystic mass in abdomen. Radiological examination showed no abnormality.

The external findings included an almost smooth perineum with no anal and urinary orifices and an ambiguous genitalia. No other abnormality was detected.

Internally, the gastrointestinal examination showed that a ballooned part of intestine filled with meconium was present anterior most in the abdominal cavity in the umbilical region. Appendix with

caecum was present in the left iliac fossa behind the ballooned part.

Genito-urinary system showed that left kidney and left suprarenal were present in the left lumbar region. A single bean-shaped mass² was present in the right lumbar region, at a higher level than the left. 1 small mass, ovary/testis³ was present on either sides attached to a single midline mass⁴ which was present immediately behind the ballooned intestine in the hypogastrium region. The colon and left ureter also opened into this midline mass. Right ureter was absent.

The cardiovascular and respiratory systems showed no abnormality. Histological examination of the above mentioned numbered structures showed that:-

- 1) Ballooned mass was the colon.
- 2) Bean shaped structure was the suprarenal gland. Right kidney and ureter were absent.
- 3) Masses on either sides were ovaries alongwith fallopian tubes.
- 4) Midline mass was the urinary bladder.

The present case is discussed in light of available literature.

Keywords: Cloacal dysgenesis; fetus; autopsy

168. HISTOGENESIS OF POST NATAL OVARIES FROM PREPUBERTAL TO MENOPAUSE

DR. V. Usha Rani, DR. V. Subhadra Devi, DR. J. Vasudeva Reddy, Department Of Anatomy, S.V. Medical College, TIRUPATHI, AP. Study on histogenesis of post-natal ovaries of pre-pubertal to menopausal was conducted in the Department of Anatomy, S.V. Medical college, Tirupathi. A total of 49 ovaries from post-mortem cases of Forensic-department and post-operative oophorectomy cases of OBG department with relevant case history along with informed consent were collected. The specimens were categorized in to pre-pubertal, reproductive and menopausal age groups. The specimen were subjected to routine tissue processing, sectioning and staining for histological observations. In a specimen of 5 years age we observed a mature Graafian follicle. In the specimen of 7 years age cuboidal lining epithelial lining of ovary and various stages of growing and degenerating follicles including a large Graafian follicle with clear follicular antrum were observed. In reproductive age group a clear cuboidal epithelium with tunica albugenia, typical primordial follicle, early and late follicles with zona pellucida, various stages of unilaminar and multilaminar follicles and corpora albicans were observed. Increased stroma and number of cystic degenerated follicles were observed in 32-40 years age groups. Thick surface epithelium, tunica albugenia and abundant vascular stroma without cortico-medullary demarcation were observed in 46-55 years age groups. This study will help in recent techniques in assisted reproductive technology procedures.

169. PERSISTENCE OF AXIS ARTERY IN RIGHT ARM WITH VARIANT FORMATION OF MEDIAN AND ULNAR NERVES IN LEFT ARM IN A CADAVER – EMBRYOLOGICAL BASIS AND CLINICAL SIGNIFICANCE

DR. A. MARUTHI RAM, DR. J. VASUDEVA REDDY, DR. V. SUBHADRA DEVI, DR. M.L.SREENIVAS, DR. V. USHA RANI, DR. C. YAMINI DEVI SRI VENKATESWARA MEDICAL COLLEGE, TIRUPATI, ANDHRA PRADESH.

AIM: To study the variations observed in the arm of a cadaver with reference to the formation of median and ulnar nerves and persistent part of axis artery (Vasa aberrans).

MATERIAL AND METHODS: A total of twelve cadavers were collected from May 2010 to October 2010 for departmental academic purpose. During routine dissections a male cadaver presented variation in the formation of median and ulnar nerves in the region of arm in left upper limb and persistent part of axis

artery in left arm. The observations were recorded and photographed.

RESULTS: Both the variations were observed in the same cadaver but in different limbs.

Left arm: Medial and lateral roots of median nerve fused and formed a common trunk. The median and ulnar nerves were arising from this fused trunk. The median nerve received a communication from musculocutaneous nerve.

Right Arm: The persistent part of axis artery is seen extending from brachial artery at a point after the origin of routine branches from it and joining radial artery at cubital fossa.

CONCLUSION: The embryological basis for the variations and clinical significance will be discussed at the time of presentation.

170. HISTOGENESIS OF PANCREAS

Dr. G. Supriya, Dr. D. Suseelamma, Dr. Raghavendra Prasad

Aim of the study:

To study the histogenesis of the pancreas as the islets of the pancreas are being used as in stem cell therapy of diabetes mellitus.

Materials & Methods:

30 fetuses of different gestational age groups were obtained from OBG Dept. KIMS, Narketpally and the research work carried out in the department of Anatomy, KIMS. Gestational age was estimated by standard procedure parameters (like, CRL, BPD, CHL and weight of the fetus) and arranged in to 5 groups of 6 weeks duration from 12 weeks till term. After dissection, the pancreas was taken out, morphology studied, then it was subjected to histological Processing and stained with H& E and PAS and studied under light microscope.

Results and conclusion:

In group – I fetuses (12- 18 weeks) showed the budding cells differentiated into primitive acini and islets, both having clusters of cubical cells and scattered islets are seen.

In group – II (18-24 weeks) well formed islets, acini, ducts were observed, scattered islets are in the process of forming clusters.

In group – III (24-30 weeks) a considerable expansion of exocrine tissue was seen and the connective tissue was reduced the number of islets was increased.

In group – IV (30-36 weeks) and group- V (36 - term) no significant developmental change was observed after 30 weeks of gestation and in this group highest concentration of islets was seen in tail region.

Islets of the pancreas are used in stem cell therapy of Diabetes mellitus patients the microscopic and developmental study of islets may be helpful in research work. The interesting results will be discussed at the time of presentation.

171. MEASUREMENT OF FOETAL HEART DIMENSIONS AT DIFFERENT STAGES OF DEVELOPMENT IN INDIAN POPULATION ESPECIALLY IN MAHARASHTRA REGION

MRS. HARITHA, DR. MATHURØ, DR. KAVITA TYAGI

Department of Anatomy, MGM Medical college, Navi Mumbai.

Ø Department of Radiology, MGM Medical college, Navi Mumbai

ABSTRACT:

AIM: The aim of our study is to find out the average dimensions of foetal heart at various stages of development.

OBJECTIVES: The growth of embryonic and foetal heart were usually measured by ultrasonography. These measurements were mostly done in the first and early second trimesters of pregnancy mostly to know the development of heart. The knowledge about the growth of the heart in dimensions in fetuses at various gestational ages was rare. Hence, the objective of our present study was to evaluate the dimensions of embryonic heart during different gestational ages. Since the size of the heart is too small to measure before 15 weeks, we had collected data from the 16th week of pregnancy to till the end of pregnancy.

MATERIALS AND METHODS: The dimensions of foetal heart such as antero-posterior length i.e., from apex to the base of heart and transverse diameters in four chambered view were collected during routine obstetric ultrasonography of 100 healthy pregnant women at different gestational ages starting from 16 weeks till the end of pregnancy, in MGM Hospital, Kalamboli, Navi Mumbai. From the listed results the average dimensions of fetal heart were measured during different gestational ages.

OBSERVATIONS AND RESULTS:

The total observations as well as results will be discussed in detail during the time of presentation.

172. ECTOPIC LIVER – A CASE REPORT

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Anomalies of liver are rare in spite of its complex development in the ventral mesogastrium. A general review of hepatic anomalies can be divided into two categories, i.e. anomalies due to defective development and anomalies due to excessive development of the liver. Anomalies related to excessive development of the liver lead to formation of accessory lobes annexed to the liver. Despite their diversity of shape, size and location, such accessory lobes have common features allowing them to be considered as a separate entity. Liver tissue in communication with the main liver is termed as an accessory lobe while the liver tissue in the vicinity of the liver with no communication is termed ectopic liver. These abnormalities can cause diagnostic confusion for physicians, surgeons, radiologist and anatomist.

In the course of routine anatomical dissection of a 40 year old male cadaver at S.R.M.S. I.M.S. Bareilly, we found liver like tissue in the dorsal mesogastrium attached to the posterior abdominal wall in front of body of 12th thoracic vertebra, probable site for the occurrence of splenic tissue. Histological study revealed it to be a hepatic tissue.

Key words: dorsal mesogastrium, ectopic liver, histology

173. Renal vasculature and its Clinical significance

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A sound knowledge of variations of blood vessels in the renal hilar region is important during operative, diagnostic and endovascular procedures involving the renal area of the abdomen. Incidence of renal failure being on the rise with renal transplant being the definitive treatment option has further enhanced the importance to investigate the variable renal vasculature. The variations observed by us may be functionally, clinically, surgically or radiologically important. A single renal artery to each kidney which is present in approximately 70 per cent of individual arise as a lateral branch from the abdominal aorta. Arteries vary in their level of origin, caliber, obliquity and precise relations. The renal artery may give rise to branches normally derived from other vessels. The present study was conducted in the department of Anatomy Shri Ram Murti Smarak, Institute of Medical Sciences Bareilly. The materials used for the study comprises 48 cadavers. Kidney and its surrounding vessels were studied during routine dissection of undergraduate medical students for a period of five years. The aim is to study the renal vasculature; to find out the variations that exists in that region. The knowledge about these variations is of utmost importance to the urologist, surgeons dealing with kidney retrieval and transplantation, radiologists, persons performing various endourologic procedures and innumerable interventional techniques. Findings will be discussed during presentation.

Keywords: renal vasculature, variations, cadaveric study.

174. VARIATIONS AND DISTRIBUTION OF MEDIAN NERVE IN HAND.

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Median Nerve was dissected with the aim of observing it in the Carpal tunnel and its pattern of distribution in hand and its variations were noted. For this study, 50 hands of 25 adult human cadavers were dissected (23 males and 2 females) from the department of Anatomy, Govt. Medical College, Patiala.

The incisions were made according to the manual and course and branching pattern of Median nerve was recorded in the proforma. Variations were observed in 70% hands (35 hands) and it was observed that left hands had more variations than right (20 out of 35). In 8% cases (4 hands), high division of median nerve was observed. One Thenar branch was observed in 66% cases and in 34% cases multiple thenar branches were observed. Thenar branch was subligamentous in 39%, extraligamentous in 51% and transligamentous in 9%. Ulnar take off of thenar branch was observed in 3 hands which is highly vulnerable to injury during open or endoscopic carpal tunnel release.

In 6 hands, 3rd lumbrical was supplied by Median nerve. In 3 hands median nerve did not follow the classical digital innervation pattern. These variations were discussed with their relevance to the surgical or endoscopic procedures performed for carpal tunnel syndrome and other hand pathologies.

Key words: Median nerve, thenar branch, carpal tunnel syndrome.

175. PTERION OSSICLE- A CASE REPORT

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Abstract: (Gross Anatomy)

Sutural bones or Wormian bones are small pieces of bones present within a suture in the cranium. These irregular isolated bones which appear in addition to the usual centers of ossification of the cranium, although unusual, are not rare. Sutural bones are more frequently present at the lambdoid suture, but occasionally seen within sagittal and coronal sutures. Here, we present a rare case of pterion ossicle (or also called epipteric bone), a sutural bone present between the sphenoidal angle of the parietal bone and the greater wing of the sphenoid bone in an North American adult skull. This pterion ossicle was found on both sides. Reviewing the literature, it was observed that it is a rare incidence. It is a feature of some skulls of hydrocephalic adult. Sutural bones are a marker for various diseases and important in the primary diagnosis of osteogenesis imperfecta. The presence of pterion ossicle can cause complication while making burr hole at pterion. It can also be mistaken for fracture of skull in case of trauma of the pterion region. This report is of immense use to neurosurgeons, radiologists and anthropologists.

176. SACRUM : A TOOL FOR SEX IDENTIFICATION

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M. P. Ambali, B. N. Umarji, Krishna Institute of Medical Sciences, Karad

Sexual dimorphism in human skeleton has been topic of keen interest from years together. Maximum percentage of accurately sexing the human skeleton is obtained from skull & pelvis. We have attempted to study sex differences in human sacrum, a part of pelvis itself. To know about sexual dimorphism is important in medico-legal aspects.

Maximum data available on sacrum is from Western countries. So here we have sincerely approached to use Sacrum as A Tool for sex identification in Maharashtra region. We collected 150 Male and 150 Female sacra from different Medical colleges in Maharashtra. They were fully ossified, without congenital anomalies or osteophytic growth.

Total 9 parameters were studied & 8 indices were calculated. In this paper we have focused on Sacral Index, Index of body of 1st sacral vertebra

(S1), Alar Index and **A new Index- Index of differential length of lateral surface of sacrum.** All of them were found statically significant

Index of differential length of lateral surface of sacrum was found more significant in Males than in Females. This new Index could identify 40% of sacra as 'Male' with demarcating point of 112. 72. The details of all indices will be discussed at the time of presentation

177. POSSIBILITIES OF HAZARDS OF CADAVERIC DISSECTION

FEROZ HUSSAIN

Gauhati Medical College, Guwahati, Assam.

Aim of Study: The aim of the present study is to focus on the possibilities of hazards of cadaveric dissection.

Materials & Methods: First year MBBS students of session 2010-11 and the routine formalin fixed cadavers provided to them were included in this study, in the department of Anatomy, Gauhati Medical College, Guwahati.

Results & Observations: With the use of formalin, majority of the students were seen to have irritation of eyes, nose and throat. Vapours of formalin lead to vasomotor rhinitis and chemical pneumonitis. Solution of formalin is damaging to skin. The use of ethyl alcohol in place formalin has its own hazards like it is volatile and bleaches skin more.

Embalmers might be at a greater risk of skin, renal and brain carcinomas than general population. This population is more vulnerable to contact dermatitis and arteriosclerotic heart disease. The most often reported infections associated with cadaveric dissections are tuberculosis, and infectious hepatitis and to a small toxoplasmosis. If a body is fungal infected, then inhalation of its spores may lead to Aspergillosis.

Organisms like Mycobacterium TB, Prions causing creutzfeldt Jacob disease, and Gertsman straussler scheinker syndrome are not inactivated even after embalming.

There is no definite evidence to show that HIV is inactivated after embalming. Moreover there is no system in practice to check the presence of these infections either before or after the cadavers are embalmed.

Conclusion: From the present study, it was found that these are various possibilities of infection and other hazards during cadaveric dissection.

Its details will be discussed during the conference.

178. CURRENT TRENDS IN PRESERVATION TECHNIQUES – A CONTEMPORARY ISSUE

LT COL DR SUBHENDU PANDIT

An Anatomist dreams of fresh specimens. Much of the scientific knowledge of our ancestors has been possible due to preserved bodies. Egyptians used mummification in ancient times. Human Connectome Project of the Brain Preservation Foundation, Henry Markram of Blue Brain project and Robert Ettinger's Cryonics are some of the latest methods of preservation. Other than process of embalming with formalin, Plastination has evolved into an important preservation technique.

Human Connectome Project seeks to understand the organization of brain at the circuit level. Henry Markram of Blue Brain project has proposed to run full software simulations of brain with

neurological drugs in varied conditions. Robert Ettinger in 1962 from Michigan College of Physics invented Cryonics. It is the process where the body is preserved under freezing conditions and reviving it when science is adequately advanced. But these hold promise sometime in the future.

Plastination was invented by Gunther Von Hagens in 1977. It is the process of replacing the body tissues with polymers and subsequently producing specimens which are dry and durable. Gunther Von Hagens techniques are patented and are expensive. In addition to S10 polymers, E12 epoxy, many other materials can be used which are easily available, like industrial sealants and Araldite which produces satisfactory specimens at a fraction of a cost. Some procedures have been done in the Dept of Anatomy, with satisfactory results.

Keyword Preservation, New techniques, Plastination

179. EFFECT OF LOW GRADE RADIATION IN LIVE HUMAN CORNEAL ENDOTHELIUM

DR UMESAN K.G., DR SHOBHA RAMNARAYAN, DR ANAND H Govt Medical College, Thiruvananthapuram

Television and Computer monitors (other than LCD and LED) are being increasingly viewed recently even by small children. These conventional cathode ray based monitors form a source of relatively long exposure of the eyes to low grade radiation. Direct visualization of the live human corneal endothelium is possible using the Specular microscope. The study was done to look for the pattern of any possible alteration of cell count and morphology in corneal endothelium in the exposed Vs non exposed groups.

After informed consent Central Corneal endothelium of 70 disease free corneae from volunteers from the population of Trivandrum city were studied using the Topcon Specular microscope SP2000P. The eyes examined belonged to the age group of 17 to 29 yrs for whom the TV /Computer exposure was maximum. The groups were defined on the basis of exposure time. Central corneal endothelial cell density was calculated and the cell morphology studied in comparison with age matched control groups. Statistical analysis was done with the SPSS 15 programme. The findings will be discussed at presentation.

180. ARE MORTUARIES AND EMBALMING ROOMS - A POTENTIAL HEALTH HAZARD FOR THOSE WORKING THERE?

KHAMBATTA Dr. SEEMA, SINHA NEHA, Department of Anatomy, Topiwala National Medical College & B.Y.L Nair Hospital, Mumbai.

AIM OF THE STUDY: While performing embalming procedures and while conducting autopsies the forensic experts and other persons engaged in postmortem work may be subjected to greater risk of exposure to infectious agents like HIV, Hepatitis B, Hepatitis C etc. Present study aims to identify the seroprevalence of HBV and HCV in undetected/unreported postmortem cases and to advocate the use of general safety measures in the embalming and autopsy rooms. **METHODS:** In a cross-sectional observational survey, serum samples from 40 randomly selected unreported/undetected postmortem cases were evaluated for their HBV & HCV status. Population characteristics and data on associated risk factors were collected on a predesigned format and analyzed. **RESULTS:** Out of 40 samples: 34 i.e. (85%) were male, & 6 (15%) female. One sample was positive for HbsAg, and three were positive for anti-HCV, seroprevalence being 2.5% and 7.5% respectively. The infection was most prevalent among the 40-60 age group, all positive cases being males and married except one, where marital status was unknown. HBV & HCV seropositivity could not be related to any risk factors. **CONCLUSIONS:** Screening all cadavers for HBV & HCV is impractical due to technical and economic reasons. It is not always possible to speculate on all the risk factors (e.g. Homosexuality, prostitution) due to socio-cultural restrictions. These conditions combine to create a significant risk for embalmers, forensic experts and postmortem room workers. Thus, a

embalming procedures & autopsies should be treated as potentially infectious and "universal blood and body fluid precautions" should be taken when performing necropsies. Immunization and developing skills to avoid injury will help in infection control.

181. PLASTINATION AS A NOVEL TECHNIQUE FOR THE PRESERVATION OF PROSECTED SPECIMENS - OUR EXPERIENCE IN CHRISTIAN MEDICAL COLLEGE, VELLORE

DR.SAMUEL FRANK STEPHEN, DR.DEEPAK VINOD FRANCIS, DR.SUGANTHY RABI.

Department of Anatomy, Christian Medical College, Bagayam, Vellore, TN, India.

Introduction and aim: Plastination is a unique technique of tissue preservation developed by Dr. Gunther von Hagens. In this process, water and lipids in biological tissues are replaced by curable polymers which are subsequently hardened.

Materials and methods: Currently in the Department of Anatomy, Christian Medical College, Vellore, Silicon S-10 standard plastination technique is used to preserve body parts. The formalin fixed tissues are dehydrated in acetone. Forced impregnation is done using a vacuum chamber and finally the specimens are hardened using a gas chamber. The specimens thus obtained are dry, odorless and durable.

Results and Conclusions: These plastinates are used for demonstration and as museum specimens. Our experience in adapting plastination technique, pitfalls and advantages will be presented in the conference. Plastinated specimens are a useful adjunct to the teaching of anatomy.

182. COMPARISON OF EFFECTS OF FORMALIN IN EXPOSED AND UNEXPOSED GROUP OF STUDENTS

RASHMI MALHOTRA, C.S. RAMESH BABU, VINAY AGARWAL*, REKHA LALWANI, PREETI RATHI*
DEPARTMENT OF ANATOMY & PHYSIOLOGY*
LLRM MEDICAL COLLEGE, MEERUT

A study was done on 30 nonsmoking medical students exposed to the Formalin during the dissection of cadavers. This was done to study the acute effects of Formalin on first year MBBS students of the LLRM Medical College and compare them with the standardized group of 30 students not exposed to formalin. The study was carried out during the first 10 days of their exposure to Formalin. The study was repeated after 1 month and again after 2 months of their exposure to Formalin. The acute allergic symptoms like eye burning, watering and reddening of eyes, upper respiratory tract symptoms like irritation and reddening of nasal mucosa, watery discharge from nose, cough, and headache were more obvious. The Pulmonary Function Tests of these students was also done before and after their exposure to Formalin. It was observed that FVC decreased significantly in subjects immediately after their first exposure but reverted back to normal within 24 hrs. All other lung function parameters showed decreasing trend but were not statistically significant, indicating some mild transient bronchoconstriction on acute exposure to formalin. The Comparative study between male and female students was also done. The details of the study will be discussed in the Conference.

Keywords: *formalin; acute allergic symptoms, Pulmonary function*

tests

183. EFFECT OF DENERVATION OF PINEAL GLAND OF RHESUS MONKEY

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University college of medical Sciences Delhi*, Ex Profs AIIMS Delhi#

The pineal gland, in the ancient times was called the mystical third eye of man. In the modern days it is believed to be the "regulator of

regulators". It is the only part of the brain which is innervated by post ganglionic sympathetic nerves. This work was aimed to study the light microscopic structure and the effect of sympathetic denervation of the pineal gland in the rhesus monkey.

Twenty four monkeys (*mucaca mulata*) were used in the study. The animals were divided into three groups, control, experimental group I and II in which unilateral and bilateral ganglionectomy was performed under thiopental anesthesia. The animals were sacrificed 15, and 21 days postoperatively. Serial paraffin sections of the gland were studied after staining with H&E, Red Holzer's, Weigert's and Van Gieson, Weil's, Peter's silver and Glee's stains.

The gland is surrounded by a connective tissue capsule which sends septae within the parenchyma to divide it into lobules. The pinealocytes are the main cells in the gland. The processes of the pinealocytes and glial cells send end feet to the capillaries. Two types of Acervuli are seen, one comprising of a central degenerated cell surrounded by concentric laminae, and the other of superimposed mucoid secretions.

Degenerated nerve fibers were seen on the ipsilateral side after unilateral superior cervical ganglionectomy. Patches of cell free areas and collection of mucoid type acervulus was seen 21 days after bilateral ganglionectomy. The unopposed parasympathetic activity of the gland probably accounts for this formation.

184. DISTRIBUTION OF CALCIFICATION IN THE NORMAL HUMAN PINEAL GLAND IN EASTERN UTTAR PRADESH

Royana Singh*, Chandana Haldar**, SN Shamal* and SK tripathi*
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**Centre of Advanced study, Department of Zoology, Banaras Hindu University, Varanasi, Uttar Pradesh

The age related distribution of calcification in the normal pineal gland, were investigated morphologically on 112 autopsy cases in eastern Uttar Pradesh. The mean Pineal weight in fresh autopsy brain was 114mg in males (n=66, mean age 48 years) and 98mg in females (n=46, Mean age 52 years). The pineal weight did not exhibit any sexual dimorphism. There was no correlation between pineal weight and age of the patient. The volume of the pineal was directly proportional to the weight (p<0.001). The density of the pineal decreased with age. The degree of calcification was present in all age group including that of 1-10 years. The number of concretion not only increased with age but their size also increased with increase in the distribution throughout the gland. These results indicate that the human pineal do not necessarily degenerate progressively after involution.

185. NEONATAL MYOCLONIC SEIZURES WITH HYPOXIC ISCHEMIC ENCEPHALOPATHY – A CASE REPORT

MANIYAR ROSHAN ZAMEER

Dr. B.N. Umarji, M.S; Krishna Institute of Medical Sciences Univesity, Karad (M.H)

Dr. Gopalam Shivannarayana, M.D, D.M, Girija Neuro Centre, Kanuru, Vijayawada, A.P Dr. Tejeshwari Mathpati, Pediatrician.

The baby born by cesarean delivery, after five days suffering from acute asphyxia with neonatal myoclonic seizures admitted at Pediatric centre, Guntur, A.P. The baby was subjected to the neonatal ultrasonography, CT Scan, MRI, EEG and Biochemical test and diagnosed with Hypoxic Ischemic Encephalopathy refersto the CNS dysfunction and increase the risk of seizures.

The benign form of Infantile spasm developed at the age of three months in which repetitive Myoclonic seizures comprise involuntary, quick sudden jerks involving the neck, arms and shoulders. that occur abruptly and with an irregular rhythm. The incidence probably less than 1 per 40,000. Males are more often affected than females in the ratio of 2 to 1. Brain hypoxia and ischemia due to systemic

hypoxemia reduced cerebral blood flow (CBF). During the early phases of brain injury, brain temperature drops and increase GABA reduced the cerebral oxygen demand.

In spite of major advances in monitoring technology and knowledge of fetal and perinatal medicine. Perinatal asphyxia is one of the significant causes of mortality and morbidity. The exact mechanism and the inflammatory mediators involved in the process remain unclear. The data was collected in the present study, may help the Neurologist, Pediatrician and Researchers in identifying the brain injury "areas" leading to the severe myoclonic epilepsy. The Clinical implication and investigations of the subject will be discussed at the time of presentation.

186. ESTROGEN AND SELECTIVE ESTROGEN RECEPTOR MODULATOR (SERM) MEDIATED NEUROPROTECTION AND SYNAPTIC PLASTICITY IN RAT BRAIN

RAJ MEHRA

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Nearly four decades of steroid hormone research have sought a big leap towards the understanding of actions of estrogen (E2) in brain areas traditionally not involved in reproductive functions. There is a growing body of evidence supporting the loss of ovarian estrogen production after menopause as a significant contributor to cognitive decline. Presence of estrogen receptors (ER) in the hippocampus gives further evidence to it being one of the target brain regions for the hormone activity [Li et al., 1997, Mehra et al., 2005]. Our previous findings have revealed ER α and ER β positive neurons in all subfields of the hippocampus (Mehra et al., 2005) and cerebellum (Varshney and Mehra, 2009) and long-term estrogen therapy modulates the synaptic plasticity, apoptotic proteins and affords neuroprotection (Sharma and Mehra, 2008) to the hippocampal neurons through pCREB (Sharma et al., 2007) and MAPK (unpublished data). However a quest for other non-steroidal estrogenic compounds is necessary to avoid undesirable side-effects of hormone on certain other estrogen sensitive tissues. Of the many available estrogenic compounds, Selective estrogen receptor modulators (SERMs) offer an alternate for ERT due to their specific agonist/antagonist actions in various tissues, thereby eliminating the risks associated with ERT. A clear understanding of the effects of SERMs in brain is still underway and requires comprehensive studies. To elucidate the role and mechanism of estrogen in brain areas related to memory and cognition, and possible use of SERMs as alternate therapy, studies were conducted in conditions of estrogen depletion (with ovariectomy or natural aging) and replenishment with estrogen or SERM (tamoxifen, raloxifene) therapy in female rats. Hormone depletion with surgical or natural estropause adversely affected neuronal cytoarchitecture, decreased synaptic activity and increased apoptosis. Proteomic analyses indicated downregulation of estrogen receptor subtypes, synaptic, apoptotic and transcription factors/proteins. These detrimental changes following ovariectomy or aging were reversible with hormone replacement therapy which was further substantiated by functional improvement of learning and recall tasks (shown by behavioral studies). SERM therapy, tamoxifen or raloxifen, given to ovx rats led to improved synaptic activity, decreased apoptosis and increased neuroprotection which revealed their estrogen-like biocharacter in brain. These studies suggest that estrogen or SERM therapy may favorably avert estrogen deficit effects on the neurodegenerative aging process.

187. SCREENING THE GLUCOSE TOLERANCE EFFECT OF COMBINED HERBAL EXTRACTS

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Diabetes mellitus is a metabolic disorder clinically characterized with the phenotype of hyperglycemia. For this metabolic syndrome presently oral antihyperglycemics and parenteral administration of the insulin is the ultimate choice of treatment. The insulin treatment will be an inevitable drug of choice, specially in type 1 Diabetes mellitus, to prevent the early childhood threat for the normal physiological and psychological growth and development of an individual. In the current increasing trend of this syndrome world wide, modern drugs are having limitation in rendering a cost effective treatment. The alternative therapy certainly comes in to picture for its significant history of its utility since decades. There are number of drugs from the plant origin showing the antihyperglycemic effect, was mentioned in the literature. In our study the two important herbs having diversified action were particularly chosen in combination, to assess its initial glucose tolerance in rat animal experimental model. The response of these drugs will be considered in our presentation.

188. POLYCYSTIC OVARY SYNDROME (PCOS)

SWAYAM JOTHI.S., SAROJA SUNDARARAJULU, SAI SUCHEETHRA .D, SREELEKHA.D, SHRI SATHYA SAI MEDICAL COLLEGE & RESEARCH INSTITUTE, KANCHEEPURAM.

INTRODUCTION :- One of the most commonest endocrine metabolic disorder affecting 6-10% women in their reproductive age.

AIM OF THE STUDY :- Since this condition appeared to be prevalent in the medical students, a detailed history was taken from a batch of 100 students, of which 64 were girls.

MATERIALS & METHODS :- Out of 64 girl students, 9 of them had one of the following to diagnose as PCOS

- USG appearance of polycystic ovaries

- Menstrual disturbance

- Evidence of hyperandrogenism - acne, hirsutism, etc

OBSERVATION :- - USG appearance of polycystic ovaries - present in all nine cases (14%)

- Menstrual disturbances - present in all nine cases (14%)

- Evidence of hyperandrogenism - acne, hirsutism, etc - observed in four cases (6%)

DISCUSSION :- In addition to the above findings, these girls were nervous, tensed up in many situations and they were lacking self-confidence. These may be due to anxiety or hormonal influence.

CONCLUSION :- PCOS is associated with sedentary life. All of them had irregular periods. Oral contraceptive pills (OCP) is the drug of choice in PCOS in unmarried women.

189. TOPOGRAPHY AND INDEXING OF THE NUTRIENT FORAMINA OF HUMAN ADULT LONG BONES

PRASHANTH K.U., B.V. MURLIMANJU, LATHA V. PRABHU, MANGALA M. PAI, ASHWIN KRISHNAMURTHY, C. GANESH KUMAR

Department of Anatomy, Kasturba Medical College, Manipal University, Bejai, Mangalore, Dakshina Kannada.

Objectives: To determine the foraminal index and the topography of the nutrient foramina in the human adult long bones.

Methods: The study comprised 396 long bones which included humeri, radii, ulnae, femora, tibiae and fibulae. In all the bones, the foramina were identified macroscopically and a rubber band was applied around these foramina. Later the bones were photographed with a digital camera and the indexing was done with the measurements over the photographs. The total length of the bone was measured and foramen index was calculated (Foramen Index = Bone length / distance from the proximal end to foramen). Each bone was divided into 5 equal parts and the topographical analysis of the foramina was done.

Results: The mean foraminal index was 57.6 for the humerus, 34.4 for both the ulna and radius. The index for the femur, tibia and fibula were 38.9, 32.5 and 49.2 respectively. The majority (70%) of

the foramina in humerus were located at the 3/5th part, 83.6% of the ulnae foramina at the 2/5th part and 87.7% of the radii foramina at the 2/5th part. In case of the femur, 72.8% of the foramina were located at the 2/5th part, 98.3% of the tibial foramina at the 2/5th part and 60% of the fibular foramina was observed at the 3/5th part.

Conclusion: The foraminal index and topographical analysis was compared with the previous studies. Knowledge of the localization of nutrient foramina can be useful in certain surgical procedures to preserve the circulation. As microvascular bone transfer is becoming more popular, a convention for the accurate anatomical description of these foramina is important.

190. Patients With Diabetes Mellitus And Hypertension

DR RAHUL KHARATE DR KAVITA TYAGI

Mahatma Gandhi medical college, Kamothe Navi mumbai

AIM: To evaluate the clinical status of dorsalis pedis & posterior tibial arteries in patient with diabetes mellitus & hypertension.

OBJECTIVE: To stress upon clinical importance of these arteries in diabetes mellitus & hypertension.

DESIGN: Clinical examination was done in 50 diabetic foot patients with or without hypertension. Duration of diabetes in these patients was more than 10 years.

MEASUREMENT: Clinical examination of dorsalis pedis & posterior tibial arteries in both feet.

RESULT: The prevalence of hypertension in present study population was n= 23 (46 %). Out of 39 male patients, smokers were 9 in number (23.07 %). In study population, posterior tibial artery pulsations were abnormal on right side in 23 patients (46 %) & on left side in 17 patients (34 %). Dorsalis pedis artery pulsations were abnormal in 30 patients (60%) in right foot & 26 patients (52 %) in left foot.

CONCLUSION: Prevalence of peripheral vascular disease in our study is 22 %. Clinical examination of these peripheral pulses is mandatory for patients of diabetes mellitus & hypertension. Since this method is convenient it can be used as prognostic method.

191. A STUDY OF ANATOMICAL VARIATIONS IN THE ORIGIN, LENGTH AND BRANCHES OF CELIAC TRUNK AND ITS SURGICAL SIGNIFICANCE

Dr.Pushpalatha.K. Dr.N.M.Shamasundar.

JSS Medical College, Mysore , Karnataka.

Celiac trunk is a short, wide unpaired artery of the Fore gut and arises from the Aorta opposite the lower border of 12th thoracic vertebra. The trunk proceeds forwards and to the right and divides into 3 branches. Left gastric, Common hepatic and Splenic arteries.

The anatomical variations of the Celiac trunk and its branches are due to developmental changes in the ventral splanchnic arteries. The arterial variations like other anatomical variations cannot be ignored during the operative procedures in abdomen.. Main objective of the present study is to know the level of origin, length and variation in the branches of the Celiac trunk. Study included 35 embalmed cadavers and 15 post mortem specimens.

Length of Celiac trunk was noted in 50 cases. Range was between 0.4-2.9 cms. Celiac trunk with only 3 branches –LG, CH and Splenic artery was seen only in 72% of cases. In 20% of cases there were more than 3 branches. In 18% of cases Celiac trunk was giving origin to Inferior phrenic arteries. In 4% of cases the Celiac trunk was incomplete (gastro splenic trunk) giving only LG and Splenic, CH was directly arising from Aorta. CT was absent in 4% of cases.

It is of great importance for the surgeon and Radiologists to be aware of the variation of the Celiac trunk during surgical and radiological procedures in upper abdomen. So this study may add unto already existing anatomical knowledge about Celiac trunk and its branches.

192. TOPOGRAPHIC ANATOMY AND MORPHOLOGY OF NUTRIENT FORAMEN OF THE CLAVICLE, AN OSTEOLOGICAL STUDY

ARVIND YADAV1, SHARMADA K.L.1, PRASHANTH K.U.1, B.V. MURLIMANJU1, LATHA V. PRABHU1, DHANANJAYA K.V.N.2

Departments of 1Anatomy and 2Radiology, Kasturba Medical College, Manipal University, Bejai, Mangalore, Dakshina Kannada.

Objectives: To study the topographic anatomy and morphology of nutrient foramina of the human adult clavicles.

Methods: The study comprised 52 clavicles (27 right side and 15 left) which were obtained from the osteology section of the anatomy laboratory of our department. The clavicles were macroscopically observed for the number, location and direction of the nutrient foramina. A magnifying lens was used to observe the foramina.

Results: The nutrient foramen was observed in 50 (96.1%) and it was found absent in 2 clavicles (3.9%). The foramen was single in 20 (38.5%) clavicles, the double foramina was observed in 23 cases (44.2%) and in the 7 clavicles (13.4%) there were more than 2 foramina. In 48 clavicles (92.3%), the foramen was observed in the middle 1/3 region. In 5 clavicles (9.6%), the foramen was at the medial 1/3 region and in one clavicle (1.9%), it was seen on the lateral 1/3. In 29 (55.8%) of the clavicles, foramen was on the inferior surface. Whereas 36 (69.2%) clavicles, the foramen was observed on the posterior surface. Only one clavicle (1.9%) had foramen at its superior surface.

Conclusion: In the classical anatomy texts, it was described that the nutrient foramen of the clavicle is present on its inferior surface. But our findings suggest that it is more common on its posterior surface. Knowledge of the localization of nutrient foramina can be useful in certain surgical procedures to preserve the circulation. As microvascular bone transfer is becoming more popular, a convention for the accurate anatomical description of these foramina is important.

193. MORPHOMETRIC ANALYSIS OF PAPILLARY MUSCLE OF MITRAL VALVE IN HUMAN HEARTS.

MRS.MUTHUCHITRA, MRS.HARITHA, DR.KAVITA TYAGI.

Department of Anatomy, MGM Medical College, Navi Mumbai.

AIM: Morphometric analysis of Papillary muscle of mitral valve in human hearts.

OBJECTIVES: During mitral valve surgery, surgeons need detailed anatomy of mitral valve structures including Papillary muscle. Mitral valve of heart shows leaflets with annulus chordate and papillary muscles. There has been variable reports of annular circumference and leaflet length of mitral valve. Since the papillary muscle and left ventricular wall function together as a unit. The dimension and morphometry of Papillary muscle is important in surgeries in which homograft or stentless xenograft mitral valve is used. Hence main objective is to analyse the morphometry of papillary muscles of mitral valve.

MATERIALS AND METHODS: A total 30 embalmed cadaveric hearts were taken and sectioned through a mid-mitral plane passing through middle of aortic and mitral leaflets which divides the chordopapillary support of mitral valve into antero-lateral and postero-medial hearts. The Papillary muscles were studied for their morphological features such as length, circumference and their variations.

OBSERVATION AND RESULTS:

The details of observations and results will be detailed during presentation.

194. BILATERAL ANOMALOUS ORIGIN OF PROFUNDA FEMORIS ARTERY ASSOCIATED WITH UNILATERAL ENLARGED VASA VASORUM

Shweta Solan

The profunda femoris artery [deep femoral artery] is largest branch of femoral artery, arising from the lateral aspect, about 3.5cm distal to inguinal ligament. But sometimes it arises from posteriolateral aspect of femoral artery about 4-5cm below inguinal ligament.

400 femoral arteries were studied and in one of cadavers, there was variation observed in the origin of profunda femoris artery. In the same cadaver there was another artery arising on right side from junction between profunda femoris and femoral artery. The profunda femoris artery was observed to arise from posteromedial aspect of femoral artery on both sides [bilateral] and descended posterior to femoral vein. This deeply situated profunda femoris artery is of great importance to orthopaedic surgeons and is prone to injury in the fracture of shaft of femur or during surgical procedures like fixing metallic screws in femur. Rupture of this artery may lead to compartment syndrome.

On right side, at junction between profunda femoris and femoral artery, another branch was given off which crossed the femoral vein in front and extended vertically down on its medial aspect. In lower one third of thigh, it anastomosed with femoral artery. It could be enlarged vasovasorum of femoral artery.

195. A COMPARATIVE STUDY OF HISTOLOGICAL CHANGES IN HUMAN GALLBLADDER IN CHOLECYSTITIS AND CHOLELITHIASIS.

DR. JYOTI PRAKASH PANI, DR KARUNA H. KATTI

AIM OF THE STUDY: - Analysis of histological changes in wall of human gallbladder in cholecystitis and cholelithiasis.

MATERIAL: - 25 samples of cholecystitis and cholelithiasis gallbladder were obtained from department of pathology MGM Medical College, Kamothé.

METHOD: - After proper processing, from each sample 3 slides were stained by H&E stain, combined PAS-AB stain & Sudan BlackB stain respectively for routine Histochemistry, Mucin Histochemistry & Lipid Histochemistry study.

RESULTS: - Epithelial hyperplasia, dysplasia, distortion with erosion of mucosa and subepithelial haemorrhages were denoted in both cholecystitis and cholelithiasis. Infiltration of abundant lymphocytes, macrophages & plasma cells were denoted even extends upto muscular layer. They were found focal and patchy in nature. Rokitansky Aschoff Sinuses were seen extending into muscular layer.

In cholelithiasis sulfomucin (Brownish-Blue) found in supranuclear region of epithelium, in deeper part sialomucin (Intense-Blue) predominantly & neutral mucins (Magenta-Red) were seen sparsely. In cholecystitis predominant neutral mucin in the mucosa with sialomucin in other layers were found.

In cholecystitis accumulation of phospholipids (Bluish-Black) were found predominant in supranuclear and infranuclear region of epithelium and noted sparsely in other layers.

CONCLUSION: - The basic principle in gallstone formation is accumulation of lipids and hypersecretion of acidic mucins particularly sulfomucin. They alter normal tissue pattern and can induce carcinogenic progression and metastasis.

Blockage or inhibition of acidic mucin release can prevent gallstone formation or the compound which regulates sulfation and sialation might inhibit gallstone formation and metastasis. This needs further study.

196. ARE SILVER NANOPARTICLES HEPATOTOXIC?

BRIGESH SHAHARE, MADHU YASHPAL, GAJENDRA SINGH
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Deliberately or unknowingly various nanoparticles (NPs) keep on entering our body through gastro-intestinal and respiratory tract. Recently, NPs have been used in medicines for both

diagnostic and therapeutic uses. However, their entry into the body must be doing good or bad effects. Therefore, the present study was undertaken to study the toxicity of silver nanoparticles (AgNPs) which are likely to become a medicine replacing antibiotics or as thrombosis preventing agents, etc. The animals used for this study were 10 weeks old mice, weighing about 25±5 gm. After 14 and 21 days of AgNPs administration, the mice were sacrificed and the liver was dissected out and weighed immediately. The liver was fixed in Aq. Bouin's fixative for light microscopy, and karnovsky's solution for Transmission electron microscopy to observe the reaction and changes following AgNPs administration in the hepatocytes.

Essentiality of TEM study is the minimum requirement so that entry route of AgNPs, its arrival into cell, and effect on hepatocytes can be seen. The study is must to observe the minimal structural changes to understand the *modus operandii* of cellular toxic changes. We observed that the nanoparticles (3-15 nm) had entered the cell through cell wall, were present in cytoplasm, a few of them had also entered the nucleus most likely through nuclear pores. The cells appeared swollen with collection of fluid in endoplasmic reticulum and mitochondria. In extreme stage mitochondria were broken following autophagy. At the time of collection, the liver was seen to be congested and enlarged in size. The TEM finding can be correlated with the gross appearance. In TEM the glycogen collection in the hepatocytes was found to be depleted.

197. HEIDENHAIN AZAN'S MODIFICATION OF MUCIN PRODUCING CELLS

DR. VASUDHA KULKARNI, DR. B.R.RAMESH

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

Heidenhain Azan stain is a versatile stain for demonstration of connective tissue fibers, mucin and muscular tissue. It is a triple stain wherein Azocarmine B followed by aniline blue is used to stain erythrocytes, collagen and reticulum. The aim of the present study is to modify this stain to lessen duration of staining and for better contrast of stains. The mucous producing cells are widely distributed in alimentary and respiratory tract. Various stains have been used to specifically demonstrate them. Usage of Cresyl violet for showing mucin in tissues is little known. Cresyl violet is a regressive stain commonly used in neurohistology to demonstrate nissl granules. Hence it is known as "Nissl stain". Its application in the field of mucin histochemistry is limited. The present study demonstrates mucin using cresyl violet. A combination of Harris hematoxylin, Azan B and cresyl violet helps to differentiate connective tissue, muscular tissue and mucin. Advantages and disadvantages of this new method will be discussed

198. COMPARITIVE STUDY OF THYMUS GLAND IN NORMAL AND ANENCEPHALIC FOETUS.

Vijaya.R., Usha Kothandaraman, Janaki C.S,Gomathi.P, Geetha Prakash.

Meenakshi Medical College & Research Institute.Enathur.Kanchipuram.

Aim:To compare the Morphology, Histology and Immunohistochemistry features of Thymus gland in normal and anencephalic foetuses.

Study Group: Full term normal and anencephalic foetus.

Materials and Method: Thorocotomy was done for the full term foetuses and the thymus gland extending from the neck to anterior mediastinum was removed in toto.

Morphology The weight,length at base & height were measured.

Histology : Haematoxylin & Eosin, Masson"Trihrome stains were used for staining the tissue sections.

Immunohistochemistry: Markers for T & B lymphocytes were applied on the tissue section & were analysed.

The detailed account of the results will be discussed.

199. EFFECT OF VIGABATRIN ON OPTIC NERVE AND OPTIC CHIASMA OF ALBINO RATS

Mehrotra Namita ,Deepa Singh, Negi Gita, Jethani S.L.
HIHT University, Dehradun

Abstract:The present study is based upon the histopathological effects of Vigabatrin (antiepileptic drug) on the retina of albino rats. Rats were divided into 2 groups- Control group and Treated group. Vigabatrin was administered intraperitoneally to the treated group in mild, moderate and high doses for a period of 4 weeks while control group was given an equal amount of vehicle (Normal saline). At the end of the treatment period, rats were sacrificed after giving ether anaesthesia. The Optic Nerve and Optic Chiasma were dissected out with minimal amount of handling and fixed. After tissue processing, transverse sections of the Optic Nerve were cut. Sections of optic chiasma were obtained while coronal section of whole brain were observed. Sections were stained with Haematoxylin & Eosin method and Luxol Fast Blue and Silver Staining methods. On examination in Optic Nerve, decreased no. of nerve fibers, increased subdural space and vacuolation. In Optic Chiasma Vacuolation were found in all treated groups as compared with control. Severity of the findings were found to be increased with increasing doses.

200. LEFT SIDED ACUTE APPENDICITIS IN A RARE CASE OF SITUS – INVERSUS TOTALIS A Case Study

DR. SUNITA GUPTA,

Dept. of Anatomy AMC MET Medical College – Ahmedabad, Gujarat. DR. A.S. GUPTA,

Dept. of Surgery, R.N.T Medical College, Udaipur, Rajasthan. American Hospital, Udaipur.

Arun Jain a 30 years old male was admitted to the G.B.H American Hospital, Udaipur on

20th August 2010 with the complaints of acute pain in the epigastric region followed by pain finally shifting to left iliac fossa of 2 days duration with nausea. There was a history of similar attack of pain lasting for 3 days, about 3 months back.

On Examination – The vitals were normal, marked tenderness was present in left iliac fossa, no rigidity, and no lump was palpable. P.R exam was normal. Routine investigations revealed Leucocytosis ; U.S.G exam of abdomen revealed caecum and appendix in left iliac fossa with changes in the appendix suggesting acute appendicitis. X-ray chest showed Dextrocardia. A diagnosis of Situs – Inversus with acute appendicitis on left side was made. Further, special investigations were ordered to study the anatomical disorder in detail by C.T scan of abdomen & thorax; blood exam for Karyotyping(Chromosomal Analysis); E.C.G and plain X-ray of abdomen etc which revealed presence of SITUS – INVERSUS TOTALIS – a very rare genetic disorder (1 in 10,000, males more affected than females) involving Lungs, Heart, Great Blood vessels, Stomach, Duodenum, Pancreas, Liver, Gall Bladder, Spleen, Small & Large intestine.

The patient was advised exploration of abdomen and appendectomy but wanted postponement due to personal reasons. He is likely to submit for surgery soon.

201. RENAL HYPOPLASIA

Dr.DEEPALAXMI.S

Congenital anomalies of kidney & urinary tract are phenotypically variable often affecting several segments of urinary tract simultaneously, making clinical classification & diagnosis difficult. Malformations involving a reduction of renal parenchyma in the form of renal hypoplasia are one of the important anomalies leading to still births & increased morbidity. More details of our findings, clinical significance along with relevant review will be discussed at the time of presentation.

202. A RARE CASE OF AMBIGUOUS GENITALIA

SHOBHA RAWLANI 1, PUSHPA JUNGHARE 2, ANUPAMA CHAVAN 3 SHIVLAL RAWLANI 4

1&3Department of Anatomy .2 Department of Obstetrics & Gynaecology Dr Panjabrao Deshmukh Memorial Medical College Amravati. Maharashtra

4 Department of Oral Medicine & Radiology Sharad Pawar Dental College Sawangi Meghe (DMIMSU) Wardha. Maharashtra.

Ambiguous Genitalia is a birth defect where the external genitals do not have the typical appearance of either a boy or girl. The male and female reproductive organs and the external genitals arise from the same tissue in the foetus. If this process of formation of foetal tissue is disrupted then ambiguous genitalia can develop. These genitalia make it difficult to classify the infant as male or female. In the present case we report a preterm newborn female with 46 XX chromosomes presenting Ambiguous Genitalia. Genital examination showed phallus like structure with genitourinary openings in the perineum. The urethral and vaginal openings were seen much in same area in the form of two small openings adjacent to each other the labia majora was enlarged and separate. The gonads were not palpable.

203. CONGENITAL ANOMALY AS CAUSE OF HANDICAP: A STUDY

SHARMISTHA BISWAS*, PANCHANAN KUNDU*, JADAB CHANDRA CHATTOPADHYAY, PROF SAMIT KUMAR GHOSH

Department of Anatomy, Bankura Sammilani Medical College, Bankura, Kolkata

Content: Congenital anomalies are the most common causes of handicap in developed and developing countries. These anomalies are abnormalities of structures of body parts, they arise at the time of conception, or during intra-uterine development and are present at birth. Handicap is a disability adversely affecting normal growth, development and adjustment to life over a substantial period of time, if not permanently. Epidemiological studies of congenital anomalies as cause of handicap are few in India. The present study was aimed to evaluate distribution and demographic characteristics of congenital anomalies in Bankura district of West Bengal, India. Records of the handicapped persons who attended Bankura Sammilani Medical College, Bankura for the purpose of obtaining handicapped certificate during a period of 1 year, from August, 2008 to July, 2009 were examined retrospectively. Among 430 persons who received handicapped certificates, 291 persons were suffering from congenital anomalies. Of these congenitally handicapped persons, 35.58% were suffering from mental retardation, 9.3% were patients of cerebral palsy, 8.6% were orthopedic handicaps, 7.9% had hearing impairment and associated lack of speech development and 3.9% were visually handicapped. Details will be discussed in the conference.

204. SITUS SOLITUS MESOCARDIA WITH ENLARGED THYMUS—A CASE REPORT.

DR. PRANAB MUKHERJEE

DR. APARNA

MUKHERJEE N.B.M.C., Darjeeling.

Child Specialist E.S.I. Hospital Kalyani

Situs solitus mesocardia is not a common term in undergraduate text books. A 26 days old boy baby was diagnosed as a case of mesocardia with enlarged thymus. Initial chest radiograph showed middle position of heart in the thorax. Echocardiography / colour Doppler confirms situs solitus mesocardia with stretched patent foramen ovale, having left to right shunt. C.T. Scan of chest confirms enlarged thymus with area of consolidation in right lower lung. Review of literature shows variety of heterotaxy syndrome which cause diagnostic challenge to radiologists & pediatricians. Situs inversus, dextro / levocardia are common terms in Anatomy but situs ambiguous presented as syndromes are found to be rare.

205. ANATOMY OF POSTERIOR INTERVENTRICULAR ARTERY

Dr. Anjali S. Sabnis Dept. Of Anatomy K.J.S.M.C and Hospital, Sion, Mumbai

Rate of the coronary artery diseases is increasing day by day. Knowledge of cardiac anatomy is indispensable for proper understanding of cardiac disease. The anatomical knowledge of right and left coronary artery and their branches will help cardiac surgeons for refining of numerous imaging techniques and coronary artery bypass grafting. PIA is considered to be the most important branch because it supplies both the ventricles and posterior third of interventricular septum. 110 human hearts of unknown sex were dissected. The PIA was dissected and studied in terms of origin, number, anastomosis, presence of myocardial bridges. It was observed that: 1. PIA was arising from RCA in 83 hearts, from LCA in 22 hearts and from both the arteries in 5 hearts. 2. Single PIA (b/o RCA) was seen in 58 hearts, double was seen in 13 hearts while 3 PIAs were seen in 12 hearts. 3. PIA was terminated in PI septum in upper one third part in 19 hearts, at mid point of PI septum in 4 hearts and apex in 60 hearts. 4. Single PIA (b/o LCA) was seen in 15 hearts, double was seen in 4 hearts while 3 PIAs were seen in 3 hearts. 5. It was observed that in 3 hearts Myocardial bridge was present on PIA b/o RCA. **Key Words:** Posterior interventricular artery, Cardiac anatomy, coronary artery. **Abbreviations used:** RCA-Right coronary artery LCA-Left coronary artery PIA- Posterior interventricular artery

206. MORPHOLOGICAL STUDY OF FISSURES AND LOBES IN SOUTH INDIAN HUMAN ADULT CADAVERIC LUNGS

SHILPA K. B.V. MURLIMANJU, LATHA V. PRABHU, SCHWETHA D'SOUZA, PRASHANTH K.U., HEMALATHA PRAVEEN

Department of Anatomy, Manipal University, Centre for Basic Sciences, Kasturba Medical College, Mangalore, Dakshina Kannada.

Objective: To study the morphology of fissures and lobes of the lung in South Indian population.

Methods: The present study included 60 adult cadaveric lungs (32 right and 28 left side) which were obtained from the human anatomy laboratory. The lungs which were found damaged (because of manipulation at the laboratory) and the lungs with pathologies were excluded from the study. The specimens were macroscopically observed for the gross morphology of fissures and lobes.

Results: Only 32 (53.3%) lungs showed the fissures and lobes as described in the standard anatomy texts. In the remaining, there was variation in their morphological features. In the right lungs, 15 (46.9%) of them had incomplete horizontal fissure, 6 lungs (18.7%) had absence of the horizontal fissure and one lung (3.1%) had the azygous lobe. The remaining 10 right lungs (31.3%) showed the usual morphology. Among the left lungs, the normal morphology was observed in 22 cases (78.6%), 2 lungs had incomplete oblique fissure (7.1%), one lung had (3.6%) absence of the oblique fissure, one lung showed an accessory fissure and lobe (3.6%). The anomalous multiple fissures and lobar pattern was observed in 2 cases (7.1%).

Conclusion: The morphological knowledge of the fissures and lobes of the lung is of importance to the thoracic surgeons in performing lobectomies and segmental resection. The radiologists should also have an idea about these variations in interpreting the MRI and CT scans. The data from the present study certainly will add an important reference in the medical literature.

207. ARTERIAL SEGMENTATION OF HUMAN LIVER.

Bhavana Chauhan (II/I MBBS STUDENT) under guidance of Dr. Vasanti Arole,

Dept. of Anatomy, Pad. Dr. D.Y.Patil Medical College, Pimpri, Pune

STUDENTS' ICMR PROJECT

OBJECTIVES: Our main aim was to study the arterial segmentation of liver & intersegmental anastomoses & whether accessory hepatic artery form separate segments and anastomose with main segmental artery.

METHODS: A total of nine livers preserved in formalin without macroscopic abnormalities were used. The organ was immersed in 5% KOH for 48 hrs. to make it soft. The segmental artery in the liver were traced by scraping the liver substance over the arteries. Presence or absence of intersegmental anastomoses and anastomosis between accessory hepatic artery and main segmental artery was noted.

RESULTS: We found that depending on the arterial segmental branches the segmental pattern is different as compared with segmental pattern as per portal or venous segments. Right lobe showed 1 segment in 11%, 2 segments in 66%, 3 segments in 11% & 4 segments in 11% of the livers. Left lobe showed 1 segment in 22% & 2 segments in 77% of the livers. Right & Left hepatic arteries were shown giving different number of segmental arteries in different livers. All the segmental arteries were end arteries and no intersegmental anastomosis was found.

CONCLUSIONS: It was seen that arterial segmentation of the liver does not correspond with the portal or venous segmentation. Right hepatic artery was seen giving a branch to segment IV of left lobe & Left hepatic artery to segment VIII of right lobe which means that there may be necrotic changes in segment IV in Right hepatic lobectomy & in segment VIII in Left hepatic lobectomy. Also Left accessory hepatic artery a branch of Left gastric artery was seen to be entering the left lobe through fissure for ligamentum venosum. This variation must be kept in mind during left hepatic lobe surgery or gastrectomy. So to the knowledge of the arterial segmentation of liver is important for the surgeon for segmental resection for accidental cases or diseased segments, so as to avoid post operative complications.

208. VARIANT COURSE OF POSTERIOR CIRCUMFLEX HUMERAL ARTERY ASSOCIATED WITH THE ABNORMAL ORIGIN OF RADIAL COLLATERAL ARTERY- COULD IT MIMIC THE QUADRANGULAR SPACE SYNDROME?

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Variations in the origin of axillary artery branches are common. But, distinctly abnormal course of its posterior circumflex humeral branch is rare. We are reporting a case of posterior circumflex humeral artery originating from the axillary artery, passing through the lower triangular space to reach the scapular region where it accompanied the axillary nerve and posterior circumflex humeral vein to pass around surgical neck of humerus, deep to the fibers of deltoid. Other variation observed in this specimen was the radial collateral artery arising from the posterior circumflex humeral artery instead of profunda brachii artery. The middle collateral artery was arising directly from the brachial artery and there was absence of profunda brachii artery. The posterior circumflex humeral artery forming a hair pin loop, traversing through the lower triangular space instead of quadrangular space, taking a long course may mimic the symptoms of quadrangular space syndrome which is a clinical condition resulting from the compression / occlusion of posterior circumflex humeral artery.

209. VARIATIONS IN EXTERNAL MORPHOLOGY OF VESICA FELLEA.

Dr.R.R FULZELE *, Dr.J.RAJGURU**

DEPARTMENT OF ANATOMY,

Jawaharlal Nehru Medical College Sawangi (Meghe) Wardha, Maharashtra-Datta Meghe Institute of Medical Sciences University, Nagpur.

Vesica fellea or the gall bladder as is commonly known, is a pear shaped sac situated in the gall bladder fossa of liver. Variations of the gall bladder are not uncommon and occur in about 0.1% of population (Mahato-2010). Diverticulum, folded neck, folded fundus, folded neck and folded fundus and mesentery were the variations in the external morphology. These may remain asymptomatic or may

cause considerable complications. These variations often lead to cholestasis, cholelithiasis and subsequent cholecystitis and may predispose to cholangiocarcinoma. With ever increasing rate of surgical and radiological interventions of the gall bladder, knowledge of relevant anatomy of the organ is therefore critical for the safe execution of operative procedures performed in this region.

210. DISSECTION OF THE FASCIA OF THE DISTAL PHALANX **DR. KISHOR D. KHUSHALE**

Department of Anatomy
Seth GS Medical College, Parel, Mumbai

Aim:

To study the fascia of the distal phalanx as a mechanism for prehensile function.

Material and Methods:

Thirty preserved human digits were disarticulated at metacarpophalangeal joint and the terminal segment (distal phalanx) were dissected and examined.

Results:

Five fibrous elements were dissected which are attached to the lateral tubercle of the distal phalanx.

Fibrous elements are 1) Oblique collateral ligament 2) Lateral interosseous ligament 3) Lateral skin retinacula 4) Proximal and lateral corners of the nail bed and 5) A fibro-osseous hiatus.

Conclusions:

Any injury to the lateral interosseous ligament weakens the structural pillars of the lateral edges of the nail, skin and pulp support. In close fracture of the ungual tuberosity it is difficult to reduce because of the strong proximal attachment of the lateral interosseous ligament

The fascia of the distal phalanx & its three dimensional view is helpful for both undergraduate and post graduate students of Anatomy. It would also help hand surgeons in operations.

211. MYOCARDIAL BRIDGES

Dr. Anjali S. Sabnis Dept. Of Anatomy K.J.S.M.C and Hospital, Sion, Mumbai

The muscle overlying the intramyocardial segment of epicardial coronary artery is termed as Myocardial Bridge. The artery within the MB is called tunneled or mural artery. Significance of MB remains controversial. Some reports suggest that myocardial bridges might have protective effects on coronary artery at the site of bridging; other studies suggest a relationship between the presence of myocardial bridge and myocardial ischemia and infarction. The aim of the study is to provide more definitive information of incidence of MB in terms of length, vessels involved. 110 human hearts of unknown sex were dissected and both the coronary arteries and their branches were dissected. During dissection Myocardial Bridges were found on coronary arteries. It was observed that, 1. Out of 110 hearts 71 hearts showed myocardial bridges. 2. Out of 71, in 10 hearts MBs were present on RCA and in 61, MBs were present on LCA3. In 46 hearts MB was present on LADA4. Length of MB varies from 5-62 mm5. One heart showed 4 MBs on different arteries. **Key Words:** Myocardial Bridge, Coronary Artery, Mural Artery

Abbreviations used:
RCA-Right coronary artery LCA-Left coronary artery
artery LADA-Left anterior descending artery
MB-Myocardial bridge

212. ACCESSORY TRANSVERSE FORAMINA OF THE CERVICAL SPINE: INCIDENCE, MORPHOLOGY AND SURGICAL IMPORTANCE

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Objective: To study the incidence of accessory foramina transversaria in the human cervical spine and to analyze them morphologically with emphasis on their surgical importance.

Methods: The present study includes 363 human cervical vertebrae which were obtained from the bone collection of the Department of Anatomy. The foramen transversarium (FT) was observed macroscopically on both sides of all cervical vertebrae and the accessory foramina were noted.

Results: Out of 363 specimens, only 6 (1.6%) vertebrae showed the accessory foramina. Among them 5 (1.4%) vertebra had double FT and only 1 (0.3%) vertebra showed three foramina. Only 1 (0.3%) vertebrae showed the foramen on both sides and the remaining 5 (1.4%) had unilateral foramina. Among the unilateral, 4 were present on the right side and only 1 was on the left side. No vertebrae showed the absence of foramen transversarium.

Conclusion: In the present study, the incidence of accessory FT was recorded as 1.6%. The unilateral presence was more common than the bilateral. The morphological idea about these foramina is surgically important since the course of the vertebral artery may be distorted in such conditions. The factors responsible for these foramina may be developmental or related to the variations in the course of the vertebral artery. The anatomy of these variations may be important for the surgeons and for radiologists in interpreting the CT and MRI scans.

213. DIFFERENCES & SIMILARITIES OF UPPER & LOWER LIMBS

Prof. NINGTHOUJAM DAMAYANTJ

The upper and lower-limbs of the human body are phylogenetically homologues of the fore and hind-limbs of the quadrupeds. Primates started lifting forelimbs off the ground for various functional adaptations whereas the hind-limbs remain for locomotion and weight-bearing. That is the beginning of deviation of the two limbs. With the gradual diversity of functions, morphological evolution of the two limbs follows closely leading to differences in these two limbs in humans. This paper aims at the reanalysis of morphological differences in upper and lower-limbs with new concept and ideas. Since the inception of Anatomy as a basic medical subject the accepted anatomical position of upper-limb is to keep the palm looking forward with the thumb on the lateral side whilst in lower-limbs the homologous big toe is on the medial side. This anatomical position in upper limb is not a normal comfortable position; it is kept in this position with effort and axial rotation. In the newborn when the foot is off the ground before weight bearing the sole faces upward and medially with the big toe on the lateral side making the positions of upper and lower-limbs almost similar. As it grows up and starts putting the feet on the ground axial rotation starts and crossing of the preaxial and postaxial borders occurs. The detailed differences and similarities between the upper and lower-limbs which have not been highlighted in the standard texts have been highlighted and discussed in this paper. It is recommended to stress and teach the similarities or differences and basis thereof whenever it is regarded appropriate for a better understanding of the intricacies; this may be delayed until the completion of study of both the upper and lower limbs.

214. A DETAILED STUDY OF THE PLANTARIS MUSCLE

G. PRABAVATHY, VATHSALA VENKATESAN
SREE BALAJI MEDICAL COLLEGE & HOSPITAL, CHENNAI

The plantaris muscle has been given little attention in the reviewed literature. It is most commonly mentioned only when it was absent from a specimen. This study is aimed to document the detailed anatomical parameters of the plantaris muscle. 50 lower limbs of 25 cadavers were dissected to identify the possible variation of plantaris muscle. The length of the fleshy belly, of the muscle was found to be varying between 7cm to 10cm and the tendon length was varying between 30 to 40cm. The aponeurosis of the muscle was also observed. Out of the total number of specimens studied, it was absent in 7.4% of cases. The mode of insertion of tendon also was found to be quite variable. In specimens where plantaris was found to be absent, the gastrocnemius muscle mass didn't show any change in

the architecture. All the above parameters were studied in detail and the results were tabulated.

215. OCCIPITAL EMISSARY FORAMINA IN HUMAN SKULLS: AN ANATOMICAL INVESTIGATION WITH REFERENCE TO SURGICAL ANATOMY OF EMISSARY VEINS

B.V. Murlimanju., Latha V. Prabhu, Mangala M. Pai, Vasudha V. Saralaya

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OBJECTIVES: The objectives were to find the incidence and topography of the occipital emissary foramina in skulls of South Indian Region.

METHODS: In the present study, 78 dried adult human skulls were examined. They were analyzed for the gross incidence and position of the occipital emissary foramen. The observations were made in the squamous part of the occipital bone from the posterior margin of the foramen magnum to the external occipital protuberance.

RESULTS: From our observations, the occipital emissary foramen was present in 11 (14.1%) skulls. Left sided foramen was observed in 5 cases (6.4%), right-sided foramen in 4 (5.1%) and the median foramen was seen in 2 (2.6%) of the cases.

CONCLUSION: The occipital emissary vein is present in a small percentage (14.1%) of cases. It was also demonstrated that its location is variable as to left, right or midline. Its location was closer to the foramen magnum than to the external occipital protuberance in all the specimens. The morphology of this subject is important to the neurosurgeons and plastic surgeons. The knowledge is of importance in suboccipital craniotomies as this foramen transmits the occipital emissary vein and will keep awareness among the surgeons to avoid the excessive bleeding.

KEYWORDS: emissary vein; foramen; foramina; neurosurgery; skull; suboccipital

216. ACCESSORY NEUROVASCULAR FORAMINA ON THE LINGUAL SURFACE OF MANDIBLE: INCIDENCE, TOPOGRAPHY AND CLINICAL IMPLICATIONS

B.V. MURLIMANJU, LATHA V. PRABHU, MANGALA M. PAI,
Department of Anatomy, Manipal University, Centre for Basic Sciences, Kasturba Medical College, Mangalore

Aim: It was suggested that the accessory neurovascular foramina of mandible may be of significance in relation to the effectiveness of local anesthesia following routine inferior alveolar nerve block. This study was designed to investigate the incidence of neurovascular foramina on the lingual surface of the mandible in South Indian population.

Materials and Methods: 67 human adult dry mandibles, the exact ages and sexes were not known. The location and number of the neurovascular foramina were topographically analyzed.

Results: The foramina were observed in 64 mandibles (95.5%) and were found multiple in most of the cases. They were seen between the two medial incisors in 8 mandibles (1.9%), between medial and lateral incisor in 34 mandibles (50.7%), between lateral incisor and canine in 7 mandibles (10.4%), between canine and first premolar in 6 cases (8.9%). The foramina were also observed around the mental spine in 56 mandibles (83.6%).

Conclusion: Since the anatomical details of these foramina are important for the various fields of dentistry and oncology, the present investigation was undertaken. The clinical significance and implications are emphasized.

217. VARIATION OF THE ANTERIOR CEREBRAL ARTERY IN CADAVER

K.VENKATA CHARYA, DR.SUMANGALA DEVI.

The brain was studied in the dissection hall of S.V.S. Medical College, MBNR The brain was removed from the cranial cavity and the branching pattern and course of the cerebral arteries were Studied. An aberrant course and anastomosis between the anterior cerebral arteries of

both the hemispheres. Were observed Most of the anastomoses were seen on the orbital surface of the frontal lobe. Arteries on both sides showed differences in their size. The knowledge of this anatomical variation and their clinical Approach & further details will be presented at the conference.

218. BRANCHING PATTERN OF BRACHIAL ARTERY- A MORPHOLOGICAL STUDY

Dr. SUNIL PUNDGE, Dr. P.C.CHAMPANERI, Dr. S.D.GANGANE, Dr. R A GOLE

Brachial artery is important from clinical point of view to the general surgeons, radiologists, plastic surgeons and even cardio-vascular thoracic surgeons.

The aim present study was to study the origin, course, branching pattern and termination of morphological normal and abnormal brachial arteries in cadavers. Length and diameter of right and left side was studied difference in male and female was studied. The study was conducted on 100 upper limbs of 50 cadavers. The brachial artery was dissected and traced proximally to continuity with the axillary artery at the lower border of teres major. Distally in cubital fossa up to its bifurcation. Length was measured with the help of thread and measuring scale. Internal diameter was measured at its origin midway and termination with the help of divider and measuring scale. Out of 100 upper limbs 5 higher division of brachial artery were found and in 1 upper limb the brachial artery was absent. The mean length of brachial artery 27.11cm, in males length was 27.32cm and in females it was 26.79 cm. The distance between termination of brachial artery and the horizontal line joining two epichondyles of humerus was 3.38cm. The mean diameter of brachial artery at its origin was 0.47cm, midway 0.44cm and at its termination it was 0.42cm.

219. INCIDENCE OF BICIPITAL PLANTARIS MUSCLE

Dr Prakash B S, Dr Padmalatha K, Dr B R Ramesh
DR B R Ambedkar Medical College, K G Halli, Bengaluru.

The plantaris muscle, one of the muscle of calf which is known the vestigial muscle unites to form tendocalcaneum along with soleus & two heads of gastrocnemius. Sixty lower limbs were studied for plantaris muscle, one of the cadaver showed unusual plantaris muscle. The plantaris arises from the lateral condyle of femur forms two slips courses enclosing tibial nerve. Superficial slip becomes continuous with lateral head of gastrocnemius muscle & deep belly form a thin separate long tendon & inserted to calcaneum. The clinical & surgical implications & morphology will be dealt in detail.

220. ABSENCE OF MUSCULOCUTANEOUS NERVE: A STUDY OF ITS INCIDENCE AND CLINICAL IMPLICATIONS

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

In a study 20 upper limbs given to MBBS students of our college for dissection, bilateral absence of musculocutaneous nerve was found in an adult male cadaver. This makes an incidence of 10%. The muscles supplied by the musculocutaneous nerve were supplied by the median nerve which also supported the skin over the plexar aspect of the forearm.

Embryological basis and clinical implications of the absence will be discussed.

221. RELATION OF CYSTIC ARTERY TO BILIARY DUCTS & CALOT'S TRIANGLE

K.SANGAMESWARAN, USHA KOTHANDARAMAN,
CHRISTILDA FELICIA., JANAKI.C.S.

MEENAKSHI MEDICAL COLLEGE & RESEARCH INSTITUTE.
ENATHUR , KANCHIPURAM , TAMILNADU.

Aim :

To study the different modes of relation of cystic artery with the ducts of Biliary system and also with Calot's triangle in cadavers.

Importance of the study :

Ligation of cystic artery is a procedural prerequisite during any surgical procedure involving gallbladder.

Materials & Methods :

50 adult specimens & 5 fetal specimens from cadavers were studied by using conventional dissection method, and whose age & sex were not determined. Various relations of cystic artery with Biliary ducts & Calot's triangle were observed. Relevant statistical analysis were carried out.

RESULTS :

Detailed account of all these variations of cystic artery will be discussed.

222. REVOLVING FINGER-EVOLVING PROBLEMS!

HARISUDHA.R*, JANAKI.C.S,

USHAKOTHANDARAMAN,KARTHICK.S

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MEENAKSHI MEDICAL COLLEGE & RESEARCH INSTITUTE,

ENATHUR, KANCHIPURAM.

AIM To determine the hand grip strength.

To determine the tenderness and muscle assessment in anatomical snuffbox and muscles maintain mid-prone position and of the study group.

To determine the tenderness and muscle assessment in trapezius.

STUDY GROUP A total of 100 individuals belonging to age group 16-25 yrs of which 50 were of individuals who were sending sms at a rate of more than 100 per day and 50 were individuals sending sms at a rate of less than 50 sms per day.

MATERIAL : Manual muscle testing, visual analogue scale, Tenderness grading, Card test, Isometric grip test, Dynamometer, pen.

METHODS: To assess the study group the following methods are used.

- Manual muscle testing to assess the involved muscles.
- Tenderness grading to check the level of pain in the involved muscles.
- Dynamometer and card test – to determine the hand grip power of the study group.

RESULTS

Will be discussed during the presentation.

223. VARIATIONS OF RADIAL ARTERY- A STUDY ON CADAVERS

DR. NITIN R. MUDIRAJ, DR. (Mrs.) RAJGOPAL LAKSHMI*

Dept. of Anatomy, Bharati Vidyapeeth Medical College &

Hospital, Sangli, *Dept. of Anatomy, Seth G. S. Medical College & KEM Hospital, Parel, Mumbai.

Aims and Objectives: After reviewing the literature thoroughly, it was found that even though radial artery can be used in a wide-ranging clinical application there is dearth of literature pertaining to the anatomy of radial artery in Indian subjects so, this study was undertaken with following aims and objectives:

1. To study the variations in origin, course, branching pattern and termination of radial arteries.
2. To apply these findings to various clinical situations in their diagnosis and treatment.

Materials and Methods: 90 upper limbs from 45 formalin-fixed cadavers were dissected meticulously to expose the radial artery from its origin to its termination and look for the variations if any.

Results: Twelve (13.3%) out of 90 specimens showed variation in origin of radial artery while radial artery originated at the neck of radius in 86.7% specimens.

Conclusion: The results will be compared with the literature and the clinical significance will be discussed in the conference.

224. STUDY OF SACRAL HIATUS

DR. (Mrs.) UTTAMA U. JOSHI, DR. (Mrs.) MEDHA PURANIK*

Dept. of Anatomy, Bharati Vidyapeeth Medical College & Hospital, Sangli. Bharati Vidyapeeth Medical College & Hospital, Pune*.

Aims and Objectives: - Caudal Epidural Anesthesia is used widely in clinical practice, particularly in Obstetrics & Gynaecology, Orthopedics. Sacral Hiatus is used for this purpose and wide variations of the hiatus are well known. So, aim is to study the variations of sacral hiatus.

Objectives are -

1. To collect morphometric data of sacral hiatus, like length of sacral hiatus, width at the base of hiatus, hiatal index.
2. To compare this study with the previous studies.

Materials and Methods: - For this study of Sacral Hiatus, 186 sacra were collected and divided in to two groups.

Group A - 141 sacra of unknown sex.

Group B - 45 sacra of known sex.

Results: - There was wide variation in the parameters of sacral hiatus, for male as well as female sacra in both groups.

Conclusion: - Results will be compared with the literature and the clinical significance will be discussed in the conference.

225. Variations In The Interventricular Branches Of Coronary Arteries

Durga devi.Y, VatHsala venkatesan,W.M.S Johnson

Sree balaji Medical College and Hospital

Numerous data on the variations of the coronary arteries are documented both in the textbooks and in journals, while dissecting a cadaver, we came across some variations in the distribution of both right and left coronary arteries. It was a "Right dominance" heart and the right coronary artery was coursing till the left margin and both coronary arteries were giving off numerous branches also. Many posterior interventricular and anterior interventricular branches were noticed which are not cited in the literature. All the branches were highly tortuous. The pattern in this specimen and few other normal specimens were compared for the present study.

226. CLINICAL RELEVANCE OF ANATOMICAL VARIATIONS IN TERMINATION OF COMMON FACIAL VEIN

DR.A.BERTHA, DR.SUGANTHY RABI.

Department of Anatomy, Christian Medical College, Bagayam, Vellore, TN, India.

Introduction and aim: Variations in the venous drainage pattern of face and neck are quite common. The objective of this study is to observe variations in formation and drainage of the common facial vein.

Materials and methods: Thirty five specimens were dissected and the variations noted.

Observations: We observed unusual drainage of the common facial veins into the subclavian veins and absent external jugular veins bilaterally. The undivided retromandibular vein continuing as the external jugular vein and the anterior facial vein opening into the internal jugular vein was one of the variations. In three cases, the common facial veins were found to open into external jugular vein at varying distances from the base of the mandible. The embryological basis for the variations and their clinical implications will be discussed in the conference.

Conclusion: Knowledge of the varying venous patterns in the neck is important for clinical practitioners who are doing procedures like cannulation and venegraft harvesting in endarterectomy.

227. CAECAI RECESSES: A CLINICO- ANATOMICAL STUDY AND ITS CLINICAL IMPLICATION.

Shivpal V. Tambe, Kum Kum Rana, A. K. Kakar, Smita Kakar, Anil Aggarwal, S.K. Aggarwal.

Department of Anatomy, Maulana Azad Medical College and Associated Lok Nayak Hospital, New Delhi

Aim: To study the caecal recesses macroscopically and its association with internal hernias, if any.

Material and Methods: The present study has been conducted on caecal recesses in 100 cases including 10 cadavers, 45 postmortem cases, and 45 cases undergoing laparotomy in the department of General and Paediatric Surgery and the recesses were observed

for: Position and direction of the opening, Depth and width, Related structures (normal and anomalous), Presence of internal hernia, if any.

Results and Conclusion: The **superior ileocaecal recess** was observed in 14% of cases and in one instance was associated with inferior ileocaecal recess. Its depth was 1.4 - 2.5 cm and width was 0.5-1.2 cm. It was found in 57% adults and in 43% children. There was not much significant difference in prevalence of this recess in different age group. The **inferior ileocaecal recess** was observed in 15% of study population, and was associated with retrocaecal recess in 7% and with superior ileocaecal recess in 13% of the study group. Its depth varied between 2-4 cm, and its width 1-3 cm. Its orifice opened towards the left and downwards. The **Retrocaecal recess** was found in 4% of cases, and in 25% of these, it was associated with inferior ileocaecal recess. The depth was 3.4-4 cm and width was 1.9-4.0 cm of the recess. The vermiform appendix was present in 25% of the recesses. The incidence of internal hernia was found 3% which is very high as against reported value of 1% and it was observed in the inferior ileocaecal recess. A loop of jejunum was found to be impacted in it. The peritoneal recesses or fossae are derived from normal or anomalous coalescence of the peritoneum during fetal development, or from the course of retroperitoneal vessels raising serosal folds. These are the potential site for the development of internal hernias. These hernias are difficult to diagnose clinically and it usually noticed at the time of laparotomy, so the knowledge of these recesses can be valuable to the abdominal surgeons.

228. TEMPORAL BONE DISSECTION –INTRA TEMPORAL -3-D CONSTRUCTION OF 7th, 8th CRANIAL NERVES AND IT'S RELATIONS

Dr.M.Gopalan,

Dept of Medical Illustrations, School of Medicine, Amrita Institute of Medical Sciences Kochi, Kerala

One of the most distressing sudden cosmetic problems experienced by a patient is the onset of facial paralysis. Facial Nerve is the longest and most tortuous cranial nerve in the bony canal and is the most susceptible one to injury. A 3D orientation of the course and relations of Facial & Vestibulocochlear nerve is highly essential for an ENT/Neuro surgeon for his operative procedures. The various parameters of the tympano-mastoid segments of the facial nerve, its relations with the important middle & inner ear structures are studied by temporal bone dissection and utilized to make a magnified 3-D semi-transparent model and is used as a teaching aid for Medical / Dental college students & post graduate students in Anatomy and ENT. The method of preparing it with the 7th & 8th Cranial nerves inside the temporal bone intact will be discussed during the conference.

229. A STUDY ON THE MEASUREMENTS OF THE DEEP MUSCLES OF THE EXTENSOR COMPARTMENT OF THE FOREARM AND THE RELATED VARIATIONS

HARPREET SINGH GULATI, BISWABINA RAY, SUSHMA R K, A.S. D'SOUZA

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Architecture and dimensions of the muscle-tendon unit has close relation with muscle performance. Aim of the study was to conduct morphometry and note the variations of the deep muscles of the extensor compartment of the forearm. The study was done at Kasturba Medical College, Manipal. The origin, insertion, anatomical variations, length of muscle belly and tendon of deep extensors of forearm, i.e. abductor pollicis longus, extensor pollicis brevis, extensor pollicis longus and extensor indicis were noted in 19 cadavers bilaterally. Results were statistically analysed and tabulated. Variant muscles were excluded from statistical analysis. One case showed a variant extensor indicis muscle. The average muscle length & tendon length of abductor pollicis longus was 6.05 inches & 2.44 inches respectively, of extensor pollicis brevis was

3.53 inches & 3.57 inches respectively, of extensor pollicis longus was 4.91 inches & 5.07 inches respectively and that of extensor indicis was 3.96 inches & 5.67 inches respectively. Tendons and muscles work together to absorb or generate tension in the system. Greater muscle and tendon length may be involved with better force production.

230. PALATAL ANALYSIS AND OSTEOLOGY OF HARD PALATE IN ADULT HUMAN SKULLS

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Abstract:

The hard palate is viewed as playing an important role in the passive articulation of speech. Therefore osteological and morphological variations of the prominences in the bony palate of 40 skulls were studied in Kasturba Medical College, Manipal. The palatal length and breadth, incisive foramina and canal diameter were recorded and tabulated. Variations in the number of lesser palatine foramina and the position of greater palatine foramen were noted. The contributions of palatine and maxillary bones for hard palate formation were also observed. The morphology of the hard palate is seen to be altered in conditions like Down's and Turner's syndrome. In this condition good palato-lingual contact is not achieved, which results in defective articulation. Using orthodontic and prosthodontic principles could modify this situation. The findings would also be helpful clinically in fabricating maxillary complete dentures for edentulous patients.

231. A MORPHOLOGICAL STUDY OF VARIATIONS IN THE ORIGIN AND COURSE OF RADIAL ARTERY

CHANDNI GUPTA, NARGA NAIR, SHAKUNTHALA R. PAI, B.V MURLIMANJU, VAISHALI R. SHETTI, CHETHAN. P

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Coronary artery bypass grafting is a widespread and established means of treating advanced coronary artery disease. For this, grafting radial artery has gained wide acceptance over past decades as the artery represents a potential conduit that may be both technically and clinically advantageous compared with other arterial grafts. It is crucial to understand the anatomic details of radial artery harvesting site, to avoid neurovascular complications. Anatomic variations of the radial artery in the arm are common in human subjects. For the above mentioned reasons the following study was undertaken in 75 formalin fixed upper limbs from the Department of Anatomy KMC, Manipal. The variations were noted down in the origin and course of radial artery to provide a database of the normal & variant anatomy of the radial artery. An incision was made in the upper limb from axilla till the wrist and radial artery was identified & cleaned from its origin, noting its course any variations of these were noted & recorded. In this particular study we got 2 radial artery originated from the medial side of the brachial artery (2.66% of cases) and 2 originating from the axillary artery (2.66% of cases). In the present study there was one variation in the course of radial artery i.e. in 1.33% of cases.

232. RELATION OF SCIATIC NERVE TO PIRIFORMIS MUSCLE IN SOUTH INDIAN HUMAN CADAVERS.

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The study was conducted on 18 cadavers available in our dept, Kasturba Medical college, Manipal. 16 were of male & 2 of female. We found in one specimen that the common peroneal nerve was emerging above the piriformis, it then presented as a high division of the sciatic nerve in the back of the thigh. The others were of typical variety. This is of particular importance with the piriformis syndrome, sciatic nerve blocks, sciatica etc.

233. VARIATION IN RENAL VESSELS IN FEMALE CADAVER- A CASE REPORT.

Dr. Shinde Charushila D, Dr. Tyagi K, Dr. Siloty N.

M G M Medical College, Navi Mumbai, Maharashtra.

Renal artery variations are more common as compared to renal vein. Variations are of immense importance because of its implication in renal transplantation, renal surgeries, and radiograph. The knowledge of these variations is important because it could help the clinicians in its recognition and to prevent its damage to normal anatomy. It is important to recognize such variations, as more complicated surgical and radiological procedures are developed. This study reports the presence of accessory renal artery and additional renal vein on left side. This variation was observed during a routine dissection in old female cadaver. Additional renal vein receives the Lt. gonadal vein. Size of kidney is normal. Additional renal vein means a vein in addition to normal vein draining the kidney and separately enters in IVC. In the same cadaver it was also found that the common hepatic artery is a branch of superior mesenteric artery instead of the coeliac trunk.

234. A COMPARATIVE STUDY OF SEXING THE SACRUM BY SACRAL INDEX & KIMURA'S BASE WING INDEX

Prof B.K. Dutta, Dr S.Rath, Dr, R.K.Sahu, Dr G.Mishra, Dr R.L.Panda, Dr J.S.Prusti, Dr N.Padhy, Dr B.N.Roul

A study for sexing of sacrum is carried out in 50 sacra (25 male & 25 female) by two methods. First one, the more commonly used SACRAL INDEX & the other method, KIMURA'S BASE WING INDEX are utilized for same specimen. The measuring instrument used is sliding vernier caliper. The method of SACRAL INDEX are more precise & accurate as compared with KIMURA'S BASE WING INDEX method. All the measurements are subjected to statistical analysis & will be presented with discussion.

235. AN OSTEOMETRIC ANALYSIS OF ADULT HUMAN FEMURS DR. M. NAGAR AND DR. ANUDEEP SINGH

Department of Anatomy

University College of Medical College and GTB Hospital, Delhi

Femoral anthropometry among different populations reveals a great amount of variation due to the fact that femoral anthropometric measurements from different countries are likely to be affected by racial variations in diet, heredity, climate and other geographical factors related to life style. The length of long bones has been used to statistically estimate the stature of an individual in European populations quite accurately. The purpose of this study was to evaluate the osteometry of the femur, to use the obtained osteometric data for estimation of bilateral differences between the right and the left bones and compare the obtained values with the previous available data.

Hundred femurs (50 right and 50 left) obtained from the Anatomy Department of University College of Medical College and Guru Teg Bahadur Hospital were studied. The total length of the right and left femurs was measured with the help of an osteometric board. The circumference, sagittal and transverse diameters of the femur at the upper, lower and middle third of the shaft was measured with the help of a vernier caliper and a tapeline. The mean maximum length of the femur was 429.95 ± 21.7 mm and 434.29 ± 23.4 mm on the right and left bones respectively. The mean circumference of the upper third of the shaft was 80.31 ± 6.3 mm and 80.93 ± 4.7 mm on the right and left femurs. The mean middle shaft circumference was measured to be 79.09 ± 6.3 mm and 77.78 ± 6.8 mm whereas the mean circumference in the lower third of the shaft was 89.39 ± 8.0 mm and 90.04 ± 8.6 mm on the right and left femurs respectively. The mean transverse diameter of upper third of the shaft was 27.18 ± 2.1 mm and 26.88 ± 1.9 mm whereas the mean sagittal diameter was measured to be 23.53 ± 2.6 mm and 23.02 ± 2.7 mm on right and left sides respectively. The mean transverse diameter in the middle of the shaft was 24.63 ± 2.1 mm and 23.83 ± 1.7 mm and the mean sagittal diameter was 25.99 ± 2.2 mm and 25.26 ± 2.5 mm in right and left femora respectively. The mean transverse diameter was 29.43 ± 3.59 mm and 30.03 ± 4.22 mm and

the mean sagittal diameter was 26.83 ± 2.28 mm and 26.60 ± 3.43 mm in the lower third of the shaft in right and left femora respectively. Obtained data was statistically analyzed and compared with the available data. There was no statistically significant difference found between the parameters of right and left femurs.

236. MORPHOMETRIC EVALUATION OF THE ADULT HUMAN ORBITAL CAVITY

ANIL KUMAR AND M. NAGAR

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The orbital cavity is essentially intended as a socket for the eye-ball and contains associated muscles, nerves, vessels and in essence lodges the visual apparatus. Hence it is of clinical and surgical interest in ophthalmology, oral and maxillofacial surgery and neurosurgery. In particular the orbital index is important as it varies in the different races of mankind and determines the shape of the face in different population groups. The index varies with race, regions, within the same race and periods in evolution. The knowledge of this index is therefore important in various aspects such as in interpretation of fossil records, skull classification in forensic medicine and in exploring the trends in evolutionary and ethnic differences. The documented ranges of this index in different nationalistic groups will assist in skull identification. This study is therefore aimed at filling this anthropometric gap of the orbital cavities. Sixty eight skulls were obtained from the Anatomy Department of University College of Medical Sciences and Guru Teg Bahadur Hospital, Delhi for the present study. To prevent interobserver and intraobserver error two individuals measured the parameters independently with predetermined procedures. A vernier calipers accurate to 0.1mm and a 30mm ruler was used to measure the width and height of the orbits and a tapeline was used to measure the length and width of the skull. The mean orbital height was found to be 33.47 ± 1.56 mm and 33.65 ± 1.53 mm whereas the mean orbital width was 42.06 ± 1.68 mm and 41.87 ± 1.73 mm on the right and left sides respectively. The mean orbital index was 79.65 ± 4.02 mm and 80.49 ± 4.67 mm on right and left sides respectively. The mean width of the skull was 128.71 ± 5.94 mm whereas the mean height of skull was 130.96 ± 4.07 mm. Data obtained was statistically analyzed. There was no statistically significant difference in the height and width between the right and left orbits. Regression analysis was determined between various parameters.

237. NASOFACIOMETRIC ANALYSIS: A BASELINE STUDY ON REGIONAL POPULATION

Dr. RASHMI S. SINHA

GRANT MEDICAL COLLEGE, MUMBAI

The present study aimed at formulating a baseline record and correlates clinically, various nasofacial parameters of the population in and around Pune region. For this hundred adult males and hundred females were selected and a set of ten measurements, which included morphological facial height, nasal length, subnaso-mental length, nasal depth, bizygomatic breadth, bigonial breadth, biauricular breadth, nasal breadth, external ocular breadth and internal ocular breadth were taken by standard techniques, using sliding and spreading calipers. Data analysis using SPSS software showed significant correlation between various parameters and sexual dimorphism except for nasal length and depth and ocular measurements. It helped to predict the relationships between various measurements which can be very useful for reconstructive surgeries and medico-legal cases.

238. Sex Determination Of Human Mandible By Metric Method VINAY G. SUDHA RAO A, ANBALAGAN J, USHA V*.

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Pillaiyarkuppam, Pondicherry

***Department of Anatomy, Shimoga Institute of Medical Sciences, Shimoga.**

Identification of sex of an individual from human skeletal remains is the first and arguably the most important step encountered by both forensic experts and archaeologists. The superiority of objective assessment by metrical methods over simple morphological observations has been well stressed. Mandible is the strongest and hardest facial bone and retains its shape better than other bones. Many workers have studied various metrical parameters for sexing mandible bone.

The present study was carried out on 250 dry, complete, undamaged human adult mandibles obtained from medical colleges in and around Pondicherry and Bangalore. Five parameters were measured by using vernier caliper and mandibulometer. The measurements obtained are statistically analyzed. The accuracy of sex determination of human mandible using these parameters will be discussed.

Key words: Mandible, Sex Determination, Metrical Parameters.

239. SCAPULAR RATIO - AN ANATOMICAL PERSPECTIVE

R.LALITHA*, USHA KOTHANDARAMAN, C.S.JANAKI, K.P.BHARATH

DEPARTMENT OF ANATOMY

MEENAKSHI MEDICAL COLLEGE & RESEARCH INSTITUTE

ENATHUR, KANCHIPURAM.

AIM:

- i) To measure the glenoidal surface area
- ii) To measure the acromial facet's surface area
- iii) To measure the scapular surface area
- iv) To deduce the pattern of ratio between scapular surface area with Glenoidal fossa and Acromial facet.

STUDY GROUP:

100 dried scapulae, where age, sex, race and sidedness are not specified, were used for this study.

MATERIALS & METHODS:

The following parameters were studied in detail in all the 100 scapulae:

- (a) Maximum length of glenoid fossa.
- (b) Maximum breadth of glenoid fossa.
- (c) Maximum length of acromion facet.
- (d) Maximum breadth of acromion facet.
- (e) Medial border I - from superior angle to medial end of root of spinous process.
- (f) Medial border II - from medial end of root of spinous process to inferior angle.
- (g) Length of superior border.
- (h) Length of lateral border.

From (a) & (b) glenoidal surface area was determined.

From (c) & (d) surface area of acromion facet was deduced.

From (e) to (h) scapular surface area was determined.

CONCLUSION:

The ratio existing between these parameters were statistically analysed and its implications will be presented.

240. MORPHOMETRY OF GREATER SCIATIC NOTCH AS A TOOL FOR GENDER DETERMINATION.

KRUPA DANIEL.D*, JANAKI C.S, USHA KOTHANDARAMAN.

DEPARTMENT OF ANATOMY, MEENAKSHI MEDICAL COLLEGE & R.I.

ENATHUR, KANCHEEPURAM

AIM :

- 1: According to anatomical features, gendering the Hip bones.
2. Classifying the Hip bones grading according to various shapes of Greater sciatic notch.

3. Calculating the total angle of greater sciatic notch.

SAMPLE SIZE : 75 individual Hip bones whose age was not ascertained.

MATERIALS

- Hip bones,
- Vernier calipers- To measure the width, depth, posterior segment of greater sciatic notch.
- Inch scale,
- Other stationaries.

METHODS : By viewing the shape of greater sciatic notch we graded into

Grade- 1, Grade-2, Grade-3, Grade-4, Grade-5. And with Triflanged stainless steel caliper width, depth, posterior segment, Index 1&2 is measured and a triangle is constructed and total angle of greater sciatic notch is calculated.

RESULTS:

Determination of gender of the Hip bone by grading and measurement of total angle of greater sciatic notch and will be discussed.

241. ANALYSIS OF ASSOCIATION OF BODY HEIGHT AND LENGTH OF LOWER LIMB BONES AND FOOT LENGTH IN INDIVIDUALS

Sathiya S., Vathsala Venkatesan, W.M.S Johnson.

Anthropometric technique commonly used by anthropologists and adopted by forensic medical scientists has been employed to estimate height for over 100 years. With the increasing frequency of mass disasters, the identification of an isolated lower extremity and the stature of the person it belonged to have created problems for the investigation of the identity of the victims. The purpose of this paper is to analyse anthropometric relationships between dimensions of the lower extremity and body height. 300 medical students in the age group of 17-19 years were included in this study. Measurements taken were body height, femur length, tibia and fibula length, foot length. The data obtained were analysed and the results showed a significant positive correlation between height of the individual with the foot length and the length of long bones of lower extremity.

242. AN ANTHROPOMETRIC STUDY OF THE HUMERUS IN ADULTS

DR. ANUDEEP SINGH and DR. M. NAGAR

Department of Anatomy

University College of Medical College and GTB Hospital, Delhi
Anthropometric studies have been commonly used for estimation of body stature from skeletal remains. The long bones are most commonly used for identification of unknown bodies and parts of bodies because they relatively give a better accuracy in prediction of stature. Therefore the present study was conducted to determine the values of adult human humerus segments so that data is available for achieving the goal of estimating age, sex, race, ancestry, ethnicity, and stature details of individualizing characteristics in the forensic medicine/medico-legal cases so as to enable the law enforcement agencies to achieve the ultimate goal of personal identification. It will also be helpful to clinicians in the treatment of proximal, middle or distal fractures of shaft of humerus. Seventy two adult dried humeri (36 right and 36 left) were obtained from the Anatomy Department of University College of Medical College and GTB Hospital. Somatometry was done by means of an osteometric board, a vernier caliper and a tapeline. The maximum height of the humerus was measured from the most proximal part of the caput humeri to the most distal point of the trochlea humeri with the help of an osteometric board and the mean height was found to be 306.4 ± 25.8 mm on the right bone and 304.4 ± 23.4 mm on the left bone. The circumference, sagittal and transverse diameters of the humerus was measured at the upper, lower and middle third of the shaft with the help of a vernier calipers and a tapeline. In the upper third the mean circumference of the shaft was 60.6 ± 6.6 mm and 58.8 ± 6.0 mm whereas the mean transverse diameter was 18.6 ± 2.1 mm and 18.2 ± 2.0 mm on right and left sides

respectively. The mean sagittal diameter of upper third of the shaft was measured to be 19.6 ± 2.1 mm and 19.5 ± 2.3 mm on right and left sides respectively. In the middle third of the shaft the mean circumference was measured to be 56.7 ± 4.8 mm and 55.5 ± 4.4 mm on the right and left humerus. The mean transverse diameter was 17.3 ± 2.4 mm and 16.5 ± 2.2 mm whereas the mean sagittal diameter was 18.6 ± 2.7 mm and 18.3 ± 2.6 mm in right and left sided bones respectively. In the lower third the mean circumference of the shaft was measured to be 55.5 ± 5.3 mm and 54.4 ± 4.8 mm and the mean transverse diameter was 18.3 ± 1.8 mm and 18.2 ± 2.0 mm on the right and left humerus respectively. However the mean sagittal diameter was 16.8 ± 1.5 mm and 16.7 ± 1.5 mm for the lower third of the shaft in right and left humerus respectively. Obtained data was statistically analyzed.

243. HUMAN ADULT OCCIPITAL CONDYLES - A MORPHOMETRIC ANALYSIS

M. NAGAR and ANIL KUMAR

Department of Anatomy

University College of Medical Sciences and GTB Hospital, Delhi

The occipital condyles is an important part of the crano-vertebral junction. In the last two decades, neuron-imaging techniques have increased the interest for crano-vertebral surgeries. Space occupying lesions ventral to the spinal cord at the level of foramen magnum can be reached using a ventral or dorsal approach. The difficulties and high rate of morbidity in ventral approach emphasize the increasing trends of dorsal and lateral trans-condylar approach which necessitates partial or complete resection of the occipital condyles hence information regarding morphometric aspects of the occipital condyles is warranted. The present study is an attempt to morphometrically analyze the adult human occipital condyles, estimate the bilateral differences and to statistically compare our data with the available data. The study was conducted on hundred occipital condyles in fifty adult human dry skulls obtained from the Anatomy department of University College of Medical Sciences and Guru Teg Bahadur Hospital, Delhi. Two different observers measured all parameters independently with a predetermined methodology to prevent interobserver and intraobserver error. The length, breadth, height, anterior and posterior intercondylar distance of the occipital condyles were measured using a vernier calipers accurate to 0.1mm. The mean length was 23.88 ± 1.50 mm and 24.94 ± 1.82 mm on the right and left sides respectively. The mean breadth was 12.97 ± 1.43 mm and 14.11 ± 1.01 mm whereas the mean height was 8.64 ± 0.74 mm and 9.32 ± 0.78 mm on the right and left sides respectively. The mean anterior and posterior intercondylar distance was measured and found to be 17.63 ± 4.35 mm and 42.02 ± 2.75 mm respectively. All the data obtained was statistically analyzed.

244. ACCESSORY FORAMEN IN ATLAS VERTEBRA

Sonare S., Nemade K., Dofe M., Meshram M.

Atlas, the ring form of vertebra bears sulcus over posterior arch for third part of vertebral artery. Occasionally this groove is converted into a foramen and a bony canal called as "retro-articular canal."

In the department of Anatomy, G.M.C., Nagpur, out of 20 dried adult human atlas vertebrae, two vertebrae with such an anomaly on both sides were found.

Knowledge of this variant prevents complications during lateral mass screw fixation posterior laminectomy and endovascular surgery.

245. STUDY OF EPIPHYSEAL UNION AROUND KNEE JOINT AN IMPORTANT TOOL FOR AGE ESTIMATION—A PILOT STUDY IN VIDARBHA

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Abstract:-Age is an important parameter for medico-legal cases. Many times doctors are called upon to give opinion about age of a person. For this objective methods of age determination are required. Age of epiphyseal union is an important method of age determination. But these ages varies with racial, geographic, climatic and various other factors. These variations have suggested need of separate standards of ossification for separate regions.

Present work is undertaken to work out ages of epiphyseal union around knee joint for Vidarbha region. Study is carried out in total 160 healthy subjects (88 girls and 72 boys) aging from 13 to 23 years & having length of residence in Vidarbha not less than 10 years. The chronological age upto the day of examination is determined & A-P view of right knee joint is taken in each case. These radiographs are studied to determine age of union of epiphyses of lower end of femur, upper end of tibia & upper end of fibula. These ages are compared with those reported from various states of India & also from other countries & found to vary appreciably. Sexual dimorphism for ages of epiphyseal union is also studied.

246. ADULT FEMORAL NECK ANTE-VERSION ANGLE AND ITS CLINICAL APPLICATIONS

Dr. Mani Kathapillai.

Defective anteversion angle is one of the causative factor for Osteoarthritis of hip and knee. Accurate assessment of femoral neck ante-version angle(AVA) isobtained by Computerised Tomography till today. An attempt is made to provide a simple and reliable method for obtaining AVA using manual measurement and an x-ray. 30 normal adult dry femur bones available in the Division of Anatomy, Rajah Muthiah Medical College, Annamalai University,Chidambaram were used for this study. The length (cms); neck shaft angle,ante-version angle (Ú) were measured with the help of a metal tape and a transparent goniometer respectively.The AVA of femoral neck was calculated using a simple formula, $L + 100 - NSA = AVA$ (L- length, NSA- neck shaft angle). Dr.P.P.Broka's Index for ideal weight was used as the basis for working out this new formula. In addition this new formula was applied clinically in 3male and 3 female normal adults. To compare the results,Length was measured clinically bya metal tape from tip of greater trochanter to knee joint line. NSA was measuredby a plain x-ray of both the hips in internal rotation and the calculated AVAwas correlated by CT. The AVA measured by CT is same as calculated by the new formula on the Right side, while the Left side showed a difference of 2Ú.(table 2. 9th ,10th femurs).The AVA calculated by this formula could be used as a preoperative assessment for ortho surgeries. This new formula which is simple,safe, and reliable can be employed as a tool for measuring AVA in any

department of Health Sciences without sophisticated equipments.
Key words: femoral length – neck shaft angle – ante-version angle – new formula.

247. STUDY OF SUPRAORBITAL FORAMEN IN DRY HUMAN SKULL

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A study was carried out on 103 dry human skulls, which were collected from various medical colleges and medical students of Gujarat State. **Supraorbital foramen** is an opening in the supraorbital margin of the frontal bone at the junction of the medial and intermediate thirds. It transmits supraorbital nerve and vessels.

With the help of scale and compass the location, shape, number and presence of supraorbital foramina of skull was done bilaterally. It was also noted whether they were single/ multiple in number.

Supraorbital foramen was found to be absent bilaterally in 51% and present unilaterally in 30% of the skulls studied. The average mean

size of foramen was 1.37 mm with 1.29 mm on right side and 1.46 mm on left side. Five percent of the skulls showed a difference of more than 0.5 mm bilaterally. Largest foramen was of 3.5 mm dimension while the smallest one of 0.25 mm. Multiple foramina were noted in 6 % of the skulls.

Embryologically, supra-orbital foramen is determined by the growth pattern of bone around the supra-orbital nerve during ossification. Knowledge of the anatomy of the region is important for preoperative evaluation and while doing forehead and brow lift surgery in order to avoid injury to neurovascular bundles passing through these notches and foramina. These variations & measurements may be of value to clinicians in localizing and safeguarding the nerves passing through and providing effective nerve blocks.

248. MULTIPLE APPROACH TO THE STUDY OF CORONARY ARTERIAL CASCADE OF HUMAN INTERVENTRICULAR SEPTUM

Vikram.S.1, Saraswathi.G 2, Shivaram Bhat 3, Avadhani.R 4

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4. Dept. of Anatomy Yenepoya Medical College Mangalore.

Aim is to study the normal blood supply and variations of the septal branches (heart).

Human cadaveric Heart specimens and Angiographs were used as study materials.

Dissection method, corrosion cast method and the Angiographic Methods were adopted

Hypertrophy of the interventricular septum, one of the major cause of sudden death in young athletes has to be treated surgically by approaching the interventricular septal branches

Hence an attempt is made to create an insight among interventional cardiologists to approach the septal branches.

249. MORPHOLOGICAL VARIATION OF SUPRASCAPULAR NOTCH – INCIDENCE WITH CLINICAL CORRELATION

Dr. Parineeta Suman, Dr. S. Saritha.

S.V.S Medical College, Mahaboobnagar

Content: The aim of study is to know morphological variation of suprascapular notch. For the study we took 50 dry bones of scapula of both sexes from Forensic Department & Anatomy Department of our college, excluding bones of children & the damaged bones. With this study we found 3 scapula with complete ossification of superior transverse scapular ligament, converting the suprascapular notch into a foramen.

In animals it is a common finding but considered as a variation in humans. This anatomical curiosity should be kept in mind by clinicians dealing with painful arch syndrome of shoulder. Further details would be discussed during presentation.

250. VARIATION IN THE LOWER ATTACHMENT OF STERNOCLEIDOMASTOID MUSCLE – A STUDY

ANANYA BISWAS, MANIMAY BONDYOPADHYAYA, ANUVA SAHA
Institute of Post Graduate Medical Education & Research, Calcutta National Medical College, Kolkata. Midnapur Medical College, Midnapur, West Bengal.

Contents:

Aim of the study: Dissection of lower attachment of sternocleidomastoid is an important step in the treatment of torticollis. So knowledge about presence of additional head of sternocleidomastoid is essential for better result in operative surgery. Again in different cardio-vascular procedure, lesser supraclavicular triangle is a useful landmark; in that case information regarding presence of additional triangle is beneficial.

Materials & Method: Necks of thirty adult cadavers were dissected on both sides. Sternocleidomastoid muscles were exposed.

Result: Out of thirty, in three cadavers additional slips of clavicular head in the lower end were found, which were different in length and

disposition. In two cadavers finding were bilateral. Detail will be discussed at the time of presentation.

Conclusion: Since the additional slips were present in 4% of the cadavers, this knowledge of anatomical variation is essential for clinicians to have an uncomplicated clinical procedure.

251. METOPIC SUTURE – INCIDENCE, MORPHOLOGY AND CLINICAL SIGNIFICANCE

AVLYN ANISHA GOVEAS, B.V. MURLIMANJU, LATHA V. PRABHU, SHREYA, ASHWIN KRISHNAMURTHY, RAJALAKSHMI RAI
Department of Anatomy, Kasturba Medical College, Manipal University, Bejai, Mangalore, Dakshina Kannada.

Abstract

Objective: To determine the incidence of metopic suture in human adult skulls and to study its morphology.

Methods: The present study included 81 (52; male and 29; female) human adult dry skulls which were obtained from the neuroanatomy laboratory of our institution. The metopic suture was observed macroscopically and its morphological analysis was done. The suture was classified as complete and incomplete. The incomplete ones included linear type, 'V' shape and double type.

Results: The metopic suture was observed in 52 (64.2%) cases. Among them 40 were seen in male and 12 in females. The majority of the metopics were of the incomplete type, 51 (63%) and only one skull had a complete metopic suture (1.2%). Among the incomplete ones, 18 (22.2%) were incomplete linear, 17 (21%) were 'V' shaped and the 16 were double metopics (19.7%).

Conclusion: In the present study, the incidence of metopic suture was determined as 64.2%. The incomplete type was quite common (63%) and the complete metopic suture was extremely rare (1.2%). The morphological idea of the metopic suture is important for radiologists and neurosurgeons in day to day practice while reading X-ray/CT and MRI films and will avoid confusion and misinterpretations.

252. BIFURCATION OF COMMON CAROTID ARTERY: A CADAVERIC STUDY IN SOUTH INDIAN POPULATION

SHIVAPRAKASH S, ASHWIN K, LATHA V PRABHU, PRASHANTH KU

Department of Anatomy, Centre for Basic Sciences, Kasturba Medical College, Mangalore, MANIPAL UNIVERSITY

Aim: The present study was undertaken to study the bifurcation level of the common carotid artery (CCA) with respect to cervical vertebrae in south Indian population.

Materials & Methods: A total of 25 formalin preserved cadavers (50 carotids) were studied during routine dissection for medical students at Kasturba Medical College, Mangalore, Manipal University. Bifurcation levels of the CCA were noted with respect to cervical vertebrae.

Results: In 12% of cases CCA bifurcated at C2-C3, 28% at C3, 38% at C3-C4 and 22% at C4 level.

Conclusion: The level of bifurcation of CCA is of significance to vascular surgeons and clinicians in general who may be dealing with a relevant case. Low bifurcation can cause some problems if one is not cautious. High CCA bifurcation is at higher risk of impingement by intra articular screws during procedures on cervical vertebrae. Higher levels of bifurcations are also associated with higher incidences of penetrating vascular injuries.

253. THE MORPHOLOGIC AND MORPHOMETRIC STUDY OF FORAMEN OVALE, PTERYGOALAR FORAMEN AND PTERYGOALAR BAR.

S.R. DAIMI & A.U. SIDDIQUI

Department of Anatomy

Rural Medical College, PIMS, Loni, Ahmednagar, Maharashtra

Objectives: 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 electroencephographic analysis. This study presents the anatomic variations in dimensions, appearance, number of foramen ovale and presence or absence of pterygoalar bar and pterygoalar foramen.

Method: For the present study ninety dry adult human skulls were utilized. Anteroposterior (longitudinal) and transverse diameters of foramen ovale was measured by a pair of dividers and then transferred to a meter rule for the reading to be taken. Distance of foramen ovale from midline was also taken. Presence of Pterygoalar bar was observed and length of bar noted.

Result: Most common shape of foramen ovale observed was like figure 'D'. The range of anteroposterior diameter of the right and left foramen ovale was 4.5-8mm and 3-10mm respectively. The mean length of the right foramen ovale was 6.60 mm while that of the left foramen ovale was 6.26 mm. The width of both right and left foramen was within a range of 2-5mm. The mean transverse (width) diameter of the right foramen ovale was 3.70 mm and that of left was 3.34 mm. Pterygoalar bar was observed in four cases (4.3 %).

Conclusion: Anteroposterior and transverse length of right foramen ovale is greater than left. Anatomical understanding including the size, shape of foramen ovale and presence of pterygoalar bar has immense surgical and diagnostic importance.

254. A STUDY ON MORPHOLOGICAL VARIATIONS OF THE LUNG FISSURES AND LOBES

Dr.ZAREENA

Dr.K.S.N.PRASAD

The knowledge of the anatomical position of fissures and lobes of lungs is necessary for the appreciation of the lobar anatomy and thus locating the bronchopulmonary segments.

MATERIAL AND METHODS: A study done on 40 human lungs of either sex which included 10 fetal lungs and 30 adult cadaveric lungs from the department of anatomy in siddhartha medical college and surrounding medical colleges. Age group varies between full term fetus to 65years.

Incidental lesions detected during this study were 1.tumour lesions 2.cavity lesions 3.pulmonary hypoplasia.

CONCLUSIONS: In the present study of 40 human lungs the anatomical right and left lung fissures and lobes each were found in 85% of cases. The remaining 15% showed variations in lobes and fissures.

Awareness regarding anatomical variations of fissures and lobes is essential for performing lobectomies and segmental resections.

The comparative incidence of variations of fissures and lobes are discussed in detail.

255. MORPHOMETRIC ASSESSMENT OF GREATER PALATINE FORAMEN WITH ADJACENT ANATOMICAL LANDMARKS

GANDHI KR, SIDDIQUI AU, DAIMI SR, CHAVAN SK, WABALE RN
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Blocking of the maxillary division of the trigeminal nerve or its branches for local anesthesia is a common practice in maxillofacial surgery. It is useful in procedures involving quadrant dentistry, maxillary sinus elevation for dental implant in the posterior maxilla or in extensive maxillary surgical procedures. A common problem encountered with the use of maxillary nerve block is the inability to obtain profound anesthesia, which is frequently caused by the operator's inability to locate the greater palatine foramen (GPF). To optimize surgical planning and avoid complications, precise identification of the GPF is important.

The present study aimed at determining the relative position of GPF to the unequivocal and well defined adjacent anatomical landmarks in 62 Indian dry, unsexed, adult skulls. All the skulls studied were normal and free of any pathology. The measurements were done bilaterally and directly on the dry skull. In 66% of cases the GPF was opposite the third maxillary molar tooth

and in 58% of cases the distance of GPF to the posterior border of hard palate was 4 mm. The perpendicular distance of the GPF to midline maxillary suture was 14 mm in 84% of cases. The direction of opening of GPF was anteromedial in almost 60% of cases.

In living subjects, the molar teeth, the palatal midline, and the posterior border of hard palate are all easily identifiable. Our study provides clinical insight in locating the GPF precisely and accurately. The findings of the present work shall be correlated and discussed with the findings of other workers.

256. THE MORPHOMETRIC STUDY OF HUMERUS

DR.VENKATRAM.K,DR.SEEMA MADAN,Dept. of Anatomy.

AIM : The aim of the present study was to determine whether there is a relationship between the total length of humerus and its lower segment length.

MATERIALS : The materials used for measuring were 1)coniometer 2)vernier calipers 3)tape.

METHOD : For this purpose 100 adult humerus bones were taken to measure the morphometric properties.Four metric parameters were studied:

- A)Maximum height of humerus.
- B)The distance between proximal and distal points of olecranon fossa.
- C)The distance between distal points of olecranon fossa and trochlea of humerus.
- D)The distance between proximal edge of olecranon fossa and proximal point of trochlea.

CONCLUSION: The study was taken up with the belief that it could be useful to forensic and archeological personals.It may also help anatomists who would like to prepare morphometric data of humerus in different parts of country.

257. MORPHOMETRIC STUDY OF SUPRARENAL GLAND IN FETUSES OF DIFFERENT GESTATIONAL AGE GROUPS

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The suprarenal gland plays an important role in survival and maintenance of internal milieu. A slightest difference in their function may lead to an exponential alteration in function which can cost the life of a patient/fetus. The literature available of morphometric study of suprarenal gland and kidney at different gestational age in Indian population is scarce. So the present study was carried out.

The present study is carried out to determine the correlation between morphometry of suprarenal gland & kidney. The study is being performed in the department of Anatomy of Government Medical College & Hospital Chandigarh. Consent is taken from the parents to perform autopsy. The data for study is obtained from thirty fetuses of 12 to 30 weeks gestational age provided by the department of Gynecology and Obstetrics, Government Medical College & Hospital, Chandigarh. Fetuses were fixed in formalin for at least 72 hrs and then dissected using anterior approach reaching retroperitoneal space and the suprarenal gland with kidneys of both sides were removed and separated from each other by removing renal fascia. Fetal age being calculated from crown-rump length. The linear dimensions (length, breadth, thickness) are measured with vernier caliper, divider and compass, comparison is made between these dimensions and ratio of suprarenal gland to kidney in aborted fetuses in an Indian population. The following parameters are taken and are discussed in detail.

Keywords- Suprarenal gland, Kidney, Fetal autopsy

258. ULTRASONOGRAPHIC STUDY OF PLACENTA AT DIFFERENT GESTATIONAL AGES

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The biochemical and physical duet of the mother and the fetus in the formation of the placenta is one of the most carefully orchestrated phenomenon's in the fetal development.

A thorough examination of placenta is neglected and often underestimated by the physician, gynecologist, pediatrician and pathologist in spite of its invaluable role in the fetal development. Ultrasonographic examination of placenta is an important part of obstetrical evaluation of pregnancy. With advent of ultrasonography antenatal evaluation of placenta have become essential in high pregnancy as fetal problems and neonatal outcome depends upon status, growth and abnormalities of placenta. With ultrasonography the obstetrician can quite clearly visualize and locate the placenta repetitively and presumptively with complete safety with throughout gestation.

Here I am presenting ultrasonographic findings of 50 pregnant ladies in different gestational periods ranging from 9 weeks to full term were subjected for per abdominal ultrasonography for placental parameters like location, thickness and echo texture of the placenta with relevance to grading. It is observed that the placental thickness increased from 17.3mm in first trimester to 33.5mm at full term. The placental grading is recorded as grade-0 in first trimester, grade-I-II in second trimester and II-III in third trimester. Out of 9 in I trimester 6 are in anterior position and 3 are in posterior position. In II trimester out of 30 cases 19 are anteriorly located, 8 are in posterior and 3 in fundal position. In III trimester out of 11 8 in posterior and 3 in anterior in position. In all the 50 cases retro placental clots were not noticed.

259. REVIEWING MORPHOLOGY OF QUADRICEPS FEMORIS

DR. (MRS) SUSHAMA KALIDAS CHAVAN

DR. WABLE R. N.

DR. KISHVE P.

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Quadriceps muscle is composed of four portions namely rectus femoris, vastus intermedius, vastus medialis and vastus lateralis. It is inserted into patella through common tendon with three layered arrangement rectus femoris superficially, vastus lateralis and vastus medialis in the intermediate layer and vastus intermedius deep to it. Most description in the literature do not take into account its complexity and variability while describing the extensor mechanism of knee. vastus medialis has been described in some literature having two portions vastus medialis obliquus (VMO) and vastus medialis longus (VML). Functionally two are distinct, VMO pulls the patella medially during extension and VML extends the knee. Some earlier studies have reported that there is definite separation between VMO and VML, while others have described that VMO and VML are not separate structures anatomically. Some investigators have documented that even the vastus lateralis (VL) has an oblique head (VLO) and the longitudinal head of vastus lateralis was separated by a layer of fat or fascia in 60% of the specimen. In the present study carried out in Department of Anatomy, Rural Medical College, Loni in twelve embalmed cadavers showed distinct variability in morphology of components of quadriceps. Insertion of quadriceps was bilaminar in 5 cases on right and 4 cases on left, trilaminar insertion was found in 7 cases on right and 8 cases on left side. Rectus femoris was separate in all cases. Level of insertion of VM and VL was found to be at the same level in 6 cases on right and 5 cases on left. Plane of separation between vastus medialis oblique (VMO) and vastus medialis longus (VML) was found in 8 cases on right and 7 cases on left side. Similarly no such plane was seen between vastus lateralis longus (VLL) and vastus lateralis oblique (VLO) as was described in some studies. These and other findings related to study will be discussed in the light of literature and correlated clinically at the time of presentation.

260. MORPHOMETRIC ANALYSIS OF LUMBOSACRAL CANAL IN HUMAN FOETUSES

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Lumbosacral part of spinal canal requires special attention because this is the site commonly involved in spina bifida and several other pathologies. Previous reports on radiological morphometric measurements in human foetuses possess inherent variability. To overcome this limitation, direct measurements by vernier calliper were preferred. 30 Formalin preserved human foetuses, free of congenital craniovertebral anomalies, were used for present study. Foetuses were divided into five groups (I-V) of six each based on their gestational ages. Group I foetuses were of less than 17 weeks, II of 17-20 weeks, III of 21-25 weeks, IV of 26-30 weeks and V of more than 30 weeks. Morphometric parameters taken into account were length of lumbar canal, maximum transverse diameters of lumbar vertebral canal at different vertebral levels, heights of the posterior surfaces of bodies of all lumbar vertebrae and length of sacral canal. Readings of adjacent groups were compared and results were analyzed by using Student's 't' test. Lumbar canal starts growing in length significantly in group III foetuses onward. There was consistency in the growth of lumbar canal diameters with gestational age at all levels. Heights of vertebral bodies of 1st two lumbar vertebrae showed variability in some adjacent groups. The same in next three ones grew constantly with the growth of foetuses. Sacral canal showed variable growth in lengths in different groups. Steady growth in the length and diameter of the lumbar canal may be used for approximate age of foetuses for medicolegal reasons.

261. MORPHOMETRIC CHANGES IN TALUS OF CLUB FOOT – A GROSS OBSERVATION IN DISSECTED FEET OF HUMAN FOETUSES

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Department of Anatomy JNMC AMU Aligarh

Six foetuses of different age group having club feet were taken into consideration, where feet were dissected for morphological study. Tali from six normal foetuses of same age group were also obtained for comparison. Six morphometric parameters taken for comparable gross anatomical changes in normal and deformed feet, are 1- Maximum length of the talus. 2- Longitudinal dimension of head talus. 3- Anterior trochlear breadth. 4- Maximum medial talar height. 5- Talar neck and calcaneal angle. 6- Talocalcaneal angle. Reduction in all parameters were noted in our study. All the foetuses with congenital club feet have almost similar deformity of foot skeleton. The gross anomalies involved the smaller size of club foot talus and increased medial and plantar deviation of a stunted, misshapened head and neck region. Also a medial plantar subluxation of the navicular bone with a consequent deformity of the articular facets of the talar head was observed. Uniformity and consistency of anatomical abnormality were striking features in present study.

262. THE MORPHOLOGY OF THE LINGULA IN ADULT MANDIBLES OF SOUTH INDIANS

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DEPARTMENT OF ANATOMY, KASTURBA MEDICAL COLLEGE, MANIPAL UNIVERSITY, MANIPAL, KARNATAKA, INDIA.

The study was done on 100 adult dry mandibles of south Indian population from the dept of anatomy, KMC, Manipal. They were grouped into groups, the data was compared to available literature.

263. ANATOMICAL VARIATION IN THE BRANCHES OF THE COELIAC TRUNK

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The coeliac trunk is the first ventral branch of the abdominal aorta. It is a short wide vessel about 1.25cm long and arises from the front of the aorta immediately below the aortic opening of the diaphragm, opposite the lower border of the T12 vertebra. The trunk of the artery proceeds forwards and to the right, and divides into three branches – left gastric, common hepatic and splenic. Although it always comprises the same basic components, there is a great deal of variation within the coeliac artery branches. Many variational patterns of the coeliac trunk have been described by other authors. The aim of this study is to describe such a case in detail.

The study was conducted on 20 cadavers which were used during routine dissection in the Anatomy department, Kasturba Medical College, Manipal.

Number of variations in the branches of the coeliac artery was observed in a 50 year-old male cadaver. The details of the study will be discussed during conference.

Vascular patterns are important in the planning and performance of all upper abdominal surgical procedures. Knowledge of variations of the coeliac trunk is important in procedures such as liver transplants for appropriate vascular ligation and anastomosis. Variations of these arteries and their relationship to surrounding structures are of particular importance from a surgical perspective.

264. A RARE ANATOMICAL VARIATION IN THE BRANCHING PATTERN OF AXILLARY ARTERY

MUTHUVEL.D.M.*, **SOWMYA THIRUNAHARI., A.S.D'SOUZA**
Department of Anatomy, Kasturba Medical College, Manipal University, Manipal.

Normally Axillary artery gives one branch from its first part, the superior thoracic artery; two branches from the second part are thoraco-acromial and lateral thoracic arteries and three branches from its third part are subscapular, anterior and posterior circumflex humeral arteries. In one case there is no branch from its first part whereas second part gave two branches; one branch was the usual thoraco-acromial artery and the other branch further subdivided into lateral thoracic and a branch towards the scapula. Third part gave a branch which divided into two divisions, anterior circumflex humeral artery and the posterior branch, which further divided into posterior circumflex humeral and circumflex scapular arteries. This anatomical variation assumes significance during surgery around the axilla and shoulder region.

265. BRANCHING PATTERN OF AXILLARY ARTERY

THIRUPATHI RAO.V., Dr. Swayam Jyothi Dorai Raj.
ASRAM, Eluru, Andhra Pradesh

AIM OF THE STUDY: To study the Branching pattern of the axillary artery

MATERIALS: Twenty Five embalmed & formalin preserved cadavers of both sexes, obtained from the ASRAM, Eluru, Andhra Pradesh.

METHODS: Cadavers were dissected as a routine MBBS dissection Schedule and observed the branching pattern of the Axillary artery on both sides.

RESULTS: Among these cadavers some were shown anterior and posterior circumflex arteries were branched from the sub scapular artery and persistent axis artery also observed and our observations were correlated with the available literature, and the detailed results and embryological explanations, clinical implications will be discussed at the time of presentation.

266. ACCESSORY HEPATIC DUCT JOINING THE VARIOUS LEVELS OF BILIARY TRACT

Ch. 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 duct joins the various levels of biliary tract.

MATERIALS AND METHODS:

During routine dissection of abdomen careful observations were made in 30 cadavers (24 male and 6 female).

OBSERVATIONS:

1. In one male cadaver right and left hepatic ducts were found at the porta hepatis and they join 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 of liver to join the common hepatic duct.

2. In another male cadaver accessory hepatic duct joins the common hepatic duct by short parallel type of union.

3. In one female cadaver accessory hepatic duct arises from right lobe of liver joins the right hepatic duct.

In 9 cadavers normal pattern was seen.

DISCUSSION:

Flint (1987) found the importance of the knowledge of variational anatomy in the extra hepatic biliary passage and its use in surgery necessitates.

Michaels (1989) found accessory hepatic duct in 18% of 200 bodies. In the present study it formed 26.7%.

267. GREATER SPLANCHNIC NERVE

HEMANTH.K, SWAYAM JOTHI.S, SAI SUCHEETHRA.D, SREE LEKHA.D, RAJESWARA RAO.N
ASRAM MEDICAL COLLEGE, ELURU.

AIM OF THE STUDY :

To study the level of origin as well as the pattern of formation of the greater splanchnic nerve in 25 adult cadavers.

MATERIALS & METHODS :

During the dissection of thorax after the removal of the lungs the sympathetic chain was cleaned and the ganglia were defined . The origin of the greater splanchnic nerve from different ganglia and its formation were noted.

OBSERVATION :

The number of ganglia from which the greater splanchnic nerve was arising varied from 2 ganglia to 6 ganglia and in one the greater splanchnic nerve was absent. The most common origin was from 3 ganglia which was observed in 22 sides (44%) A variety of patterns of origin were observed.

CONCLUSION :

From these observation it is obvious that in thorocolumbar sympathectomy the sympathetic chain has to be removed upto the highest point of origin of greater splanchnic nerve to overcome failure rate in sympathectomy

268.FUNDUS OF GALL BLADDER RELATED TO INFERIOR MARGIN OF LIVER

VEMAIAHA, Ch n v bharath, Ysrinivasa rao, Swayam jothi doriraj. S. ASRAM, ELURU.

INTRODUCTION:

The relation of the gall bladder to the inferior margin of liver is by 3types

1. Infra marginal
2. Marginal
3. Supra marginal.

AIM:

The relation of fundus of gall bladder to inferior margin of liver was not constant and hence we studied it in detail.**MATERIALS AND METHODS:**

During routine dissection of abdomen careful observations were made in 12cadavers (8 male and 4 female).

OBSERVATIONS:

1. It shows folded fundus of gall bladder. The folded fundus of gall bladder is the name given to folding of fundus of this organ. Its appearance in cholecystograms is referred to as "Phrygian cap".

2. In another male cadaver fundus of gall bladder is supra marginal.

3. In one female cadaver accessory hepatic ducts arises from non peritoneal surface of liver opens in to fundus of gall bladder.

In 9 cadavers normal pattern was seen.

DISCUSSION:

The relationship of the fundus of gall bladder to the inferior margin of the liver had been reported by several authors.

Lurge (1913) classified the relation of fundus to the edge of liver into supra marginal, marginal, and infra marginal.

In the present study the fundus of gall bladder was observed supra marginal in 4.7% and marginal 3.8% and infra marginal in 26.9%.

Folded fundus of gall bladder was first described by Bartel (1916) who reported 43 cases at autopsy. Boyden (1935) found the anomaly in 7.5% of the 80 autopsy specimens.

In the present study the folded fundus of the gall bladder was seen in 7.1% of 42 specimens.

269. VARIOUS ANOMALIES IN AN UPPER LIMB

MR. G A HADIMANI, DR S D DESAI, MR. I B BAGOJI, DR B M BANNUR, DR B S PATIL

Dept. Of Anatomy

Sri B M Patil Medical College

BLDE UNIVERSITY BIJAPUR

During routine dissection of 1st year MBBS students in the dept. of Anatomy Shri B M Patil Medical College Bijapur, nearly old male cadaver has shown various anomalies in the right upper limb. Which includes anomalous branching pattern of axillary artery, Absence of Brachial artery, and Third head of biceps brachii, the anomalous head is arising from the coracoid process while inserting it is forming fibrous sheath which is attached to the pronator teres, fibrous sheath measures 4 cm. Fibrous sheath is pierced by the ulnar artery, all the arteries are tortuous in course. Further details and its importance will be discussed in the conference.

270. ANOMALOUS MUSCLE IN THE FLEXOR COMPARTMENT OF FOREARM WITH ANOMALOUS ORIGIN OF 1ST LUMBRICAL MUSCLE

KUMARASWAMY R1, Jiji P J2, Sridevi N S1, M B Sanikop1 .

1- Sri Devaraj Urs Medical College, Kolar, Karnataka.

2- Kasturba Medical College, Mangalore, Karnataka.

ABSTRACT:

AIM OF STUDY: To study the frequency of the occurrence of anomalous muscle in the flexor compartment of forearm with anomalous origin of 1st lumbrical muscle. **MATERIALS & METHODS:** In the study of 80 cadavers at SDUMC Kolar and KMC Mangalore, I came across the case of anomalous muscle in the flexor compartment of forearm with anomalous origin of 1st lumbrical muscle during routine dissection. **RESULTS:** Out of 80 cadavers we noticed only one case of this kind that is only about 0.8% so which is a very rare entity. **SUMMARY:** Muscular anomalies could be a cause for peripheral nerve disorder or entrapment. Details of this variation would be discussed in forth coming conference.

KEY WORDS: Flexor compartment, 1st lumbrical muscle, Muscular anomalies, Peripheral nerve disorder or entrapment.

271. MEASUREMENTS OF THE NORMAL SPINAL CORD DIAMETERS AT CERVICAL AND LUMBER ENLARGEMENT LEVELS IN MAGNETIC RESONANCE IMAGING.

Dr. Smita Shinde, Dr. Kavita Tyagi

MGM Medical College Navi Mumbai, Kamothe. Maharashtra.

The functional importance of spinal cord can be seen from the fact that it contains afferent and efferent pathways from most of the body. Spinal cord extends from top of C1 vertebrae to bottom of body of L1 vertebrae. It is approximately 45cm long. It's not a perfect cylinder but has two major enlargements at cervical and lumbar level. These areas show considerable expansions of grey matter because they are areas of motor neuron parts, supplying arms and legs. These areas extend from C3 to T2 and from L1 to S3. The various traumatic, degenerative lesions or tumors may result in distention of spinal cord dimensions. Perfect knowledge of measurements of spinal cord is of great practical importance in Spinothalamic tractotomies, Rhizotomies and operations for tumors of spinal cord as well as in trauma. The spinal cord dimensions can be measured either directly by dissection or indirectly with various imaging modalities. Magnetic Resonance Imaging being very powerful modality of investigation for studying spinal cord in any plane or orientation and entire spinal cord can be studied in a single scan. In the present study we measured anteroposterior and transverse diameter of cervical and lumbar enlargements at their maximal level in 20 spinal cords with Magnetic Resonance Imaging. Average values we found are as follows:-

At Cervical level - Anteroposterior diameter - 7mm

Transvers diameter - 11mm

At Lumbar level - Anteroposterior diameter - 8mm

Transverse diameter - 9mm

272. ANGIOGRAPHIC STUDY OF ORIGIN OF CORONARY ARTERIES AND THEIR MAJOR BRANCHES

DR REKHA MANE, DR HASMUKH RAVAT, DR KAVITA TYAGI

MGM Medical College, Navi Mumbai, Maharashtra

AIM OF THE STUDY:

To evaluate anomalous origins of the coronary arteries in the angiography reports.

MATERIALS AND METHODS:

Angiographic report of 1000 patients without congenital heart disease who underwent conventional coronary angiography due to known or suspected coronary artery disease were retrospectively reviewed to find anomalous origin of the coronary arteries.

RESULT:

In most of angiograms, right coronary artery (RCA) was found to be arising from right sinus of valsalva (RSV) and left coronary artery (LCA) from left sinus of valsalva (LSV). LCA was then dividing into two branches, left anterior descending artery (LAD) and left circumflex artery (LCx).

Among 1000 angiogram, anomalous origin from opposite sinus was encountered in 10 angiography reports. RCA was seen originating from LSV (0.6%), LCx from RSV (0.1%), LAD from RSV (0.2%), LAD and LCx was arising separately from LSV (0.1%) and one distinctive anomalous angiogram of single coronary artery was found.

CONCLUSION:

This study demonstrates variation in origin of coronary arteries in the angiography report. The data are valuable in expediting coronary angiography procedures and thus improving patients care.

273. OBSERVATION OF THE CEREBRAL ARTERIES IN THE HUMAN BRAIN BY USING 64 SLICE CT CEREBRAL ANGIOGRAPHY.

PANT M. K.1, PANDEY S.K.1, SHUKLA R.C.2

1-Department of Anatomy, 2-Department of Radiodiagnosis

Institute of Medical Sciences, Banaras Hindu University, Varanasi

64 slice CT Angiography is an exciting new resource for radiologist and neurosurgeons using cross sectional anatomy or involved in the interpretation of radiological scans. Thousands of clear and accurate images, digital format, provide the clinicians with an invaluable aid to cross section anatomy. Computed

Tomography Angiography (CTA) interpretation and a stunning 3D anatomy image library.

The purpose of our study was to determine the main anatomical features of the brain by using 64 slice CT angiography (light speed volume CT; GE healthcare).

We report our experience of having performed CT angiographies with 3D reconstructions of various vascular territories of the brain. Details of technique of data acquisition, methods of 3D reconstruction and clinical applications are discussed.

274. VARIATIONS IN THE PELVICALYCEAL SYSTEM OF THE KIDNEY AND ITS EFFECT ON RENAL STONE FORMATION

DR. PANKAJ R. WADEKAR, DR. S. D. GANGANE

G.M.C. Mumbai

Contents:

AIM OF STUDY: The renal pelvis and calyces show great individual variations. While all normal pyelograms more or less resemble each other, no two kidneys are ever quite alike. The present study has been undertaken to study the variations in renal pelvicalyceal system and to investigate the effect of pelvicalyceal anatomical differences on the etiology of renal stone. **MATERIAL & METHODS:** A total of 100 kidneys (from 50 IVU films) were included in this study. Renal stone were found in 25 kidneys. The parameters measured were as follows: 1) Number of major calyces. 2) Number of minor calyces. 3) Infundibular Width. 4) Lower Infundibular length. **RESULT & CONCLUSION:** The obtained data showed that there were variations not only in the numbers of calyces of kidneys but also in the infundibular length and width. On right side, the difference between the mean lower infundibular length in stone bearing and in normal kidneys was statistically significant.

275. LIMB BODY WALL COMPLEX – PRENATAL ULTRASONOGRAPHIC DIAGNOSIS

DR. I. GOWRI , DR S SARITHA

S V S MEDICAL COLLEGE,

MAHABOONNAGAR

Limb body wall complex refers to a rare combination of disruptive and lethal abnormality which start early in the gestational process. It is a rare, complicated, polymalformative foetal malformation syndrome. The essential features of it includes:

1, Exencephaly / Encephalocele with facial clefts

2, Thoraco and / or abdominoschisis

3, Limb defects

Generally the diagnosis is based on the presence of two of the above three features. Two phenotypes have been described — the placenta cranial and the placenta abdominal type. The diagnosis can done by prenatal ultrasonography and estimation of serum alpha fetoprotein levels. The prognosis of limb body wall complex is invariably fatal and it necessitates an early antenatal diagnosis which can be followed by medical termination of pregnancy.

Among the 168 live births at SVS hospital Mahabubnagar during the period of three months (June 2010-Oct 2010) we came across 4 congenital anomalies which included hydrocephalus, congenital heart disease, and anencephaly and limb body wall complex anomaly.

I would like to highlight the limb body wall complex anomaly as it is more interesting, rare and uncommon disorder. An aborted female foetus weighing 1300gms, 30 weeks of gestation diagnosed antenatally by ultrasonography as limb body wall complex with omphalocele, severe scoliosis and limb defect.

Details of Ultra sonogram, plain radiographs, photographs of aborted foetus presenting placenta abdominal phenotype limb body wall complex will be highlighted at the conference.

276. THE GOLD STANDARD TOOL FOR DETERMINATION OF GESTATIONAL AGE

K.P.Bharath*, Ushakothandaraman, Rajasekar.K.V, Janaki.C.S., Mohan,
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Meenakshi Medical College & Research Institute .
Enathur, Kanchipuram

AIM

To ascertain the gold standard tool for determining the gestational age ultrasonologically among the antenatal cases attending OBG clinic in MMC & RI

MATERIALS AND METHODS:

This is a cross sectional prospective study conducted in women attending the antenatal checkup in Department of Radiology, MMC&RI. The following parameters are studied radiologically:

- Crown rump length
- Bi parietal diameter
- Femur length
- Abdominal circumference
- Placental thickness
- Nuchal translucency

INCLUSION CRITERIA:

1. Known Last menstrual period
2. Nil H/O of Diabetes Mellitus or other metabolic disease
3. Nil H/O of previous adverse fetal outcome
4. Nil H/O Intra Uterine Growth Retardation(IUGR)
5. Nil placental anomaly
6. Nil fetal anomaly

EXCLUSION CRITERIA:

· Patient having systemic illness

CONCLUSION

Our study aims to identify the most appropriate tool to determine the gestational age by comparing placental thickness and Nuchal Translucency with other already established modalities.

277. IMAGING TECHNIQUES AS A TOOL IN GENDER DETERMINATION OF SKULL.

EDAL QUEEN.Z*, JANAKI .C.S., USHA KOTHANDARAMAN., PARTHIBEN.N, DEPARTMENT OF ANATOMY, MEENAKSHI MEDICAL COLLEGE AND RESEARCH INSTITUTE, ENATHUR, KANCHIPURAM.

AIM :

- Determination of the parameters of study in dry skulls.
- Measurement of these parameters radiologically.
- Using the radiologically determined parameters, the gender of these dry skulls were identified.

IMPORTANCE OF THIS STUDY:

Sexing of the skull has great implication in medico-legal cases(C. N. ORISH and B.C.DIDA).

MATERIALS AND METHODS:

OSSEOUS MODALITY: A total of 100 adult dry skulls of unknown sex and age from the department of anatomy of various medical colleges in and around Chennai were taken up for this study.

IMAGING MODALITY: The parameters of this study were also measured using Computed Tomography and Magnetic Resonance Imaging .

TOOLS USED:

FOR OSSEOUS MODALITY: Using Vernier Caliper, the following parameters were measured.

- Left transverse and longitudinal diameter of optical canal.
- Right transverse and longitudinal diameter of optical canal.
- Left transverse and longitudinal diameter of foramen rotundum.
- Right transverse and longitudinal diameter of foramen rotundum.
- Left transverse and longitudinal diameter of foramen ovale.
- Right transverse and longitudinal diameter of foramen ovale.
- Left transverse and longitudinal diameter of foramen spinosum.

- Right transverse and longitudinal diameter of foramen spinosum.
- Transverse and longitudinal diameter of foramen magnum.
- Intermastoid distance.
- Right and Left occipital condyles diameter

FOR IMAGING MODALITY:

CT and MRI images.

RESULT:

How effectively imaging technique can be used for gender determination of skull will be discussed during the presentation.

278. CEREBELLAR TONSILLAR POSITION AND MORPHOLOGY - A MAGNETIC RESONANCE IMAGE STUDY

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9.718 Position of cerebellar tonsils is of great importance in assessing the hind-brain deformity, i.e. Chiari malformation. While the normal position of cerebellar tonsils is at or above foramen magnum, MRI studies in Western countries have shown tonsillar ectopia to varying degrees. However there were no such studies in India. Hence a study was conducted in Govt. Medical College and SCTIMST, Thiruvananthapuram to determine the tonsillar position and morphology among Indians.

The study included 515 patients of both sexes ranging from infants to 80 years with normal posterior cranial fossa. Patients with raised intracranial tension and known CVJ anomalies were excluded. After recording personal data, brain was examined during MRI with special attention to position, shape and symmetry of cerebellar tonsils, CSF spaces, ventricles, brain stem and upper cervical cord. Sagittal diameter of foramen magnum, and distance from inferior extent of cerebellar tonsils to foramen magnum were determined in mid-sagittal, axial and coronal sections. Data was analyzed statistically.

Analysis showed tonsillar ectopia in 21% cases. Mean tonsillar position was 1.15 ± 2.67 mm in relation to foramen magnum. Other findings were: tonsillar descent in 5th decade; pointed shape in 1.3% males and 0.5% females; asymmetry in 1.3% males and 1.5% females. To differentiate anatomical variation from pathological condition, 2.5 mm of tonsillar ectopia was chosen as the cut-off. Mean foramen magnum size was 35.57 ± 3.72 mm. Tonsillar ectopia was associated with larger foramen.

The study has given valuable information on tonsillar position and morphology, and provided guidelines to neurologists for detection and management of potential cases of Chiari malformation.

279. STUDY OF RADIOGRAPHIC ANATOMY AND CROSS SECTIONAL ANATOMY IN CADAVERS.

MRS. ASHA S. DESHPANDE

Recent Developments In The Field Of Radiology Like, CT Scan, MRI and PET Scan, And Others, The Radiographic And Cross Section Anatomy Can Be Studied By Using Cadavers.

This Can Be Useful In Diagnosing Various Clinical Conditions Related To CNS, Orthopedics And Other Specialties.

It Is Also More Useful For Post Graduate Students Of Various Departments In The Medical Field.

The Same Radiographic Anatomy Can Set Up In The Museum.

The Materials Methods, And Other Details Will Be Discussed During The Presentation.

280. LOCATION OF MAXILLARY SINUS OSTIUM AND THEIR APPLICATIONS IN ENDOSCOPIC SINUS SURGERY.

Mamatha, Antony Silvan D' Souza Assistant Professor, Professor & Head

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The endoscopic sinus surgeons must have a detailed knowledge of inconsistent location of maxillary sinus openings in any interventional maxillary sinus surgeries as it relates to the orbital floor, ethmoidal infundibulum and the nasolacrimal duct. The ostium of the maxillary sinus is on the superomedial aspect of the maxillary sinus and its therefore drainage was no longer due to gravity; in addition it does not open directly into the nasal fossa but into narrow ethmoidal infundibulum, inflammation of which can further interfere with drainage.

Forty cadaver head and neck specimens had been cut sagittally through the nose and findings were documented with an emphasis on location of the maxillary sinus openings.

In the present study maxillary sinus ostium opened more commonly into posterior third of the hiatus semilunaris followed by middle and anterior 1/3 of hiatus. Accessory maxillary ostium seen in three fourth of cases which opened into membranous meatus inferior to the unicanate process.

Key words : Accessory maxillary ostium; Maxillary os; Maxillary sinus.

281. MORPHOMETRIC AND VOLUMETRIC ANALYSIS OF FRONTAL SINUS BY COMPUTED TOMOGRAPHY(CT) IN KASTURBA MEDICAL COLLEGE, MANIPAL

SOUJYA, BISWABINA RAY, CHARUDUTT SAMBHAJI, ANTONY SYLVAN D' SOUZA

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The frontal air sinuses are paired bony spaces situated posterior to the superciliary arches between the outer and inner tables of the frontal bone. Aim of our study was to measure the dimensions and volumes of frontal sinuses on CT scans and to study the age and gender dependent changes. The study was conducted prospectively on the CT images of ostiomeatal complex of 158 patients (79 males, 79 females) of age 19 to 73 years. The maximum AP length was measured on the axial plane and the maximum vertical height and width were measured on the coronal plane using the "Dicom software". Measurement of volume of sinuses was done using "Volume tracing tool", a post processing software that allows segmentation of one or more anatomic structures. The values were statistically analyzed with regard to age and gender. The morphometric and volumetric findings on the frontal sinus in our study did not show significant association with age. All parameters were larger in males compared to females. Bilateral absence of frontal sinus was observed in 2 cases and unilateral absence in 6 cases. The results of the study will be useful for surgical procedures on the paranasal sinuses and may serve as a reliable source of anthropometric data.

282. EFFECT OF FLUOXETINE ON SEMINIFEROUS TUBULES AND EPIDIDYMISS OF ALBINO RATS- A HISTOPATHOLOGICAL STUDY

Aggarwal Alka, Jethani SL, Rohatgi RK, Kalra Juhi

Dept. of Anatomy, HIHT University, Dehradun.

Present study is based upon histopathological effect of Fluoxetine (Selective Serotonin Reuptake Inhibitors) on the seminiferous tubules of testis and epididymis of adult albino rats. Rats were divided into control and treated groups. Fluoxetine was administered intraperitoneally to rats for three different durations of 2 weeks, 4 weeks and 12 weeks with the mild (10mg/kg/day), moderate (20mg/kg/day) and severe doses (40mg/kg/day). After the end of 2 weeks, 4 weeks and 12 weeks rats were sacrificed with ether anaesthesia and tissues were procured. After tissue processing histological slides were made with H & E staining. On Examination, distortion of Seminiferous tubules, decreased thickness of Germinal epithelium, decreased diameter of Seminiferous tubules, decreased counts of Germinal cell lineage and increased epithelial thickness in Epididymis were found

in treated groups of high dose with 2 weeks duration and in moderate dose with 12 weeks duration in comparison to other treated groups and control. Details of observations will be presented in the Conference.

283. EFFECT OF VIGABATRIN ON RETINA OF ALBINO RATS

Deepa Singh, Mehrotra Namita, Negi Gita, Jethani S.L.
HIHT University, Dehradun

The present study is based upon the histopathological effects of Vigabatrin (antiepileptic drug) on the retina of albino rats. Rats were divided into 2 groups- Control group and Treated group. Vigabatrin was administered intraperitoneally to the treated group in mild, moderate and high doses for a period of 4 weeks while control group was given an equal amount of vehicle (Normal saline). At the end of the treatment period, rats were sacrificed after giving ether anaesthesia. The eyeballs were dissected out with minimal amount of handling and fixed. After tissue processing, coronal sections of the complete eyeballs were cut and stained with Haematoxylin & Eosin staining method and Masson's Trichome staining method. On examination, loss of nuclei in outer and inner nuclear layers, disorganization of the outer nuclear layer, migration of nuclei of inner nuclear layer towards ganglionic cell layer, loss of ganglion cells were seen in all treated groups and complete retinal atrophy was seen in a few rats of high dose group as compared with control. Severity of the findings were found to be increased with increasing doses.

284. PLACENTAL IMMATUREITY AT TERM IN PREGNANCY INDUCED HYPERTENSION IN VIEW OF HISTOLOGY

ANUP SHYAMAL, AADITYA M TARNEKAR, J E WAGHMARE, P BOKARIYA, V WANKHEDE, B R SONTAKKE, SHABINA ANJUM, MORESHWAR R. SHENDE

Aim of the study: Present study aims to evaluate the histological appearance of the structure of placenta in pregnancy complicated by hypertension. Hypertension is one of the co-morbid conditions in pregnancy. The hypertension leads to pre-eclampsia, eclampsia and intra uterine fetal growth restriction in response to low placental tissue oxygen tension due to reduction of caliber of maternal vessels at utero placental junction.

Materials Methods: Total 80 placentae were collected from labour room and operation theatre of our Institutional hospital immediately after delivery. Forty placentae were collected as control from normal pregnant mothers with uneventful antenatal history and other forty placentae were collected from pregnant mothers after delivery who had hypertension diagnosed after 20th weeks of gestation. Placentae were transported to our research lab in 10 % formalin. Gross examination was done for each placenta and data was duly entered. Then the placentae were subjected for further histological processing. The stained sectioned were observed under light microscope and microphotography was carried out where ever needed.

Results: The cytotrophoblast cell layer covering the term placental villi adjoining the villous capillary were well demonstrated and persistence of Hofbauer cells in mesenchym of term villous stroma in most of the hypertensive subjects as compared to control.

Conclusion: Persistence of cytotrophoblast and abundance of Hofbauer cells in placentae of hypertensive subjects indicates placental immaturity. The most probable cause for such immaturity is hypoxic stress induced by maternal spiral arteries.

285. MORPHOLOGY AND HISTOCHEMICAL FEATURES OF PLACENTA IN GESTATIONAL DIABETES

SHABINA ANJUM, AADITYA M TARNEKAR, J E WAGHMARE, P BOKARIYA, V WANKHEDE, B R SONTAKKE, M R SHENDE

Aim- Aim of the present study is to analyze the morphological and histochemical features of placenta in gestational diabetes. Diabetes is one of the morbid complicating factors during gestation. In such pregnancies the fetus is exposed to increase morbidity and mortality

associated with hypoxic stress and various metabolic abnormalities. These complications have been attributed to abnormalities in placenta.

Materials and Methods:- Total 80 placentae were collected from Obstetrics Department of our Institutional hospital immediately after normal delivery / caesarian section and transported to research lab. Forty placentae from control group and 40 from gestational diabetic pregnancies were obtained. Each placenta was thoroughly examined for its morphology and data sheet was properly filled. For histochemistry 2-3mm thin sections were fixed in 10% formal calcium and sectioned under cryostat. Histological study was performed after paraffin block preparation and cutting into 6 micron sections followed by routine stains (H and E).

Results: The weight, volume, fetoplacental ratio, thickness of placenta of diabetic mothers was deviated from their normal range. The immaturity of villous was persisting up to the termination of pregnancy even at term. Nature of placental alkaline phosphatase was unaltered.

Conclusion: The placenta of diabetic mother becomes altered in its structural as well as functional property in exposure of artificial or unwanted source of insulin and complicates the outcome of pregnancy affecting health of fetus as well as mother.

The observation obtained will be discussed in light of literature available till date.

286. HISTOLOGICAL CHANGES OF CORONARY ARTERIES DURING FOETAL LIFE – A LIGHT MICROSCOPIC STUDY.

DR. RAMA L. CHHETRI, DR. M.MATUM SINGH & PROF.Y. IBOCHOUBA SINGH.

Regional Institute of Medical Sciences, Imphal, Manipur.

CONTENTS- The factors responsible for formation of components of coronary arterial wall may be manipulated, improving the quality of therapy in coronary artery disease. With this aim the normal pattern of histological changes in components and organization of layers of the coronary arterial wall were studied.

The proximal segments of coronary arteries along with a piece of underlying myocardium were taken from fresh foetuses aged 15 to 40 weeks. The tissues were fixed in 10% formal saline and processed for paraffin embedding. 5 micrometer thick stained sections were studied by light microscopy.

The three layers of the arterial wall are not clearly demarcated until 20 weeks. At 15 – 16 weeks, tunica intima comprises of only endothelium, media consists of 2–3 layers of smooth muscle cells, collagenous tissue, & adventitia is the thickest of all the three layers. Profiles of internal elastic lamina seen at 21 weeks, form a continuous tube at 26 weeks and fragment at 40 weeks. Subendothelial collagenous tissue is noted in the prenatal period. Smooth muscle cells and collagen of media increase in content and density as foetal age advances. Elastic fibres appear in tunica media and adventitia from 26 weeks, increase in amount by 40 weeks. By 40 weeks thickness of adventitia reduces relatively, that of media and intima increases.

Maturation and organization of layers in coronary artery wall occurs first in adventitia, followed by media and lastly in tunica intima, continuing after birth.

287. TERATOGENIC INDUCED LIMBS DEFORMITIES IN MICE FETUSES.

YOGENDRA SINGH, G.L. SHAH

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Doxorubicin is an anticancerous drug. The teratogenic effects of doxorubicin has been studied in the experimental model female albino mice. There was marked limb deformities along with intrauterine growth retardation.

Albino pregnant female mice received doxorubicin intraperitoneally, 3mg/kg body weight on the 8th day of gestation. At the same time 0.9% normal saline solution was injected intraperitoneally in control group.

On the 19th day of gestation fetuses were collected by caesarean section. The fetuses were dried by blotting paper and were examined for limb anomalies.

288. PORENCEPHALY- REPORT OF TWO CASES

C MOHANTY, B.K. DAS*, KRISHNA PANDEY

Department of Anatomy & Department of Pediatrics*,
Institute of Medical Sciences, Banaras Hindu University

Porencephaly is an extremely rare disorder of central nervous system which may result in ischemic lesions that have its origin in fetal life. It is a fluid filled cavity in the fetal or neonatal brain which communicates with the cerebral hemispheres. Most cases begin as ischemic infarcts that subsequently cavitate and are usually located in the middle cerebral artery territory. Patients may present with mental retardation, spastic paresis, seizures, macro or microcephaly, poor speech development and hydrocephalus.

We present two cases of porencephaly who presented with developmental delay and difficult to control seizures. CT scan of the cranium showed cavitary lesions communicating with one of the horns of lateral ventricle. The patients were managed with anticonvulsants and considered for shunt surgery.

289. ALCAPA – A CONGENITAL CARDIAC ANOMALY

Lt Col (Dr.) S Ghatak, Professor & Head, Dept of Anatomy
Army College of Medical Sciences, New Delhi

Anomalous origin of the left coronary artery arising from the pulmonary artery (ALCAPA) is a rare but serious congenital anomaly. Origin of left main coronary artery from pulmonary artery is known to occur once in every 300,000 live births accounting for 0.25% to 0.5% of congenital heart disease cases. Majority of them die in infancy. Diagnosis in adulthood is usually only after a myocardial infarction. ALCAPA was first described in 1866. The first clinical description in conjunction with autopsy findings was described by Bland and colleagues in 1933, so the anomaly is also called Bland-White-Garland syndrome. By 1962, Fontana and Edwards reported a series of 58 postmortem specimens that demonstrated that most patients had died at a young age.

ALCAPA is usually an isolated cardiac anomaly but, in rare incidences, has been described with patent ductus arteriosus, ventricular septal defect, tetralogy of Fallot, and coarctation of the aorta. Extremely rare variations of anomalous origin of the coronary arteries from the main pulmonary artery include the following:

- The left anterior descending or circumflex branches
- The right coronary, often discovered as an incidental finding on autopsy
- Both the right and left coronary arteries, a circumstance not compatible with survival

A case of a 02 month old child is presented who presented with excessive crying, not accepting feeds, labored breathing and excessive sweating. Initially treated as a case of CCF with Dilated Cardiomyopathy ? Viral. Diagnosed subsequently by CART as a case of ALCAPA and underwent a successful surgical correction.

290. COR TRILOCULARE – BIVENTRICULARE - A CASE REPORT DR. MURALIDHAR REDDY SANGAM

Dr. S. S. Sarada Devi, Dr. K.Krupadanam, Dr. K. Anasuya,

Department of Anatomy, NRI Medical College, Chinakakani.

Cor triloculare – biventriculare is a rare congenital malformation of the heart in which there is complete absence of atrial septum. It is

usually associated with other anomalies like complete AV canal defect, polysplenic syndrome, isolated dextrocardia, Ellis van Creveld syndrome or persistent left superior vena cava.

We report a case of a still born male child of 35 weeks gestation with common atrium, complete AV canal defect and persistent left SVC.

The possible embryological basis and clinical implication of this variation are discussed.

Key words: Cor triloculare – biventriculare, persistent left superior vena cava, common atrium.

291. ANENCEPHALY :- A CASE REPORT

Dr. ASHISH V. RADKE Dr. Y.R.Kulkarni

Indira Gandhi Govt Medical College , Nagpur , Maharashtra.

Anencephaly is a cephalic disorder that results from a neural tube defect that occurs when the cephalic end of the neural tube fails to close, usually between the 23rd and 26th day of pregnancy, resulting in the absence of a major portion of the brain, skull, and scalp. Children with this disorder are born without a forebrain, the largest part of the brain consisting mainly of the cerebral hemisphere. The remaining brain tissue is often exposed i.e. not covered by bone or skin. There is no cure or standard treatment for anencephaly and the prognosis for patients is poor. Most anencephalic babies do not survive.

Genetically, neural tube defects do not follow direct patterns of heredity, though there is some indirect evidence of inheritance, and recent animal models indicating a possible association with deficiencies of the transcription factor TEAD2.

We found a baby delivered, case of anencephaly in dept. of pediatrics, Indira Gandhi Govt Medical College, Nagpur. Baby survived for 26 hrs. and weight of the baby was 1 kg at the time of delivery. Details regarding etiology, incidence, diagnosis, prognosis & genetic correlation will be discussed at the time of presentation.

292. ANATOMICAL BASIS OF NEURAL TUBE DEFECTS (NTDS)

MALABIKA DEBI K.L. TALUKDAR N. C. BHATTA

Gauhati Medical College, Guwahati

Neurulation, one of the earliest and most crucial events in human development, generates the neural tube (NT), the rudiment of the entire adult central nervous system (CNS), that is, the brain and the spinal cord. Neural tube defects (NTDs) are among the most common of all human birth defects. These complex congenital malformations occur when the neural tube, which ultimately forms the brain and the spinal cord, fails to close during the first few weeks of embryonic development. NTDs are commonly classified as open or closed based on the presence or absence of exposed neural tissue.

AIM OF THE STUDY: Anatomical correlation about the basic mechanism of the defects.

MATERIALS AND METHODS: The cases for the present study were collected from the Department of Paediatric Surgery and Department of Obs. & Gynae., Gauhati Medical College, Guwahati. The cases were studied in detail regarding their family history, personal history, any significant antenatal history, etc. Cases were then subjected to proper local examination for any associated visible anomaly/ anomalies.

DISCUSSION: The literature for the present study is collected. An attempt to indicate the developmental pathogenesis involving the defects will be displayed and discussed at the time of presentation.

293. SIRENOMELIA - ANATOMIC, PATHOLOGIC AND SONOGRAPHIC FEATURES OF A RARE LETHAL CONGENITAL DISORDER

DR. MINNIE PILLAY & DR. SHEELA NAMBOOTHIRI

Amrita Institute of Medical Sciences & Research, Amrita Vishwa Vidyapeetham, Cochin, Kerala

Sirenomelia is a lethal condition characterized by the fusion of the lower limbs, single umbilical artery and severe malformations of the urogenital and lower gastrointestinal tract. Whether sirenomelia occurs as a separate entity or it is the extreme form of caudal regression syndrome is controversial. But the presence of two umbilical arteries, non-lethal renal anomalies, non-fused lower limbs, abdominal wall defects and abnormalities of tracheo-oesophageal tree, neural tube and heart defects differentiate CRS from sirenomelia. Besides CRS is strongly associated with maternal diabetes.

In this context, we report a case of sirenomelia, highlighting the anatomical, pathological, and prenatal sonographic features. The etiopathogenesis and characteristic features of sirenomelia are discussed.

294. VARIOUS TYPES OF ORIGIN OF THE THORACIC DUCT
Y. SRINIVASA RAO, Dr. S. Swayam jyothi Dorairaj, Ch.N.V. Bharath V. Thirupathirao

AIM: To study the various types of the origin of the thoracic duct.

MATERIALS AND METHODS: During routine dissection of the posterior abdominal wall careful dissection and observations were made in 30 cadavers (25 adults male cadavers and 5 adults female cadavers).

OBSERVATIONS: In 6 cadavers (20%) the thoracic duct arose from the confluence of ascending lumbar and intestinal lymph trunks (Type – I).

In 15 cadavers (50%) it was formed by the confluence of two ascending lymph trunks and intestinal trunk joined the thoracic duct (Type – II).

In 9 cadavers (30%) the thoracic duct ascending from a plexuses formed by the lumbar and intestinal trunks (Type – III).

DISCUSSION:

According to the Jacobsson, s (1972) report various types origin of thoracic duct were of Type – I (20%), Type – II (55%) and Type – III (25%). Our present observations are also similar to the Jacobsson's observations.

295. ANOMALOUS ORIGIN OF UN'LATERAL OBTURATOR ARTERY.

Mr.T.Suresh, Dr.Ratnabali Gengupta*, DR.Sridevi N S, Dr. M B Sanikop. SDUMC Tamaka Kolar. Mr.Devishankar*, * - NMC Nellore.

Introduction- Internal iliac artery formerly known as the "hypogastric artery". It is the principal artery of the pelvis, supplying to the pelvic viscera by visceral branches and also to the musculoskeletal part of the pelvis through the parietal branches.

Aim of the study- To study the vascular variations of parietal and visceral branches of internal iliac artery.

Material method – Out of 40 pelvis studied at S.D.U.M.C, KOLAR.& at N.M.C, NELLORE, it was observed that in one male cadaver, the left obturator artery was arising from the superior gluteal artery is a branch of posterior division of internal iliac artery.

Summary- The knowledge of variations in the branches of internal iliac artery is important for pelvic surgeons, obstetrics and gynaecologists to control intraoperative pelvic haemorrhage. the details of the study will be discussed at the time of presentation.

Keywords:- Internal iliac artery, superior gluteal artery, obturator artery.

296. BILATERAL COMMUNICATION BETWEEN MEDIAN AND MUSCULOCUTANEOUS NERVE AT DIFFERENT TOPOGRAPHIC LEVELS

POONAM PATNAIK

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Aim: Exact topographical description of these unique communications and help anatomy students, vascular, orthopedic and hand surgeons and neuro physicians to orientate and assemble knowledge of variations and their involvement resulting in clinically important compartment compression syndromes, in

new scenario of extreme physical efforts involving coracobrachialis muscle in the field of sports (boxing, martial art) and occupations like heavy vehicle driving.

Material and methods: Routine dissection of arms of 48 year old Indian male cadaver during teaching classes of BDS batch-2009-2010 at Kalka Dental College.

Results/observations: In the right arm, third root of median nerve originated from Musculocutaneous nerve within the belly of coracobrachialis muscle and joined the median nerve in upper 1/3 of arm, whereas in left arm, the communicating branch originated from Musculocutaneous nerve after it had pierced coracobrachialis muscle and joined the median nerve at middle 1/3 of arm near the insertion of coracobrachialis.

Conclusion: It is important to be aware of these variations as features of carpal tunnel syndrome may mimic the presentation of median nerve compression due to hypertrophied or suddenly contracted coracobrachialis to prevent an unnecessary carpal tunnel release.

297. MYOCARDIAL BRIDGES ON CORONARY ARTERIES – A STUDY AND CLINICAL IMPLICATION

DR. SUSMITA BASU GHOSH, DR. MANIMAY BANDYOPADHYAY, DR. KARABI BARAL, DR. PIYALI DAS,
Department of Anatomy, Department of Physiology, Calcutta National Medical College, West Bengal

Aim Of The Study

Myocardial bridges (MB) on coronary arteries have often been associated with ischaemic heart diseases and cardiomyopathies across the globe. Since MBs can be delineated easily by angiography, they become an important parameter in investigation and treatment of those cardiac ailments. Our aim was to study the incidence of MB in the general population in this part of the country by studying them in cadavers.

Materials And Methods

Fifty human hearts were collected from the adult donated cadavers and were preserved in 10% formalin. These were dissected to expose the course of major coronary arteries in their extra myocardial part along with the presence of MBs.

Results

89.6% of the specimens had MB involving almost all the major coronary arteries. The length of these MBs were variable. Details will be discussed in the presentation.

Conclusion Our study shows presence of higher percentage of MBs than those found in previous similar studies. We hope the revelation will throw new light to the diagnosis of ischaemic heart diseases, its prevention and treatment in days to come.

298. ANATOMICAL VARIATIONS OF BRACHIAL PLEXUS IN THE ARM – A STUDY

DR. RAVEENDRA PATIL G. T, DR. BANNUR B.M, DR. MALLIKARJUN. M.

The brachial plexus supplies motor, sensory and sympathetic fibers to the upper limb. Variations are not uncommon. The study was carried out on 60 upper limb specimens during the course of dissection from undergraduate students in the department of Anatomy with the aim to find out various anomalies in the arm.

Five major branches of cords brachial plexus that is Musculocutaneous nerve, Ulnar nerve, Radial nerve and Axillary nerve were selected and studied. A number of variations were found. Knowledge of these variations are important to neurologists, orthopaedicians and traumatologists as these may give rise to variable clinical picture depending upon the variations.

299. DISSECTION OF TEMPORAL BONE SHOWING THE CONTENTS OF MIDDLE AND INTERNAL EAR

Dr.M. Padmavathi Dr.T.K.Rajasree. Dr.David.

Osmania Medical College, Hyderabad.

Usually we learn internal ear by the schematic diagrams presented in the text books and the models kept in the museum with a little three dimensional concept and orientation of middle and internal ear in the temporal bone.

To make it more easily understandable we have brought forward these interesting specimens of the internal ear done by the special dissection of temporal bone with the help of operating microscope of ENT surgeons in the department of Anatomy.

Dissecting from one temporal bone the total bony labyrinth was taken out in enmass. From dissecting four other temporal bones the middle ear components and the intrapetrous course of the facial nerve is shown insitu. The details will be discussed during the presentation.

300. INCIDENCE OF SUPRACONDYLAR PROCESS OF HUMERUS IN THE POPULATION OF ASSAM

Authors: PRABAHITA BARUAH, H. BAYAN Department of anatomy, Gauhati Medical College, Guwahati-32

aim: the present study aims at the determination of incidence of the supracondylar process of humerus in the population of Assam.

Supracondylar process is a normal anatomical structure in some lower climbing animals but is a rare vestigial structure in human.

Materials and methods: The study was conducted on 80 humeri which were collected from the 1st M.B.B.S students and from the osteology laboratory, department of Anatomy, Gauhati Medical College. The bones were examined for any osseous projection from distal part under day light.

Observations: out of 80 humeri, we found one humerus of left side with a bony projection from antero-medial surface of its distal shaft. The bone was then examined, studied, photographed and its dimensions were recorded.

Results: length of the projection was 1.1 cm and breadth at the base 1.5 cm. the other parameters of the bone under study and its projection were tabulated and compared with standard documented values.

Conclusion: knowledge of this variation may be of great importance to anatomists and anthropologists, because of possible link to the origins and relations of the human races. Therefore an attempt has been made to find out the incidence of supracondylar process in the population of assam. The study will be discussed in detail at the conference

301. STUDY OF VARIATIONS IN THE CIRCLE OF WILLIS

Authors : Bishwajeet Saikia, K.L. Talukdar.

Deptt. Of Anatomy, Gauhati Medical College, Guwahati-32

Aim : To study observe the anatomical variations in the Circle of Willis in different specimens of Cadaveric brain in the Guwahati region of Assam
Materials and Methods : In the present study, 70 specimens of human brain from the Department of Anatomy and from the autopsies done in the Department of Forensic and state medicine, were dissected and variations of the circle of Willis were observed.

Result : Out of the 70 specimens observed, 79.94% of the specimens presented with variations. Variations were observed in Anterior circulation in 48.57% of specimens and in Posterior circulation in 78.57% of specimens. The most common variation found was hypoplastic Posterior communicating artery in 54.28% of specimens.
Conclusion : Detailed findings of the study will be discussed during presentation.

303. A STUDY OF VERTEBROBASILAR SYSTEM IN PERINATES

Authors : ANURADHA BARUAH, Associate Professor,

Deptt. Of Anatomy, Assam Medical College, Dibrugarh

Aim : The brain is supplied by branches of the Internal Carotid and the Vertebral Arteries. Although composing 2% of body weight, the brain receives about 17% of cardiac output and consumes about 20% of the oxygen used by the entire body. Therefore a better understanding of the distribution of the arteries is very essential.

MATERIALS AND METHODS : The study was conducted in the department of Anatomy, Assam Medical College, Dibrugarh. For this study human cadavers of 50 perinatal babies of both sexes were taken. Routine dissection procedures were followed to take out the brain.

RESULT : Variations are observed in the formation of basilar artery with one vertebral artery domination while the other vertebral is narrow. The length of the basilar artery, course, termination, its branches and other abnormalities are also observed. Absence of vertebral artery on any side is not observed in this study.

CONCLUSION : Many syndromes have been described as resulting from small infarcts due to occlusion of individual branches of the vertebral and basilar artery. So a detailed knowledge of the formation, courses, branches and termination of basilar artery has its practical importance.

303. SEX DETERMINATION FROM THE FOOT AND HAND DIMENSIONS IN WESTERN RAJASTHAN POPULATION .

Taruna chowdhary

Personal identification is the mainstay in forensic investigation. The dimension of foot and hand have been used for the determination of sex, age and stature of an individual. The aim of present study is to determine sex by foot and hand measurement. The study is conducted on 200 healthy individual (100 male and 100 female) in the age of group of 18-30 years. Foot length, foot breadth, hand length and hand breadth are measured by standard anthropometric instruments. All the data are subjected to the statistical analysis. Foot index is also calculated. All the measurements were found larger in males. Sex difference is found to be highly significant for all the measurements.

304. SEXING OF FEMORA USING THE UPPER END

Dr. K. SMITHA ELIZABETH

Identification of sex of an individual from human skeletal remains is the first and arguably the most important step encountered by both the forensic experts and archaeologists. Superiority of objective assessment by metric methods over simple morphological observations has been well stressed. Long bones are often found to be important as they often survive inhumation, their accuracy in sex determination amounting to 80%. Femur is well documented to be a long bone of vital importance for sex determination, its length and massiveness being significant. For the study 100 femora, 70 of unknown sex and 30 of known sex were obtained and parameters which included the upper end length, subtrochanteric sagittal diameter, subtrochanteric transverse diameter, platymetric index, vertical and anteroposterior diameter of head were calculated and statistical analysis was done to determine the sex of femur.

305. VARIATIONS OF SUPRAORBITAL NOTCH IN ADULT AND FOETAL SKULLS

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The supraorbital margin formed by the frontal bone is interrupted at the junction of its sharp lateral two-thirds and round medial third by the supraorbital notch which transmits the supraorbital vessels and nerves. The present study was done on 101 human adult skulls of unknown sex and 59 foetal skulls to observe the various combinations of supraorbital notch, supraorbital foramen, incomplete foramen and absence of these features.

Nine types of combinations were observed in adult skulls and eight types of combinations were observed in foetal skulls amongst notch, foramen, incomplete foramen and absence of these features. The difference between incidence of notch was significant in adult skulls ($p < 0.05$). Percentage of notch was higher in adult skulls (29%) as well as foetal skulls (30%) than other

features. Absence of all the features was not seen in adult skulls but was observed in 6.77% of foetal skulls.

306. GENDER DETERMINATION USING BUCCO-LINGUAL DIAMETER OF MANDIBULAR CANINES

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Teeth are the most indestructible part of the body, exhibit the least turnover of natural structure and are readily accessible for examination. Hence teeth provide excellent material in living and non-living populations for identification and sex determination. Canines differ from other teeth with respect to function and show the greatest sex differences. The present study was conducted on mandibular casts of 80 subjects (40 males and 40 females) in the age group of 17-21 years to study the sexual dimorphism. The bucco-lingual diameter of the mandibular canines was taken as the greatest distance between the buccal and lingual surface of the crown & was measured to calculate the sexual dimorphism. It was found that the bucco-lingual diameter was significantly larger in the males as compared to the females and the difference was statistically significant (p value <0.001). The mean of bucco-lingual diameter was 7.686 mm in males and 7.012 mm in females on the right side while it was 7.695 mm in males and 6.964 mm in females on the left side. The results of the present study indicate that the sexual dimorphism in mandibular canines can be of use in gender determination.

KEYWORDS: Sexual dimorphism, mandibular, canines.

307. COLOUR LASER SCAN – RECENT ADVANCE IN FACIAL RECONSTRUCTION

Parvathi S.

Face is the index of mind. Seeing and interacting with faces is commonplace in a person's day to day life. Faces are fascinating and faces from the past are particularly intriguing. Human facial reconstruction has been proposed to illustrate disease and trauma in archaeological human remains to the identification of lost person missing for forensic purposes. Computerized 3D cranium facial reconstruction is also improving and is starting to integrate facial anatomy and facial feature guidelines. The 3D facial reconstruction technique discussed involves the production of facial sculptures onto the skull or skull replica. CURRENTLY, the facial reconstruction was produced as a 3D computerized model using a laser scan of the bronze copy of the skull of Bach provided by the Bachhaus, Eisenach. Contemporary developments in 3D digitized image capture, graphical modeling and animation have begun to impinge on some quite traditional areas of the forensic sciences. Recently — Cyberware 3030 RGB CN color laser scanner and Silicon Graphics Indy™ computer to capture 3D images of the skull the platform rotates a 'wireframe' matrix is generated. CT scanning, permits more accurate measurement of tissue depths. Large samples of tissue depth measurements can be collected, with associated attributes of age, sex, build and, where appropriate, ethnic group. The contemporary relevance of research on computerized modeling and animation may benefit archaeology intellectually and financially. Facial reconstruction is destined to remain an art, albeit an increasingly informed one. 3 Computer Vision approaches to 3-D reconstruction, namely passive Binocular Stereo and active Structured Lighting and Photometric Stereo, in application to human face reconstruction for modeling virtual humans. An integrated lab environment was set up to simultaneously acquire images for 3-D reconstruction and corresponding data from a 3-D scanner

308. DEVELOPMENT AND VALIDITY OF SYMPHYSEAL PUBIS TECHNIQUE FOR AGE DETERMINATION

DR MRS C.V.DIWAN

DEPT OF ANATOMY, GOVT MEDICAL COLLEGE, AURANGABAD.
AIM: Aim of the present study is to discuss in brief about various methods invented up till today for the determination of age from symphyseal pubic surface of hip bone.

INTRODUCTION: During the past century, several aging methods based on pubic symphysis morphology have been introduced. Many of these methods represent modifications of the original method described by Todd (1920).

Recently, Hoppa (2000) has explored some of the problems and challenges associated with using modern reference samples to estimate the pattern and rate of age related changes in bone morphology observed in past populations. His results outline the current limitations of skeletal aging methods, in particular, those that rely on changes to the pubic symphyseal face.

Journey of events starts in 1920 when Todd announces his grading system to determine the age. Later on various scientists Mckern Gilbert (1957), Gilbert Mckern (1973), Suchey, Brooks and Katz (1986) modified previous methods to approach near accuracy and precision.

Recently Pasquier (1999) tried a novel approach of using CT scan machine for the same.

Present paper discusses the weaknesses and advantages of these studies.

309. ANATOMICAL VARIANTS – MEDICO LEGAL IMPORTANCE SUCHARITHA T M*, PHANINDRA S V**, SENGUPTA R***

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Identification plays an important role in medicolegal cases. It is very difficult to have a case of homicide without positive identification of the deceased. Identification of individuals in war disasters is a major problem. Anatomical variations play major role in identification, which serves the purpose in medico legal issues. There were quite number of anatomical variations, such as metopic suture, alveolar process of maxilla, dens of the axis, supranumerary digits, certain congenital malformations which were corrected surgically such as cleft lip/cleft palate which are extremely useful in medicolegal conditions. In the present study reports, a consolidated profile of how these parameters will help in identification process.

310. DETERMINATION OF SEX FROM ULNA

DR. DOPE SANTOSHKUMAR A., DR . LAEEQUE ,DR BAIG, DR MRS C.V.DIWAN.

DEPT.OF ANATOMY,GOVT.MEDICAL COLLEGE,LATUR.

Aim of the study-Determination of sex is one of the key question to be answered in cases of unidentified bodies in medicolegal cases or anthropological studies. A number of studies are available in this regard. The studies being population specific and in general are of not universal help.

Present study is an attempt to establish metrical parameters of ulna for the determination of sex.

Materials & Methods-193 adult human ulnae ,133 male and 60 female from the Bone Bank of Govt Medical College Aurangabad ,were used for the present study.

Parameters like length of ulna, proximal ulna: width, distal ulna: width and head circumference were studied and analysed statistically.

Mean S.D., p value and demarcating points for male and female were obtained.

Cross validation of the ulnae was done using the obtained demarcating points.

Result-All the parameters were found to be statistically significant and demarcating points were found to be valid in sorting the ulnae.

Conclusion-Metrical parameters of long bones including ulnae are of immense help in determination of sex of deceased person specially in cases where skeletal remains available are very less.

311. ARTERIAL SEGMENTATION OF HUMAN KIDNEY

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The knowledge of variations in the arterial segments of the human kidney is of great importance for the surgeons performing segmental resections and partial nephrectomy. Segmental resection of the upper and lower pole is of practical value; hence the presence of accessory arteries at these sites cannot be overlooked.

The aim of the study was to determine the vascular segments of the kidney depending on the segmental branches of the renal artery and to observe the presence, number and location of accessory arteries.

The study was carried out on fifty kidneys from adult cadavers. They were stored in 10 % formalin and treated with 5 % KOH solution for 72 hours prior to dissection. Dissection of the kidneys was done keeping the orientation of poles, borders and surfaces. Arterial segments were demarcated on the anterior and posterior surfaces. The total number of segments varied from two to six. Maximum number of segments seen on the anterior surface was 5 and maximum number of segments seen on posterior surface was 3. Maximum number of kidneys showed 3 segments on the anterior surface and 1 segment on the posterior surface. Accessory arteries were seen in 11 kidneys, out of which one kidney showed 2 accessory arteries. Detailed findings shall be discussed during the presentation.

Key words: Kidney, arterial segments, accessory renal arteries, segmental resection, partial nephrectomy

312. HEALTHY LIFE- BETTER 'Q' ANGLE

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ENATHUR,KANCHIPURAM

AIM OF THE STUDY:

- Is varying Q angle a feature of post isometric quadriceps exercise?
- To measure the Q angle before and after giving Isometric quadriceps exercise among normal group of individuals.

IMPORTANCE OF THE STUDY:

- Q angle represents an estimate of the resultant force of the Quadriceps on the patella and is a predictor of the lateral movement of the patella under dynamic conditions(Sarkar.A)
- Also an important indicator of bio-mechanical function in the lower extremity(Mark Charrette 2003).

MATERIALS:

- Goniometer – To measure "Q" angle.
- Inch Tape – To measure the quadriceps femoris muscle bulk.
- Metal Caliper – To measure pelvic width.

METHODS:

The Q-angle of 200 college going students between the age group of 16 to 20 years, were Goniometrically measured both in standing and supine position before and after Isometric Quadriceps exercise. As well as the bulk of the muscle is also measured.

RESULTS:

Results showed significant differences which will be discussed later.

313. ACROMION PROCESS – IT'S MORPHOMETRY

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AIM:

To study the morphometry of acromion process in a sample of 100 adult dry scapulae.

IMPORTANCE OF THIS STUDY:

These morphometrical parameters are related to rotator cuff pathologies and other shoulder impairment like recurrent shoulder dislocations. (Folia morphol 2008, Mallon et al 1992).

MATERIALS AND METHODS:

All the scapulae were segregated on the basis of shape. The morphometrical configuration of the acromion process were studied in detail.

1. Maximum longitudinal diameter,
 2. Transverse diameter,
 3. Length,
 4. Width,
 5. Thickness of the acromion process,
 6. Acromio-coracoid distance,
 7. Acromio-glenoid distance,
- were measured with the aid of digital divider.

RESULTS:

Results have shown differences which will be discussed later.

314. DETERMINATION OF SEX FROM SKULL

DR M. LAEEQUE , DR MRS C.V.DIWAN
DEPT OF ANATOMY GOVT MEDICAL COLLEGE LATUR

AIM : Aim of the present study is to derive the demarcating points for the determination of sex from Biparital diameter and head circumference of skull

MATERIALS AND METHODS: Human adult dry skulls free from deformity of known sex available in the Department of Anatomy Govt Medical College Aurangabad were used for the present study .The parameters studied were Biparital diameter and head circumference using Vernier calliper, Scale, non elastic thread

Mean S.D Demarkating point and p value of the parameters were obtained The data was later cross verified from the derived demarcating points

RESULTS: Biparital diameter and head circumference were found to be statistically significant and the Demarkating points were found to be fool proof in the determination of sex from skull.

CONCLUSION: Biparital diameter and head circumference of skull can be used in the determination of sex of unknown skeleton specially in cases of medicolegal importance or in anthropology

315. MORPHOMETRY OF HEAD AND NECK OF THE FEMUR WITH REFERENCE TO ORTHOPEDIC SURGERY

BURAJE MADHURI KUMAR1, RAJANEESH TOLAHUNASE2,
PRASHANTH K.U.1, B.V. MURLIMANJU1, LATHA V. PRABHU1, MIR
JAFFAR1, ROSHNI SADASHIV1

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Objectives: To determine the morphometric parameters of the head and neck of femur in Indians and to discuss its surgical application.

Methods: The study comprised 50 dry femora (33 right and 17 left side) which were obtained from the osteology section of the department of anatomy, KMC, Mangalore. The following parameters were measured with the digital vernier caliper: femoral head diameter, superior femoral head length, inferior head length, anteroposterior diameter of the neck, superoinferior diameter of the neck, superior neck length and inferior neck length. The data were compared with the previous reports which were found in the literature.

Results: The mean femoral head diameter was 41.5 ± 2.8 mms (right side- 41.8 ± 2.8 mms and left side- 40.7 ± 2.7 mms), superior and inferior head lengths were 30.8 ± 3.6 mms and 21.2 ± 3 mms respectively. The mean superior length, inferior length, anteroposterior diameter and superoinferior diameter of the femoral neck were 22.5 ± 3.1 mms, 31.2 ± 4.1 mms, 23.9 ± 2.9 mms and 30.2 ± 2.5 mms respectively.

Conclusion: Operations on the proximal femur are one of the commonest in orthopedic surgical practice. But the morphometric parameters of the Indian subjects are scarce. Since the implantation surgery relies on normal anatomical measurements, the present study was undertaken with reference to surgical application. We believe that the data obtained are enlightening not only for the orthopedicians, are also important for the clinical anatomists and anthropologists.

316. MORPHOMETRY OF THE SULCUS INTERTUBERCULARIS IN DRY HUMAN HUMERII

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Objectives: To find the length, width and depth of the bicipital groove in South Indian population. The aim was also to find the incidence of supratubercular ridge of Meyer.

Methods: The study included 104 dry humeri (48 right side and 56 left) which were belonged to the anatomy laboratory of the Kasturba Medical College, Mangalore, Manipal University. The length, width and depth of the bicipital groove were measured with the digital vernier caliper. The humeri were also observed for the presence of supratubercular ridge of Meyer. The data were tabulated as mean \pm SD. The data was analysed and compared with the data from the previous studies.

Results: From the present study, the mean length, width and depth of the bicipital groove were determined as 84.6 ± 10.9 mm, 8.5 ± 2.3 mm and 4.4 ± 1.8 mms respectively (right side: 86 ± 10.1 , 8.3 ± 2.4 and 4.7 ± 2 mms; left side: 83.3 ± 11.5 , 8.7 ± 2.2 and 4.2 ± 1.6 mms). The supratubercular ridge of Meyer was identified in 24 (23.1%) of the humeri. In that 16 (15.4%) were present on the right humerus and 8 (7.7%) were on the left side.

Conclusion: It was reported that the morphometric data of the bicipital groove is important in the orthopaedic literature. The data are scarce from the Indian subjects; hence this study was undertaken with reference to orthopaedic surgery. The data is also important for the anthropologists and clinical anatomists.

317. A STUDY OF CAECUM AND VERMIFORM APPENDIX WITH ARTERIAL SUPPLY

Dr.M.Janardhan rao, Dr.B.Bhagyalaxmi, Dr.I.Indera ingole

During routine dissection of abdomen at mamatha medical college-khammam, the arterial supply of caecum and appendix, was studied.

In my observation that out of 25 specimens, in 23 specimens-the appendix is supplied by only appendicular artery.

In two specimens in addition to appendicular artery, an accessory appendicular artery (artery of seshachalam) observed arising from the posterior caecal artery and enters the vermiform appendix near its base and runs in the mesoappendix.

318. ANOMALOUS LOBES AND FISSURES OF LUNGS

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Anomalous lobes and fissures were examined in 48 lungs available in the department of Anatomy, Santosh Medical College, Ghaziabad. In Right lungs, the oblique fissure was absent in 8.3% and horizontal fissure in 25% of cases. Incomplete oblique fissure occurred in 25% and incomplete horizontal fissure in 58.3% of cases.

In Left lungs, incomplete oblique fissure was found in 41.1% and accessory fissures were seen in 25% of cases. None of the left lung showed absence of fissure.

Knowledge of anomalous lobes and fissures of lungs is essential for cardio-vascular surgeons to demarcate the bronchopulmonary segments during segmental resection of the lungs. It is also of immense value to the radiologists for proper interpretation of the radiographs, CT-scans and MRIs.

319. LAND MARKS TO LOCALIZE THE SPINAL ACCESSORY NERVE AND VARIATION IN THE COURSE AND COMMUNICATION OF SPINAL ACCESSORY NERVE.

DR ANITA MAHAJAN, DR SABITA MISHRA

Various surgical and diagnostic procedures in the posterior triangle of neck, injury to the spinal accessory nerve is very common and may lead to shoulder disability or syndrome. Hence the sound knowledge of anatomy of neck region is necessary; especially the knowledge of course and communications of spinal accessory nerve can help in preventing such surgical complications.

This study is done on 32 human formalin fixed cadavers. Digastic triangle and posterior triangle of neck is dissected to note the course, communications and relations of the spinal accessory nerve and also to identify the important landmarks to localize the spinal accessory nerve. Also a case of unusual course and communication of spinal accessory nerve with the cervical plexus is described in this study. Knowledge of the landmarks of spinal accessory nerve and its relationship with other structures are extremely helpful in its identification during modified radical neck dissections. Connections demonstrated in this study are important in the etiology and treatment of spasmodic torticollis.

320. ESTIMATION OF GESTATIONAL AGE OF THE FOETUS IN THE SECOND TRIMESTER OF PREGNANCY BY MEASURING THE CRL AND HC BY ULTRASONOGRAPHY.

DR R R DESAI, DR M P AMBALI, DR S D JADHAV, DR R J PATIL, DR M A DOSHI.

Foetal growth is a dynamic process that has been monitored over a period of time. It is the time dependent changes in the body dimensions that occur throughout the whole gestation. Since, foetal growth is so rapid parameters such as BPD, FL, HC & AC changes significantly with gestational age.

Ultrasonography has the ability to visualize the different foetal anatomical landmarks and to follow their growth during pregnancy. It is one of the most important tools that the obstetrician has acquired for the evaluation of the foetus. Foetal biometry has made it possible to accurately determine the gestational age of the foetus.

In this study 420 Indian women in 2nd trimester who strictly met the selection criteria were scanned using real time Ultrasonography machine and CRL, HC were measured between 14 to 27 weeks of gestational age. We also observed the mean growth rate pattern of the foetus for both parameters and established regression equation that will predict value of parameters for a gestational age ranging in 2nd trimester of pregnancy in Western Maharashtra population.

The findings will be compared with the studies in the past and results of our study will be discussed at presentation.

Key words: Gestational age, Foetus, Ultrasonography, Biparietal diameter, Head circumference.

321. SKELETAL MATURITY OF WRIST IN INDIAN CHILDREN

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Aim of study: -

- 1) To determine bone ages (skeletal ages) of Indian children in Maharashtra by using Greulich and Pyle atlas.
- 2) Compare the bone ages with the chronological ages.

3) To study sexual dimorphism in bone ages.

Materials and methods: Study was performed in total 375 children having ages from 1 day to 18 years out of which 194 were male and 181 were female. For determining the Bone Age (skeletal age) wrist and hand radiographs with AP view were taken. The computerised x-ray machine of our medical college was used for the study. The skeletal age (bone age) was determined by using Greulich and Pyle Atlas (2nd edition, 1957). X-ray image on computer was compared with images on G-P atlas according to sex and most matching image gave the skeletal age.

Results and Conclusion: If we consider all age group (1 to 19 yr), the Indian boys were retarded in skeletal age by 0.7 year and females by 0.33 year. In males, the maximum difference of CA and SA is of 2.11 years in 8-9 year age group while minimum difference is of -0.01 in 0-1 year age group. Male children skeletally lag behind the American standard in all age groups. Female children also lag behind the American standard in all age groups except 12-13 year age group in which they are accelerated by 0.22 year.

322. TO DETERMINE ACCURACY AND RELIABILITY OF ULTRASONOGRAPHIC MEASUREMENTS AND TO DEMONSTRATE CORRELATION OF PARAMETERS WITH EACH OTHER

1) **DR. BHUSARI PRASHANT AMANRAO.**

MVPS Dr. Vasant Rao Pawar Medical College,
Adgaon, Nash

2) **DR. MRS. C.V. DIWAN**

Govt. Medical College,
Aurangabad.

Usefulness of ultrasonography as an index for the measurement of gestational age is beyond doubt. In the First trimester – Gestational Sac Diameter (GSD), Crown Rump Length (CRL) and in Second trimester – Biparietal Diameter (BPD), Head Circumference (HC), Abdominal Circumference (AC) & Femur Length (FL) are the parameters used.

The present study aims at deriving normal values of fetal growth Parameters in order to determine correct gestational age, to demonstrate the correlation of parameters with each other, to derive regression equation for each parameter and to compare the study with other studies carried out on aborted fetuses taking actual measurements. The study was carried out on 700 pregnant women and ultrasonic equipment used was "Real Time Ultrasonography". All the parameters show linear growth as gestational age advances, they are strongly correlated with each other. The present study is comparable to other studies carried out on aborted fetuses taking actual measurements. Thus accuracy and reliability of ultrasonographic measurements is established.

KEY WORDS:- Fetal Growth Parameters, Gestational Age, Ultrasonography, Aborted Fetuses Measurements.

323. EVALUATION OF THICKNESS OF LATERAL PTERIGOID MUSCLE IN PATIENTS WITH INTERNAL DERANGEMENT OF TEMPOROMANDIBULAR JOINT BY MAGNETIC RESONANCE IMAGING".

Shivlal Ravlani

Objective: Correlation of lateral pterigoid muscle thickness with type of disc displacement.

Material and Methods: 30 patients: 16 females and 14 males with mean age of 31.39 + 9.82 year, and those who were clinically diagnosed as internal derangement of temporomandibular joint were selected for Magnetic Resonance Imaging. Position of

disc and thickness of lateral pterigoid muscles were evaluated and compared.

Results: On Magnetic Resonance Imaging, 22 patients (73.33%) showed disc displacement. Out of 22 patients, 12 patients (54%) showed anterior disc displacement with reduction and mean thickness of superior head of right and left side lateral pterigoid muscle was 21.33+5.88 mm and 20.80+4.97mm respectively and for inferior

head it was 17.20+5.55 mm and 21.00+4.78mm respectively. Five patients (22.72%) showed anterior disc displacement without reduction and mean thickness of superior head of right and left side was 20.08+5.81 mm and 19.00+5.81mm respectively and for inferior head it was 16.40+5.32 mm and 20.38+4.81 mm respectively. Five patients

(22.72%) showed posterior disc displacement with mean thickness for superior head of right and left side lateral pterigoid muscle was 20.83+5.67 mm and 21.00+4.53mm respectively and for inferior head it was 19.20+6.46 mm and 21.50+5.45mm respectively.

Conclusion: Internal derangement of temporomandibular joint is responsible for the significant changes in thickness of lateral pterigoid muscle when compared with normal.

324. STATISTICAL ANALYSIS OF PLACENTAL THICKNESS WITH GESTATIONAL AGE AND VARIATION WITH CEPHALIC FOETAL PARAMETERS."

DR JAIDEO MANOHAR UGHADE, S.V.N.GMC, Yavatmal.

DR MRS. L. S. KHANZODE I.G.GMC, Nagpur.

DR SUDHIR V. PANDIT S.V.N.GMC, Yavatmal.

Today ultrasonography is important tool in determining foetal well being. The parameters used in predicting the gestational age are mainly foetal parameters. This study explores the possibility of providing another parameter in the form of placental thickness in addition to the established foetal parameters to determine the gestational age. This was a cross sectional study done on 600 normal subject having singleton pregnancy in second and third trimester of pregnancy. The gestational age was determined by the last menstrual period. Along with routine foetal parameters, placental thickness was measured at the level of insertion of umbilical cord. It was concluded at the end of the study that there was statistically positive and strong association between menstrual age with foetal and placental parameters in second and third trimester. Based on observation regression equation, menstrual age = $-7.59 + 3.02 \times$ placental thickness for second and menstrual age = $24.97 + 2.48 \times$ placental thickness was derived separately for third trimester. It was also observed that placental thickness had positive correlation with cephalic foetal parameters in second and third trimester of pregnancy and will be discussed during presentation.

325. ANATOMY OF STATIC EXTERNAL ROTATION STABILIZERS OF KNEE JOINT (POSTEROLATERAL CORNER KNEE)

JITENDRA GUPTA, PANKAJ VYAS, MANISH PATIL. AMIT JAIN, RAJIV RANJAN

The posterolateral corner of the knee is the most important static stabilizer of the knee in external rotation. Many anterior cruciate ligament reconstructions fail due to missed posterolateral corner injuries. The literature about this area is very sparse, little standardization and filled with confusing nomenclature. The understanding of this area has remained poor due to little visualization of these structures in standard magnetic resonance imaging. Object of our study was to dissect posterolateral knee corner from outside-in technique and delineate and define structures in posterolateral corner knee. We dissected 8 cadavers emballed in formaline, structures were identified and tagged.

Structure that were identified were ilio tibial band, biceps femoris tendon, patellar retinaculum, fibular collateral ligament, popliteus

tendon, popliteofibular ligament consistently. Fabellofibular ligament was found in 2 knees.

Keyword: posterolateral corner of the knee, ilio tibial band, Fabellofibular ligament

326. MEASUREMENT OF FOETAL HEART DIMENSIONS AT DIFFERENT STAGES OF DEVELOPMENT IN INDIAN POPULATION ESPECIALLY IN MAHARASHTRA REGION

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Ø Department of Radiology, MGM Medical college, Navi Mumbai

AIM: The aim of our study is to find out the average dimensions of foetal heart at various stages of development.

OBJECTIVES: The growth of embryonic and foetal heart were usually measured by ultrasonography. These measurements were mostly done in the first and early second trimesters of pregnancy mostly to know the development of heart. The knowledge about the growth of the heart in dimensions in fetuses at various gestational ages was rare. Hence, the objective of our present study was to evaluate the dimensions of embryonic heart during different gestational ages. Since the size of the heart is too small to measure before 15 weeks, we had collected data from the 16th week of pregnancy to till the end of pregnancy.

MATERIALS AND METHODS: The dimensions of foetal heart such as antero-posterior length i.e., from apex to the base of heart and transverse diameters, in four chambered view were collected during routine obstetric ultrasonography of 100 healthy pregnant women at different gestational ages starting from 16 weeks till the end of pregnancy, in MGM Hospital, Kalamboli, Navi Mumbai. From the listed results the average dimensions of fetal heart were measured during different gestational ages.

OBSERVATIONS AND RESULTS:

The total observations as well as results will be discussed in detail during the time of presentation.

327. A STUDY OF CONGENITAL DISORDERS OF NEURONAL MIGRATION, DIFFERENTIATION AND PROLIFERATION IN A PEDIATRIC NEUROLOGY CLINIC IN WESTERN RAJASTHAN

DR ANOOP SINGH GURJAR, DR MANISH PARAKH, DR SUSHMA KATARIYA, DR POONAM PARAKH, LEUTINENT COL DEEPAK JOSHI

Dr Sampurnanand Medical College, Jodhpur (Rajasthan) India.

Aim of the study: To determine the clinic-anatomic profile of patients with congenital disorders of neuronal proliferation, migration and differentiation in a Pediatric Neurology clinic in Western Rajasthan.

Materials and Methods: A complete retrospective analysis including neuroanatomic abnormalities (both CT scan brain and MRI brain on 1.5 T or above if available) of 453 pediatric patients with age ranging from birth to 18 years were evaluated in a Pediatric Neurology clinic from October 2009 until September 2010. All patients with a disorder of neuronal differentiation, proliferation and migration were included in the study.

Results: 7 out of 453 patients had a disorder of neuronal differentiation, proliferation and migration with an incidence of 1.5%. 1 patient had Focal Cortical dysplasia of the left hippocampus and Entorhinal cortex and presented with headache, 1 patient had Focal Cortical dysplasia of the left frontal cortex and presented with resistant epilepsy, 2 patients had Lissencephaly syndrome and presented with GDD and symptomatic epilepsy, 2 patients had Tuberos Sclerosis complex and presented with seizures in infancy, 1 patient had agenesis of corpus callosum with Lissencephaly variant and presented with GDD.

Conclusion:

1. The incidence of disorders of neuronal migration, differentiation and proliferation is approximately 1.5% in Pediatric Neurology outpatient clinic

2. Common presentations are Epilepsy and GDD

3. Patient with frontal FCD may have resistant epilepsy

4. Patients with FCD of the left hippocampus and Entorhinal cortex may only present with off and on headaches.

328. A PRELIMINARY STUDY OF ANTIGENOTOXIC PROTECTION OF GINGER IN CYCLOPHOSPHAMIDE INDUCED GENOTOXICITY IN ALBINO RATS

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Dept of Anatomy, M.K.C.G. Medical College, Berhampur, Orissa

Aim of the study : To evaluate the antigenotoxic effect of ginger rhizome

powder against cyclophosphamide (CP) induced genotoxicity in the bone marrow cells.

Materials and methods: Albino rats (Wistar strain) of 6-8 wks old were fed with diet mixed with ginger powder for thirty days. Twentyfour hours after the last feed of the diet a group of rat was injected with CP 40 mg/kg bw intraperitoneally. Colchicine (2mM) was injected 0.5 ml/100gm bw to each animal two hours before sacrificing. Bone marrows were studied for the micronuclei in polychromatic and normochromatic erythrocytes and for chromosomal aberrations. The above parameters were compared with that of the control group as well as with CP treated rats.

Results : There was a significant inhibition of the CP induced alteration in the polychromatic and normochromatic ratio. Also the micronuclei frequency in the erythrocytes was reduced. It also decreased the CP induced chromosomal aberrations like breaks, gaps, rings, deletions, minutes, fragments in bone marrow cells.

Conclusion: Ginger in diet significantly provides antigenotoxic protection against the drug cyclophosphamide

329. DIGITAL DERMATOGLYPHIC STUDY AND FREQUENCY OF ABO BLOOD GROUPS AMONG WOMEN WITH BREAST CANCER

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MEENAKSHI MEDICAL COLLEGE & RESEARCH INSTITUTE,

ENATHUR, KANCHIPURAM.

AIM

· To study the digital dermatoglyphic patterns among women already identified with breast cancer in comparison with normal individuals.

· Also to determine the most frequent blood group among the same group of individuals.

IMPORTANCE OF THIS STUDY

· Dermatoglyphic patterns can serve as a non-invasive, cost-effective tool which can be used for the prediction of cancer.

· This can also serve as a baseline guide to identify women with breast cancer.

· Statistical affirmation of association of blood group with breast cancer as a risk factor among the study group.

MATERIALS AND METHODS

· 50 female patients with breast cancer of age group between 30-70 years were compared with 50 normal group of individuals with no history of cancer.

· The breast cancer patients and the control group were of same age and sex.

· Digital dermatoglyphic patterns were taken among these group of individuals with the aid of a dermatoglyphic kit.

· Blood groups were also collected from these individuals.

INCLUSION CRITERIA

· Breast cancer patients.

· Blood group record sheets.

EXCLUSION CRITERIA

· Other cancer patients.

· Deformity in hand.

· Leprosy and burns.

· Genetic abnormality like Klinefelter's, Turner syndromes.

RESULTS.

Results showed significant differences which will be discussed later.

330. ASSOCIATION STUDY BETWEEN BLOOD GROUPS AND DERMATOGLYPHIC PATTERNS AMONG ESSENTIAL HYPERTENSIVE PATIENTS.

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ENATHUR, KANCHIPURAM.

AIM

· To determine the difference in digital dermatoglyphics patterns of individuals who are essential hypertensive in comparison with normal individuals.

· Also find if any association exists between 'O' positive blood group and essential hypertensive among the kanchipuram population.

IMPORTANCE OF THIS STUDY

· Dermatoglyphics patterns can help in early detection of persons with susceptibility to essential hypertensive particularly among those without other major risk factors.

· This can be a non invasive, inexpensive and effective tool for early detection of essential hypertensive, so can be used as a screening purpose.

STUDY GROUP

A total of 100, of which 50 were essential hypertensive patients who were age and sex matched with 50 normal individuals of same socio economic status is included in this study.

MATERIALS AND METHODS

Black duplicating ink, Stamp pad, Bond Paper, Pre-inked strips, Roller.

The modified Purvis-Smith method was applied. After taking informed consent from the patients, they were asked to wash their hands with soap water, so as to remove any oil or dirt. Black duplicating ink was smeared on their hands and prints were taken by rolling the hands from wrist crease to fingertips, on the roller covered with bond paper. The same procedure was adopted for the controls. The finger prints are taken starting from thumb to little finger of right hand and similarly repeated for left hand.

RESULTS

Results showed significant differences which will be discussed.

331. DERMATOGLYPHIC STUDY IN CARCINOMA OF THE CERVIX OF UTERUS

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Carcinoma of cervix of the uterus ranks only next to breast cancer in females. It has got strong genetic basis (Rosner 1968). There is paucity of dermatoglyphic studies in the carcinoma cervix patients (Reddy and Ahuja; 1977, Pal G.P.: 1985, Inamdar and Vaidya 2006), therefore the present study was undertaken. Palmar dermatoglyphics of one hundred patients (clinically and histopathologically confirmed) from western Maharashtra region (Sangli and Satara districts) were recorded using standard Ink-method. As control, palmar dermatoglyphics of 100 normal females free from any major illness and history of cancer were recorded. Both the patients and controls were from age group 18 to 65 yrs. The results were subjected to statistical analysis and significant findings were noted as regards – Arches, Interdigital area 3 (I3) patterns and Total Finger Ridge Count (TFRC).

332. PHENOTYPIC MANIFESTATIONS IN KLINEFELTER SYNDROME- A STUDY IN 72 KFS MALE.

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Klinefelter syndrome, the commonly seen sex chromosomal anomaly in males is usually associated with hypogonadism and infertility that results from 47,XXY or X-mosaicism karyotype. There were no definite prenatal guidelines for the diagnosis of Klinefelter syndrome during prenatal stage; however, the chance of diagnosing the condition during childhood is only 10% and in adult or adolescence 25%. Language delay, learning difficulties and behavioral problems were some of the characteristic features that could be appreciated, during childhood. Hypogonadism or infertility is the commonly reported phenotypic features in young adults and adolescents. A number of phenotypic manifestations are reported in the literature; but, categorization of phenotypic features according to the regions of the human body is observed to be limited. In the present study, an attempt is made to observe and report the phenotypic manifestations of Klinefelter syndrome and categorization of them according to the regions of human body. The regions of the human body are divided into Superior extremity, Thorax, Abdomen, Head and Neck, Pelvis, Inferior extremity and Neuroanatomy. The manifested features were found to be more in the pelvic region (): micropenis 26.38% (19/72), hypogonadism 58.33% (42/72), atropic gonads 4.16% (3/72) and abnormal manifestation of pubic hair growth 30.55% (22/72). The feature observed in relation to the thoracic region was gynaecomastia in 45.83% (33/72). The features observed in the superior extremity were the winging of scapula due to lesion of long thoracic nerve in 1.38% (1/72), thin long fingers 1.38% (1/72) and abnormal manifestations of axillary hair 30.55% (22/72). With reference to head and neck, highly arched palate and prognathism were observed in 2 cases, 1 each. Liver cirrhosis observed in 1 case and Seizure and mental illness in 2 cases. The categorization of the features with respect to the regions of the human body is of importance for an early diagnosis the condition.

333. STUDY OF DERMATOGLYPHIC PATTERNS IN BREAST CANCER.

Dr. S. P. Fulari, P. R. Kulkarni

Department of Anatomy, Dr. V. M. Govt. Medical College, Solapur.

Dr. S. V. Kshirsagar,

Department of Anatomy, Institute of Medical Sciences, Bidar. Carcinoma of breast is the most frequent cancer in females. A number of risk factors for breast cancer are established like age, family history, parity, age at menarche and menopause, obesity etc. We know that the dermatoglyphic patterns are related to a polygenic system. The present study was carried out to find, if there is any significant co-relation between epidermal ridge patterns on finger tips and palms in breast cancer. The dermatoglyphic prints of 50 breast cancer patients and 50 controls were obtained. From the prints the following parameters were studied, finger tip patterns (i.e. arch, ulnar loops, radial loops and whorls), 'a-b' ridge count, triradial count and angle 'atd'. The data obtained was tabulated and analyzed statistically by applying 'z' test. It was observed that the distribution of the ulnar loops, and whorls between breast cancer cases and controls was statistically significant.

334. TREACHER COLLINS SYNDROME – A CASE REPORT AND REVIEW

ROY.S, ROY.N

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This is the report of a rare case of Treacher Collins Syndrome in a six (6) years old boy who was admitted in paediatrics department in our hospital with respiratory tract infection. Treacher Collins Syndrome is a rare genetic disorder characterized by craniofacial deformities and results from abnormal development of the components of the first pharyngeal arch. The boy in the present case presented with malar hypoplasia, micrognathia, malformed ears and downslanting palpebral fissures. Investigations also revealed cardiomegaly and mitral valve prolapse with mitral regurgitation. This paper presentation is to discuss this rare developmental anomaly in its totality: embryological background, variations, clinical features and its social implications

335. FRAGILE SITES IN DOWN SYNDROME

Sangeetha A, Parkash chand, Vishnu Bhat B, K Ramachandra Rao, JIPMER, Puducherry

AIMS AND OBJECTIVE: To correlate growth and development with the fragile sites in Down syndrome children.

MATERIALS & METHODS: Fragile sites were studied in karyotypically confirmed forty Down syndrome cases. Growth and development of these cases were evaluated using standard methodology. Human lymphocyte culture was done using folic acid deficient RPMI 1640 medium. 5-azacytidine, a DNA methylation inhibitor was used as a fragile site inducer. Fragile sites were identified and compared with growth and development.

RESULTS: Lymphocyte cell culture using RPMI 1640 without folic acid and with 5Azacytidine showed folate sensitive fragile sites in twenty two cases out of forty investigated. Among the cases with Developmental delay/Mental retardation, the association of fragile sites in them were significantly increased in cases with severe mental retardation as compared to that of mild and moderate type. Comparing the systems that were affected and the fragile sites, the respiratory system was found to be more affected (75%) than that of cases without respiratory tract involvement.

CONCLUSION: Down syndrome children with fragile sites have more developmental delay, increased systemic disease and reduced growth. Identification of fragile sites will help in prognostic outcome in cases of Down syndrome.

336. TURNER'S SYNDROME WITH CONCOMITANT HYPOPIUITARISM: CASE REPORT

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A 15 yr old girl was referred to the outpatient clinic of teaching institute for evaluation of pituitary in sufficiency. patient was short prepubertal height 129cm (HA 9yrs) weight 15kg (WA 10.5 yrs) and not gaining height since 5yrs.

On examination absence of secondary sexual characters, cubitus valgus, high arched palate, retrognathia was found.

Investigations' done:

1. GH - stimulation after half hour 3.7 ng/ml
after one hour 10.2ng/ml
2. T4 11.2 micro/dl
TSH -2.14
FSH - 140.16
3. USG report : hypoplastic uterus rt. Ovary 138x6 ,lt.ovary 14x9
4. Karyotype : revealed 45X

One year later, on growth hormone (GH) Substitution, height achieved from 129cm to 132cm

This case illustrates that the co-existence of primary hypopituitarism with Turner's syndrome, a diagnosis which alters the counseling of the patient from the reproductive perspective

337. CYTOGENETIC STUDY IN MALE INFERTILITY

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GRANT MEDICAL COLLEGE & SIR JJ GROUP OF HOSPITALS, MUMBAI

The present study was carried out to find out frequency of chromosomal abnormalities & contribution of environmental, occupational factors in cases of male infertility. 70 males referred for complaints of infertility were included in the present study. The study was carried out in the following steps. 1) Selection of patients 2) Clinical examination of patients 3) Collection of blood and karyotyping 4) Photomicrography 5) Data tabulation and Analysis & 6) Collection of buccal smear for Sex Chromatin Study.

Cytogenetic analysis of the infertile males revealed that chromosomal abnormalities were present in 9 patients (12.85%). Among the chromosomal abnormalities, Numerical abnormalities were present in 6 patients (8.57%) and Structural abnormalities were present in 3 patients (4.28%). Among the Numerical abnormalities, most common were 47, XXY(2) and 46,XX(2). Mosaicism i.e. 46,XY(20%)/47,XXY(80%) was seen in 1 patient. One patient showed a karyotype of 47,X,i (Xq)Y. Among the 3 patients with structural abnormalities, one patient showed a 45,XY,-22 t (14/22) karyotype, one patient showed 46,XY, inv(9) and one patient showed 46,XY, large Y. This study conclude that the frequency of chromosomal abnormality in male infertility was found to be 12.85% and most of the findings of the present work correlate with the studies done in the past.

338. SEXUAL DEVELOPMENT OF ADOLESCENT MENTALLY RETARDED CHILDREN.

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2. Dept of Anatomy, CMC, Ludhiana, Punjab.

3. Dept of Pediatrics, CMC, Ludhiana, Punjab.

4. Dept of Psychiatry, CMC, Ludhiana, Punjab.

Dept & Institution where work was done -

Dept of Anatomy, CMC, Ludhiana, Punjab.

OBJECTIVE - To evaluate the sexual development in adolescent mentally retarded children and compare it with that of normal children from North India.

METHODS - Three hundred mentally retarded (I.Q. less than 70) and three hundred normal children between 10-20 years of age from North India were selected. The mentally retarded and normal groups of children were categorized on the basis of their sex and further on the basis of their age into one-year age groups. In males, sexual maturity staging was based on genital development (GD) and pubic hair (PH) growth and in females on breast development (BD) and pubic hair (PH) growth. The development of secondary sex characters was assigned stages 1 to 5 on the basis of Tanner scale (Marshall and Tanner 1969, 1970). The data was then compared between the two groups using 2 sample 't' test. Mean age of Menarche was calculated by applying Probit Analysis.

RESULTS - The mean age of appearance of PH-2 stage and GD-2 stage in mentally retarded boys was lower, showing that they began to show pubertal changes at a younger age as compared to the normal group. Whereas the mean age of appearance of PH-3, PH-4 and PH-5 stages and GD-3, GD-4 and GD-5 stages in mentally retarded boys was higher, thus indicating that they completed the pubertal changes at an older age as compared to the normal group. This retardation in the mentally retarded boys in pubic hair growth was significant at 15-16 years and in genital development at 15-17 years of age. A comparison of the mean PH stages in females shows that from 11-14 years of age the mentally retarded girls had a higher value than the control group, the difference being significant at 11 years of age. After 14 years of age the mentally retarded girls had a lower mean value of PH stage as compared to the control group. The

mentally retarded girls thus showed significantly earlier signs of onset of growth of pubic hair and changes of breast development slightly earlier than the control group. The mentally retarded girls had a higher mean age of appearance of PH-3, PH-4 and PH-5 stages and BD-3, BD-4 and BD-5 stages as compared to the control group, indicating that the mentally retarded girls had a delayed development of secondary sex characters as compared to the control group. The retardation in the mentally retarded group being significant at 15 years in breast development and 15-17 years in pubic hair growth. A comparison of the median age of menarche showed that the mentally retarded girls (13.42 years) attain menarche six months later than the normal (12.88 years). **CONCLUSIONS** – This study shows that the mentally retarded subjects showed the same sequence of development of secondary sex characters as the normal subjects; however their sexual development during adolescence was retarded as compared to the normal children. The mentally retarded boys and girls began to show pubertal changes at an earlier age than the normal but completed their sexual maturation at a later age. The retardation in sexual development in mentally retarded group in both sexes occurred during middle adolescence i.e. between 15-17 years of age. **KEY WORDS** – Adolescence. Mentally retarded, Secondary sex characters.

339. STUDY OF FOETAL THYROID OF GROSS FEATURE & MICROSCOPIC FEATURE

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Department of Anatomy, UP RIMS & R Saifai Etawah

Key Words: Thyroid gland, Foetus.

Davis (1923) demonstrated that thyroid gland was 1st identifiable in embryo of about 20 somite as a median thickening of endoderm in the floor of pharynx between the 1st and 2nd pharyngeal pouch and immediately dorsal to aortic sac.

The present study consist of 20 fetuses from Obs & gynec department for study of gross and microscopic features of thyroid gland belonging to different age group by MTP or due to abortion or unusual death of fetuses. The age of fetuses were decided by the history taken from mother and compared for confirmation by CR length. The following study was done after dissecting the thyroid gland and making the slide of thyroid tissue. The morphological & microscopic study was done by dividing the fetuses in the four broad groups depending upon the gestational age i.e. **1.5-15 Weeks** **2.15-25 Weeks** **3.25-35 Weeks** **4.35-40 Weeks**

In regarding position of thyroid gland the land mark of cricoids cartilage is taken and the three position was decided for study as **Above cricoids**, **At The level of cricoids** and **Below the cricoids cartilage**.

Out of 20 fetuses, the 2(10%) were below the cricoids level, 1(5%) above the cricoids level and 17(85%) at the level of cricoids. In the 1st age group (5-15Wks) total number of thyroid were in middle of neck 2(100%); in 2nd age group 15-25 Wks maximum number of thyroid in middle of neck 5(83.4%) and only one (16.6%) was found above the cricoids level. In 3rd age group 25-35 wks, 4 (100%) of thyroid were found middle of neck. In the age group 35-40 Wks; 6 (66.6%) were found in middle while (33%) were found below the cricoid.

These observation correlate with the previous literature moreover the age of foetus did not have any significant role for their position of thyroid.

The thyroid and body weight ratio showed that lower age group had the maximum growth rate of thyroid in terms of body weight. Comparing the four age group separately the average weight of body in 1st age group **5-15wks** was **1136 times** to that of thyroid weight. In 2nd age group **15-25 wks** the value was **1637 times** and the 3rd age group **25-35 Wks** **4292 times** and the last age group it was **5159 times**.

The microscopic study of thyroid was done to study the presence and position of 'C' cells in terms of **Epifollicular**, **Parafollicular** and **Intraepithelial position**.

The colloid was present in all the follicle. The 'C' cells were present only in 10 fetuses. In age group **5-15Wks** did not show 'C' cells among 2 fetus studied. In age group **15-25 Wks**, **40%** fetuses were having 'C' cells among 5 fetuses studied. In age group **25-35 Wks**, **75%** fetuses were having 'C' cells among 4 fetuses studied. In Age group **35-40Wks** **55%** fetuses were having 'C' cells among 9 fetuses were studied.

Among 10 fetuses who were having 'C' cells, The **90%** fetuses were having 'C' cells in **Epifollicular position**; **10%** fetuses were having 'C' cells in **parafollicular position** while **No intra epithelial position** of 'C' cells were found among ten fetuses.

340. CHRONOLOGY OF NEPHROGENIC EVENTS IN STAGED HUMAN EMBRYOS AND FETUSES

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AIM: To observe nephrogenic events in serial sections of human embryos and histological sections of foetal kidneys at different gestational ages.

MATERIALS AND METHODS: Thirty five aborted embryos and dead fetuses of 5 weeks gestational age to full term were utilized for this study. The entire specimens were preserved in formalin after recording the weight, CR length and CH length. Kidneys were removed from the fetuses of more than 8 weeks gestational age by opening the abdominal cavity. The specimens were subjected to routine tissue processing and H&E staining. 5 embryos of less than 8 weeks gestational age were processed as a whole and were serially sectioned. The histological sections were observed for the time of appearance of various nephrogenic components and photographed.

RESULTS: In serial sections of embryos pronephric, mesonephric and metanephric stages in renal development and appearance of mesonephric and paramesonephric ducts were observed. Three zones in cortex i.e., Nephrogenic zone containing immature renal corpuscles, intermediate zone of slightly mature glomeruli and juxtamedullary zone of well differentiated glomeruli were observed at 16 weeks. Cortico-medullary demarcation, well differentiated proximal and distal convoluted tubules, collecting ducts and Henle's loops were observed at 24 weeks. Nephrogenic zone disappeared at 40 weeks.

CONCLUSION: During presentation detailed observations at different stages of development with reference to those reported in the literature will be discussed.

341. AXIAL SKELETAL VARIATIONS – INCIDENCE AND EMBRYOLOGICAL EXPLANATION

DR. C. YAMINI DEVI, DR. V. SUBHADRA DEVI, DR. I. VASUNDHARA DEVI,

DR. J. VASUDEVA REDDY, DR. M.L. SREENIVAS, DR. T. JAYACHANDRA PILLAI, DR. V. USHA RANI.

SRI VENKATESWARA MEDICAL COLLEGE, TIRUPATI

AIM: To summarize the observations in different skeletons with reference to anomalies of axial skeleton and discuss embryological basis, clinical significance and incidence of the variations.

MATERIALS AND METHODS: Among thirty five skeletons collected during the period from June, 2008 to June, 2010 for departmental academic purpose variations in axial skeleton were observed in eleven skeletons. The observations were recorded and photographed.

RESULTS: The axial skeleton variations observed can be classified as that of vertebral column and that of ribs and sternum. The vertebral column category include a case of occipitalization of atlas, fusion of different regions viz., cervical – 1 case, thoracic

– 2 cases and sacralization of 5th lumbar vertebra and block fusion of vertebrae of different regions viz., cervical – 1 case, Thoracic – 2 cases were observed. The sternum and ribs category include sterna – 3 cases with fusion of ribs and costal cartilages at different levels were observed.

CONCLUSION: During presentation the detailed observations on different variations with incidence of each category and embryological explanation along with clinical significance will be discussed.

342. PRENATAL DEVELOPMENT OF STOMACH

DR. D. SUSEELAMMA

DR. RAGHAVENDRA PRASAD

DR. G. SUPRIYA, DR. GAYATRI, MRS. DEEPTI. S

Aim:

To study the prenatal development of stomach to exclude the congenital anomalies of stomach

Material and method:

30 fetuses of different gestational age groups were obtained from OBG Dept. KIMS, Narketpally, study carried out in the department of Anatomy. Gestational age was estimated by standard procedure parameters (like, CRL, BPD, CHL and weight of the fetus) and arranged in to 4 groups of 6 weeks duration from 12 weeks till term. After dissection, the stomach was taken out, morphology, interior of the stomach and Histology under light microscopy studied by using and H&E and PAS staining processor. There is a remarkable change from 12 weeks to 24 weeks. After 24 weeks it is showing the features of adult normal appearance.

Results & conclusion:

At 12 weeks the stomach appear as an opaque plastic paper like gradual thickening of the wall observed.

By 26 weeks the stomach appeared like near normal term fetus.

Volume of the stomach at 12 weeks is 1-2ml gradually increasing to 8-10 ml by 26 weeks. Histologically there are changes in the mucosa like appearance of cubical cells in the gland, parietal cells observed in the gastric gland.

By 20-24 weeks mucous neck cells were observed, muscularis mucosa seen after 20 weeks, circular and longitudinal muscles differentiated after 24 weeks. Thickening of pylorus observed from 12 weeks onwards and mucosa was highly folded. The interesting results will be discussed at the time of presentation.

343. CORRELATION OF THE SIZE OF CARDIAC ORIFICES TO GESTATIONAL AGE IN HUMAN FETUSES

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Lady Hardinge Medical College, New Delhi

Correct assessment of the gestational age of foetus is of extreme importance in obstetrics practice. In 80% of pregnant women in India precise menstrual history is not available. A study was undertaken to show the correlation of size of mitral, tricuspid, pulmonary, aortic cardiac orifices in fetuses of different gestational age with the intrauterine growth of the foetus. Aborted fetuses of 14-33 week gestational age were collected and the annular circumference of cardiac orifice was measured. Analysis of the data revealed an excellent correlation between the size of the orifices and foetal age. The best correlation with increasing gestational age was found with the circumference of mitral opening. The size of valvular orifice can be used to date pregnancies in place of other commonly used ultrasonic parameters. It is also employed to detect congenital malformations of cardiovascular system. Using these dimensions adds another parameter for estimating gestational age. These can also be utilized for valvuloplasty. It would be imperative to have this information for cardiac surgery in utero.

344. A MORPHOLOGICAL STUDY OF MENISCI OF KNEE JOINT IN CADAVERS

DR. BHARATI P. NIMJE

DR. P. S. BHUIYAN

AIM

To study the morphological parameters of menisci of knee joint.

OBJECTIVES

1. To measure the maximum anteroposterior length of both tibial plateau and menisci
2. To measure transverse length of both tibial plateau
3. To measure total bony plateau width (w)
4. To measure the width of both menisci at 'w'
5. To measure anterior and posterior horns of both menisci
6. To measure maximum width of medial meniscus

MATERIALS AND METHODS

Study sample and size

Unclaimed 15 cadavers (30 sides) supplied to a medical college for first year MBBS dissection were embalmed and included in this study.

Dissection procedure

With extended legs in supine position, incisions were taken to remove skin of knee joints, both dorsally and ventrally. Muscle attachments around knee joints were separated. Neurovascular structures behind knee joint were cut and reflected. The patella was reflected inferiorly. Capsule of knee joint was cut open as near as possible to femur. Femorotibial component of knee joint was separated with patella attached to tibia by ligamentum patellae. Measurements of the parameters were taken by vernier calliper.

RESULTS AND CONCLUSIONS

The average, mean and standard deviation of the parameters will be helpful in sizing of the allograft in meniscal transplant surgeries done in severe meniscal injuries.

345. MORPHOMETRIC MEASUREMENTS OF UPPER END OF TIBIA IN APPLICATION WITH TOTAL KNEE JOINT REPLACEMENT

J. Ratna Priyanka, Dr. Shekhar, Dr. S. Jaleswararao, Dr. b. Ravindra Kumar, P. Sirisha

Shri Venkateswara Institute of Medical Sciences, Tirupati, Andhra Pradesh

Aim: To study the morphometric measurements of upper of the tibia in application with total knee joint replacement.

Materials and Methods: Present study was conducted with 25 adult human tibia in collected from department of Anatomy, SVIMS and Department of Anthropology, SV University, Tirupati. The measurements were taken by using sliding vernier caliper and measuring scale. The Parameters include circumference of the upper end of the tibia, anteroposterior diameter of medial and lateral articular surfaces as well as the length of intercondylar ridge.

Result: The detailed morphological parameters will be correlated with the available literature and its clinical significance will be at the time of the presentation.

346. THE STUDY OF CEPHALIC INDEX IN STUDENTS OF ANDHARA REGION

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Introduction: Cephalic index is very useful anthropologically to find out racial differences and sexual differences.

Materials & Methods: For present study 320 medical students (160 male & female) were selected. The age of medical students ranged from 20 to 25 years. The Head Length (Greatest anteroposterior diameter) was measured with the help of spreading caliper with scale, from Glabella to Inion. The Head-breadth was measured as maximum transverse diameter between two parietal eminences.

Observation & Result: The minimum cephalic index for male is found to be 69.11 and maximum cephalic index for male is found to be 79.33. The mean cephalic index for male is found to be 75.68 ±

0.2095. The minimum cephalic index for female is found to be 71.67 and maximum cephalic index for female is found to be 84.52. The mean cephalic index for female is found to be 78.20 ± 0.2307 .
Discussion & Conclusion: The difference between mean cephalic indices for male & female is 2.52. This difference is statistically highly significant (p value less than 0.0001). The knowledge of present study is very useful for anthropologist, anatomist, orthopedician, plastic surgeons & forensic experts.

347. A STUDY ON CHEILOSCOPY OF HYPERTENSIVE INDIVIDUALS.

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AIM OF THE STUDY:

To know the pattern of lip print found among Hypertensive and normal individuals.

IMPORTANCE OF THE STUDY:

Cheiloscopy is the study of lip print which is considered to be inherited. From our literature review found that, though many researchers have worked on cheiloscopy as a tool for personal identification and sex determination, very less work has been done in the field of cheiloscopy in hypertensive patients. So this work was taken up.

MATERIALS AND METHODS:

Sample size:

- A total of 80 individuals were included in this study.
- Control group comprising of 40 individuals (20 males and 20 females) who were age and sex matched with the study group.
- Study group comprising of 40 individuals (20 males and 20 females).

INCLUSION CRITERIA:

Essential hypertensive individuals.

Age group between 45-60 years.

EXCLUSION CRITERIA:

Any deformity or injury in the lips.

Materials:

The lip print were taken among these group of individuals with the aid of a kit comprising of,

- Lipstick.
- Bond paper.
- Magnifying lens.

RESULTS: Results will be discussed later.

348. STUDY OF ACROMIAL MORPHOLOGY IN INDIAN POPULATION

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Department of Anatomy, Maulana Azad Medical College, New Delhi

Aim of the study: The purpose of the study was to assess the morphology of adult acromion processes in Indian population and correlate its association with various shoulder pathologies.

Materials: Morphologic evaluation was conducted on 200 adult dry scapulae obtained from osteology museum of Department of Anatomy, Maulana Azad Medical College, New Delhi.

Methods: The height of the acromial arch, anterior and posterior angle of arch and their ratio were measured by using Getz et al. method for determining acromial shape. Presence or absence of enthesophyte was noted on the undersurface of the anterior aspect of the acromion process.

Results and conclusion: 28% scapulae exhibited type I acromion, 67% exhibited type II and 5% exhibited type III. The presence of enthesophytes on the anterior undersurface of the acromion was also studied; 3.5% in type I acromion, 15.67% in type II and 40% in type III acromion process.

349. MORPHOMETRIC ANALYSIS OF MALLEUS IN CADAVERS OF HARYANA POPULATION

KAMAL SINGH, SUDHA CHHABRA, BASANT LAL SIROHIWAL
Pt. B. D. Sharma Post Graduate Institute of Medical Sciences, Rohtak.

The present study was conducted in the department of Anatomy with the help of Forensic Medicine to see the normal variations along with their bilateral differences in the morphometric measurements of malleus as well as to study sexual dimorphism in this middle ear ossicle in the population of Haryana with maximum accuracy. The standard morphometric measurements of malleus of right and left ear of 60 cadavers (30 male and 30 female) were analysed. The dimensions and indices were calculated and analysed. The findings suggest that study of normal dimensions and indices will provide insight for the surgeon and will have surgical implications in reconstruction of ossicular chain in appropriate designing of the ossicular prosthesis in order to rebuild the continuity and mobility of the ossicular chain, which may have been congenitally absent, malformed, fixed, disrupted or destroyed by trauma or disease. This study will also provide an anatomic and morphological detail for insight in anthropological studies and for teaching purposes. The results are of importance for guidance and future manipulation in the field of ENT and Forensic Medicine. The scarcity of the literature regarding morphometric measurements of ear ossicles for bilateral and bisexual data made the comparison difficult for the present study data with the available previous studies. So in the present study the average of various parameters calculated were compared and discussed.

350. WEIGHT TRANSMISSION THROUGH AURICULAR FACETS OF SACRUM

ANUSHA GUDIMALLA., SHARADA R., PAI, SHAKUNTHALA R., ANTHONY SYLVAN D'SOUZA
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Weight transmission in sacrum is through the auricular surface & the superior & inferior articular surfaces of the neural arches. The present study was done on 57 adult dry human sacra from the anatomy dept belonging to the lingayat community where in the surface area of the auricular facets of both sides were calculated. The results were subjected to statistical analysis & compared with the available data

351. SIGNIFICANCE OF VARIOUS SACRAL MEASUREMENTS IN THE ESTIMATION OF SEX IN SOUTH INDIAN POPULATION

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In the identification of sex in human skeletal remains, sacrum is an important bone for identification of sex in human skeletal system. Since it is a component of axial skeleton and because of its contribution to the pelvic girdle and in turn to the functional differences in the region between the sexes, it has an applied importance in determining the sex and related disorders with the help of measurements carried upon it. Over the years different authors had carried various types of measurements on human sacra of different races and regions. A study for sexing of sacra was carried on 40 sacra in Kasturba Medical College, Manipal, Karnataka. The method used was sacral index, base-wing index, and sacral hiatus morphology. The auricular surface extensions were also studied. The measuring instrument used was sliding vernier caliper. The sacral index of sacra, its mean and standard deviations were calculated. Then calculated range (mean + 3S.D.) and demarking points (DP) of both the parameters and the percentage of bones in which sex could be identified by them was also calculated. The results were compared with the available literature. It was found

that D.P of sacral index was very reliable in sexing of sacra and identifying the related disorders.

352. DEFECTS OF THE NEURAL ARCH IN SACRA & THEIR ROLE IN WEIGHT TRANSMISSION

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Weight transmission in sacrum is through the auricular surface & the superior & inferior articular surfaces of the neural arches. We found that the auricular surfaces of the sacra without proper sacral canal with defective neural arches had bigger articular surfaces & sometimes accessory facets. The present study was done on 57 adult dry human sacra from the anatomy dept belonging to the lingayat community where in the surface area of the auricular facets of both sides were calculated. The anomalous sacra were 5 with varied defects in the neural arch.

353. OSTEOPOROSIS IN YOUNG

DR.PADMASINI SRINIVASAN*, PROF.POONAM SINGH#, PROF.VEENA SOOD#, AND PROF.MELANI RAJENDRAN*

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#DEPARTMENT OF ANATOMY, DAYANAND MEDICAL COLLEGE AND HOSPITAL, LUDHIANA, PUNJAB

AIM – TO study bone mass density in the population including men and women in late

adulthood using a new technique

MATERIALS AND METHODS-using a vernier caliper and hand xrays the cortical thickness with other parameters was assessed in young individuals before 40 years

RESULTS AND CONCLUSION – We found that bone loss is a age related phenomenon .but in certain cases a low bone mass was observed in individuals who were less than 40 years.It can be due to diet ,genetic link or rheumatoid arthritis. An early intervention such as sodium alendronate ,calcium ,vitamin D,and diet modification could help prevent an early fracture in such individuals.

This work was undertaken by the authors as a part of thesis in 2005 done in DMC and H, ludhiana

354. CALCIUM LEVELS IN THE MAXILLAE OF HUMAN FOETUSES

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Calcium along with phosphorus and carbonate imparts hardness and strength to skeletal system. Most of the human studies in this context are based on informations in postnatal life. There are different theories to explain the manner in which the matrix of bone becomes impregnated with the two inorganic salts, calcium phosphate and calcium carbonate. In our study, 29 human foetuses were obtained from the museum section of Department of Anatomy, J.N. Medical College, Aligarh and divided into five groups. Maxillae were cleaned by separating the soft tissue and dissolved in concentrated nitric acid to determine calcium. Results were analysed by using Student's 't' test. The most striking feature of our findings was a reduction in aforementioned relative calcium in subsequent groups of foetuses. This decrease was highly significant in foetuses of last three groups i.e. III, IV and V. On the other hand, when total amount of calcium in foetal maxillae of adjacent groups were compared, a steady rise in concentration of calcium was noticed but no definite pattern was observed. Sexual dimorphism could be considered only in group IV and V foetuses due to lack of female foetuses in 1st three groups. Some scientists did consider the human foetal bones but their

interests were confined to parietal bone, femur and teeth. None of the earlier studies considered calcium concentration in maxillae of human foetuses. Therefore, our study aimed at measuring the level of calcium in maxillae of developing human foetuses in different age groups to find pattern, if any, during development for medicolegal purposes.

355. BILATERAL SLIPPED CAPITAL FEMORAL EPIPHYSIS - FIVE YEARS FOLLOW UP

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Department of Anatomy, JNMC, Aligarh Muslim University,

Slipped capital femoral epiphysis occurs during the adolescent growth spurt and is most frequent in obese children. Up to 40 percent of cases are bilateral. Recent classification methods emphasize epiphyseal stability rather than symptom duration. Most cases of slipped capital femoral epiphyses are stable and have a good prognosis if diagnosed early. Unstable slipped capital femoral epiphysis has a much poorer prognosis because of the high risk of avascular necrosis. Once diagnosed, treatment should begin immediately. We report a case of bilateral slipped capital femoral epiphysis in an eleven years old child treated by in situ screw fixation.

356. CORRELATION BETWEEN CRANIOFACIAL DIMENSIONS AND FOETAL AGE

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Department of Anatomy, *Department of Anatomy, Meenakshi Medical College Dr.VMGMC, Solapur, & Research Institute, Maharashtra. Enathur, Kanchipuram. Tamil Nadu.

Aim

- To determine fetal age using craniofacial dimensions
- To know standards for Solapur (south – central Maharashtra).
- Compare results with previous studies

Study group

62 aborted normal fetuses of both sexes (12-39 weeks gestation.)

Materials and Methods

Fetuses were grouped in 7 groups of four weeks interval each from 12 to 39 week. After clearing off soft tissue over cranium and face, following dimensions were measured
Length & width of cranium
Bi-zygomatic width & upper facial height
Orbit height & width
Nasal height & width
Craniofacial indices were calculated

Conclusion

Regression equations for determining gestational age and correlation of craniofacial indices with gestational age were statistically analyzed. Results will be discussed in presentation.

357. HISTOGENESIS OF HUMAN GASTRIC MUCOSA

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Microscopic structure and differentiation of the gastric mucosa was studied in 53 human fetuses (34 males and 19 females) aged between 10 to 31 weeks. Tissues from the body and pyloric parts of stomach of various age group fetuses were collected, processed and stained with H/E, PAS, Masson's Trichrome and Heidenhain's Iron Haematoxylin.

Differentiation of the stomach begins at 10th week with appearance of the gastric pits. All glandular cells namely parietal, chief and mucous neck cells begin to differentiate from 13th week. Their number increases and they occupy their adult positions at 20th week. Surface epithelium differentiates at 15 weeks followed by increase in size of mucosa with elongation and tortuosity of glands. Muscularis mucosae is discernible from 13th week.

Pyloric region shows deeper gastric pits since 10 weeks and mucus secreting columnar surface epithelium from 13th week. Pyloric glands are observed from 13 weeks, lined with mucous secreting cells and occasional parietal cells in basal parts.

358. HUMAN LIFE: WHEN, WHERE AND HOW DOES IT BEGIN?

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Nadiad-Gujarat-India,

It may be surprising to know that there is no consensus on when human life begins. Does it begin at fertilization (Though it is not a moment, it takes 12 to 24 hours.) or just after completion of implantation (12 days) or at gastrulation (14 days)? How about considering the beginning of heart beats (22 days) as the beginning of life? Can we not relate the development of brain, or may be maturation of cerebrum (25 weeks) with the onset of life? Is it a moment or a range? Is there any other landmark which gives better idea as to the beginning of life? When does the embryo feel and become emotional to appreciate any tinkering with it including its termination? It appears easier to address 'where does it begin' once 'when does it begin' is decided. It may be uterine tube or test tube (petri dish) or uterus (lumen or wall).

Why is it necessary to know the beginning of life? Main purpose currently would be to be able to obtain stem cells before the very beginning (!) of human life and to be able to end it or to play with it, may be for humanitarian purpose.

It has become a multiple choice question (MCQ) with many choices and you can choose any to suit your purpose or to justify application in your mind! Many absurd questions have been posed including: Is human embryo human?! A newborn has been regarded as 'Pre-Human' (Rose, 2005). The topic has been reviewed by Buch (2006), Gilbert (www.8e.devbio.com Accessed 2008) and Reilly (2008).

The question is not confined only to science; it has its ramifications in religion, ethics, politics, and philosophy. When does ensoulment occur? It appears that there are different sets of ethics for micro and macro; human and non-human. What is humanness? Is it erect posture, intelligence, speech and smile individually and collectively? Are they not potentially there even in human zygote? The debate is actually between preformationists and epigeneticists. When human life begins appears to depend ultimately upon how much respect one pays to preformation vis-a-vis epigenetics.

Human zygote is a unicellular human and scientifically must be treated as such. Scientifically again, It cannot be a matter of choice to decide when human life begins.

359. A HISTOLOGICAL STUDY OF FOETAL PALATINE TONSIL IN DIFFERENT GESTATIONAL AGE GROUPS

Dubey Aksh, Jethani S.L., Mehrotra Namita HIHT University, Dehradun
Abstract: Development of palatine tonsil starts in 14th weeks of intrauterine life. Following this Lymphocytes develop. In the present study 25 aborted human fetuses between 9th -38th weeks of gestational age were collected with no obvious congenital anomalies. The fetuses were obtained from the department of Obstetrics and Gynecology with prior permission of Ethical committee of HIHT University, Dehradun. Fetuses were fixed in 10%

360. MORPHOMETRIC ANALYSIS OF THE FORAMEN MAGNUM AND VARIATIONS IN ITS SHAPE IN HUMAN SKULLS

DR M P AMBALI, DR S D JADHAV, DR R J PATIL,
DR M A DOSHI, DR SHUBHANGI GHULE

Krishna Institute of Medical Sciences Deemed University, Karad
Dist- Satara, Maharashtra.

The foramen magnum is an important landmark of the skull base. It is of particular interest for anthropology, anatomy, forensic medicine

and other medical fields. It is also reported that the etiology of cerebellar tonsillar herniation is closely related to the size of foramen magnum. Considering its clinical importance, we decided to study this topic.

The aim of this study was to evaluate the morphometry of foramen magnum and their relation to sex as well as to note variation in its shape. We studied 200 dry human skulls of known sex (100-male and 100- female). We noted average sagittal diameter in male- 35.680 mm and in female it was 34.920 mm. Transverse diameters in male-30.330 mm and in female it was 29.460 mm. We also calculated foramen magnum index (85.09 mm in male and 84.47mm in female) and noted different shapes of foramen magnum. The details will be discussed during paper presentation.

Key words: Foramen magnum, skull, measurement, variations.

361. MORPHOMETRICAL STUDY OF HUMAN OCCIPITAL CONDYLE

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DR R J PATIL, DR M A DOSHI, DR SARITA MARGUM

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Dist- Satara, Maharashtra.

The occipital condyle is an important part of the cranio-vertebral junction. Its integrity is of vital importance for the stability of the cranio-vertebral junction. The morphological features of occipital condyles are relevant in biomechanical, anatomical and clinical studies.

A lateral approach during cranio-vertebral surgery requires resection of occipital condyles. Hence, the morphometry of occipital condyle is important clinically. The shape of occipital condyles has greater value for sex determination.

Three hundred and eighty occipital condyles of 190 dry human skulls of known sex (110-male and 80- female) were used for this study. Various parameters including length, width, height, distance between anterior tips of occipital condyles and basion etc were measured.

We also observed various shapes of occipital condyles. All details of our study will be discussed during presentation.

Key words: Occipital condyles, cranio-vertebral junction, various, measurements.

362. MORPHOMETRIC ANALYSIS OF SUPRAORBITAL AND INFRAORBITAL FORAMEN

PRIYA P. ROY, S.D. JADHAV, M.P.AMBALI DR R. J. PATIL, DR M. A. DOSHI

Department of Anatomy, KIMS, KARAD, Maharashtra.

The aim of the study was to examine the different anatomical variations of the supraorbital foramen/notch (SOF /N) and infraorbital foramen (IOF). Distance of both foramina was studied relative to different surgical landmarks. One hundred and twenty dry skulls were studied of both sexes. Presence of supraorbital notch was seen bilaterally in 35% of skulls. Majority of skull have foramen or absent foramen on one side and notch on the other side. In 5% of the skulls foramen was present bilaterally. Position of the SOF from nasal midline and temporal crest were measured. Distance of IOF from infraorbital rim, maxillary midline and zygomaticomaxillary suture were measured. All measurements were taken bilaterally.

Exact location of SOF and IOF is important in maxillofacial procedure such as closure of facial wound, biopsies, scar revisions, cosmetic cutaneous procedures, and also necessary during various endoscopic procedures, which are increasingly being used for cosmetic facial surgery. Supraorbital nerves are affected in the cases of swimmers's headache because of wearing tight goggles. Infraorbital nerve is a totally sensory nerve that requires anaesthetizing for operations in dentistry, plastic surgery and ophthalmology. Details of the observations and results will be discussed at the time of presentation.

Key words: Skull, Supraorbital, Infraorbital, Foramen, Measurements.

363. SEXUAL DIMORPHISM OF THE HIP BONE.

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DR.M.A.DOSHI, DR.R.R.KARAMBELKAR, DR.S.D. JADHAV.
Krishna Institute of Medical Sciences Deemed University, Karad
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The identification of sex from skeletal remains is of great medicolegal and anthropological importance. Hip bone is an ideal bone for sex determination because it not only reflects the general differences between the two sexes but also the special adaptation of female hip bone for child bearing.

Various parameters and indices for sexing of hip bone were used by many workers. We used pubic part of hip bone for sexual dimorphism in our study. Hundred hip bones of known sex were taken. Height and width of body of pubic bone were measured with the help of Vernier caliper. We also calculated pubic index. Details of our study will be discussed during presentation.

Key words: Hip bone, sexual dimorphism, pubic bone, pubic index.

364. DETERMINATION OF SEX FROM HIP BONE

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DEPT OF ANATOMY, GOVT MEDICAL COLLEGE, AURANGABAD.

AIM: Aim of the present study is to derive the demarcating points for the determination of sex from hip bone from following indices.

- 1) Chilitic line index
- 2) Ischiopubic index
- 3) Acetabulopubic index

MATERIALS AND METHODS: Human adult dry hip bone free from deformity of known sex available in the Bone Bank of Department of Anatomy Govt Medical College Aurangabad were used for the present study. The parameters studied were chilitic line index, ischiopubic index and acetabulopubic index, using Vernier calliper, Scale, non elastic thread

Mean S.D Demarkating point and p value of the parameters were obtained. The data was later cross verified from the derived demarcating points

RESULTS: chilitic line index, ischiopubic index and acetabulopubic index are statistically significant and the Demarkating points were found to be one of the useful method in the determination of sex from hip bone.

CONCLUSION: chilitic line index, ischiopubic index and acetabulopubic index can be used in the determination of sex of unknown skeleton especially in cases of medicolegal importance or in anthropology.

365. MORPHOLOGICAL STUDY OF THE BONY LANDMARKS IN TRANSCONDYLAR APPROACH FOR LESIONS VENTRAL TO THE BRAINSTEM

Dr. Vijisha phalgunan, Dr.Melani Rajendran
Sri Ramachandra Medical College & Research Institute, Chennai.

AIM: To analyse the occipital condyle morphometrically and to determine the importance of the bony landmarks during surgical resection.

MATERIALS AND METHODS: 100 occipital condyles of 50 dry skulls were used for this study. Sixteen parameters were measured including length, width, height of the occipital condyle, the distances between the occipital condyle and hypoglossal canal, etc. The measurements were made separately for right and left sides.

RESULTS: The mean length of occipital condyle was found as 22.92mm. The distance between the intracranial edge of the hypoglossal canal and the anterior margin of occipital condyle was measured as 10.59mm in both the sides. The distance between the intracranial edge of the hypoglossal canal and the posterior margin of occipital condyle was measured, which is important for safe condyle resection and was found to be 12.55 ± 0.05mm.

CONCLUSION: The occipital condyle is frequently being drilled to expose lesions ventral to the brainstem. From our study it is evident that the occipital condyle can be safely drilled for a distance of 12mm from the posterior margin before encountering the hypoglossal canal. In transcondylar approach, the anatomical landmarks should be well known in order to make a safe occipital condyle resection.

366. A QUANTITATIVE STUDY OF VARIATIONS IN THE ARTICULAR SURFACE OF RADIAL NOTCH OF DRY ADULT ULNA.

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Department of Anatomy LHMC and Hospital New Delhi.

An anatomic quantitative study was done in 190 adult human ulna of Indian origin, to define the shape of the radial notch of ulna and its relationship between the long & short axis. The anteroposterior and transverse diameter of radial notch on ulna were measured in 190 adult ulnas in Department of Anatomy at LHMC and Hospital New Delhi.

The area of the articular surface is variable. The radial notch is a narrow, oblong, articular depression on the lateral side of the coronoid process. It receives the circumferential articular surface of the head of the radius. It is concave from before backward and its prominent extremities serve for attachment of annular ligament. The facets are obliquely oriented toward the centre of the shaft, forming depressions for radial head. The total area of articulation was measured in 190 adult ulna. The facets were classified into four different types according to the shape and the articular area of radial notch. The range of maximum and minimum area was calculated. The measurements are of clinical importance in designing the prostheses of radial head. The size of the articular surface can be used as a guide when implanting the prostheses in dysplasias of upper end of ulna.

367. ANATOMICAL CHANGES IN PROFESSIONAL COCONUT TREE CLIMBERS OF SOUTH INDIA REFLECT ATAVISM BINCY M. GEORGE¹, ARUNACHALAM KUMAR², MUDDANNA S.RAO³

Dept. of Anatomy, Melaka Manipal Medical College, Manipal University, Manipal, Karnataka, Department of Anatomy, K. S. Hegde Medical Academy, Mangalore, Karnataka, India,

Dept. of anatomy, Faculty of Medicine, Kuwait University, Kuwait.

Professional coconut tree climbers of coastal south India use their hands and legs to climb the coconut tree, similar to the method used by arboreal primates. The questions whether the prolonged commitment to this profession induces any modification in foot, reversion to arboreal pursuits in the terrestrial induce any atavism in foot and its bio-kinetics is not addressed. The objectives of the study were (i) To probe the effect of prolonged, sustained strain of tree climbing on the foot structure to revert to its simian prototype, (ii) To quantify change/s in coconut tree climber's foot and analyze the video sequence of act of coconut tree climbing. Visually identifiable gross changes and adaptations of the coconut tree climber's foot that mimic certain deformations/atavism were photographed and analyzed (n=221). Various anthropometric measurements on the foot of the coconut tree climbers (n=221) and non climbers (n=225) from the same localities were measured. Videographs of act of coconut tree climbing by professional coconut tree climbers were collected and viewed with Motion View software (Version 7.2; n= 30). The results showed that the human foot performing arboreal function has increased inter digital spaces, cavus foot, and plantarflexed first ray. The coconut tree climbers climb the trees with inversion and plantarflexion of the foot rather than dorsiflexion as seen in arboreal primates. The typical gait used by the experienced climbers and their posture with slightly oblique leg might be the observable morphological atavism in coconut tree climbers. The common features found between the coconut tree climbing human's foot and primates are the abducted hallux and varus foot.

368. FINGER LENGTH RATIO AND SEXUAL ORIENTATION

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PDM Dental College, Bahadurgarh(Haryana), *MAMC Agroha (Haryana).

ContentsThe smaller index to ring finger ratio less than one (2D:4D <1) has been considered as a "male finger pattern" and 2D:4D more than or equal to one has been considered as a "female finger pattern". The present study was conducted on 100 young adults (m=58, f=42) from northwest population of India to find out the 2D:4D ratio in males and females, right- left asymmetry and to evaluate three different methods namely visual, direct and scan methods, used for studying finger lengths of both hands. Visual method showed that most of the males were having type 1 hand i.e. ring finger longer than index finger (61.6%) whereas most of the females had type 3 hand i.e. ring finger smaller than index finger(46.5%). The mean 2D:4D ratio in males was observed to be 0.97 by direct method and 0.96 by scan method. In females the ratio was 1.00 and 0.99 by direct and scan methods respectively; sex difference being statistically significant (p <0.001). Mean values by direct method were slightly higher than scanned method but the difference was statistically insignificant. In both sexes right – left symmetry was observed.

369. MORPHOLOGICAL VARIATIONS OF JUGULAR FORAMEN

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Department of Anatomy
Santosh Medical College, Ghaziabad

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The Jugular Foramen was examined in adult skulls available in the Department of Anatomy, ITS-CDSR, Muradnagar and Santosh Medical College, Ghaziabad.

In 53.5% cases the foramen was larger in size on the right side and 7.1% on the left side. In the remaining cases it was almost of equal size. An accessory foramen adjacent to Jugular foramen was present in 3.6% cases on the right side, 10.3% cases on the left side and in 3.6% on both sides.

The complete bridging of foramen occurred bilaterally in 10.7% cases and an incomplete bridging was noticed only on the right side in 7.1% of cases. An additional foramen was found in posteromedial wall of the Jugular Foramen in 3.6% on left side only.

The knowledge of these variations is a prerequisite to understand the incidence of occurrence of Vernet's or Jugular Foramen Syndrome.

370. A GONIOMETRIC STUDY OF CHANGES OF ELBOW AND WRIST MOTION IN ADULT POPULATION OF WESTERN RAJASTHAN.

MS SAMTA GAUR , Dr. D.S. CHOWDHARY

Dr S.N. Medical College, Jodhpur, Rajasthan

Present work place: S.B.K.S. Medical Institute & Research Center

The measurement of joint motion is an important component of a comprehensive physical examination of the extremities by which one enables health professionals to accurately assess dysfunction and rehabilitative progress. Goniometry is an important part of a comprehensive evaluation of joints and surrounding soft tissue. The amount of motion that is available at a joint varies according to the age, sex and the structure of joint. Most investigators who have studied a wide range of age groups have found that older adult groups have somewhat less ROM of extremities than younger adult groups. The purpose of this study is to determine the effects of age and gender on elbow and wrist motion in 250 normal subjects on active side of hand through universal goniometer in western Rajasthan population. In our study we have include radiographs of wrist with

various movement to support Goniometric measurements and tests to assess muscles strength and neurological function. The purpose of support of radiographs of wrist is to determine the validity and reliability of Goniometric measurements. Observation and results will be discussed during presentation.

371. NEED OF COMPLETE DISSECTED IN SITU CADAVER IN MODERN ANATOMY MUSEUM

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PDVVPF's Medical College Ahmednagar.

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ABSTRACT: This is new concept of keeping complete dissected cadaver in the Gross anatomy museum. After observing many anatomy museums, this concept came on frontline. Usually specimens are mounted region wise or system wise. After observing all specimens, somewhere there is need to see all the organs and dissected regions in relation to each other. As for Osteology, we keep articulated skeleton in the museum, where all the bones are together in relation (joints) with each other in normal anatomical position. Then why not for muscles and organs?!! Also presently along with MBBS, the number of paramedical courses like, nursing, physiotherapy etc. where anatomy is included in their syllabus. But we cannot provide dissection to all of them, due to certain limitations. We do it by prosection, i.e., dissected parts are demonstrated. It is must to show them the complete dissected cadaver for proper built up of concepts of relations of various organs to each other. Also, many institutes are upcoming with post graduate courses. The students from surgery department, the new surgeons will be very happy to see such complete dissected cadaver in anatomy museum apart from seeing all separately mounted specimens, because, in one view, they can see all the regions in relation with each other. So there is a need to keep such complete dissected cadaver in modern anatomy museum to make it really complete. Benefits to medical and non-medical groups and detailed procedure to prepare such specimen will be explained during presentation.

372. VIRTUAL MICROSCOPY AS TEACHING TOOL AN ADJUVANT TO TRADITIONAL MICROSCOPY – A PILOT STUDY

SEEMA S.R.

M.S.Ramaiah Medical College,

Aim: Traditionally, the students view images on a microscope, each student will be able to view the part of the slide and objective magnification selected by the student or teacher. Virtual microscopy allows viewing the same image at the same time by both faculty and students over a computer, which helps in better learning process. Virtual microscopy enables students to study in their free time. It helps in giving repeated revisions and will reduce the microscope maintenance costs.

Method: Digitalization of the 20 general histology glass slides was done and implemented them as a Virtual Microscope to first year Dental students. Specific areas on the glass slides were scanned for total magnification of 40 and 100. Static labelled images were placed on CD-ROMs. Pre spotter assessment test was conducted. Students viewed all the images on CD-ROMs in their free time. Unlabelled images were used by the students for self learning. Post spotter assessment test was conducted and student perceptions were collected by a prevalidated questionnaire (**Cronbach's alpha 0.79**).

Evaluation and Conclusion:

Maximum number of students (96%) felt virtual microscopy improved their learning and performance in the exam. 66% of students preferred virtual microscopy to traditional microscopy. The P value was highly significant (p<0.000) for both pre and post spotter assessment test and for 1st and 2nd internal assessment.

Virtual microscopy was accepted by students as an excellent tool which facilitated better learning process of histology.

373. OPINION POLL FROM 3RD YEAR MBBS STUDENTS ON NEED OF VERTICAL INTEGRATION IN MBBS TEACHING AND IMPORTANCE OF ANATOMY IN PARA-CLINICAL AND CLINICAL LEARNING.

PANDEY N, TYAGI K, ROSHAN

MGM Medical College, Navi Mumbai.

Now a day's important elements being planned and used in the curriculum is vertical integration, i.e. integration between the clinical and basic science sections of the curriculum, and horizontal integration i.e. between different subject areas. Integration throughout the whole curriculum is time-consuming for both teachers and students and hard work is required for planning, organization and execution. Anatomy is an important subject in medical sciences and knowledge of gross structure to molecular level of human body is fundamental for understanding its function and how both structure and function are modified by disease process. Aim of the study is to assess the importance of vertical integration in an undergraduate medical curriculum and importance of Anatomy in Para-clinical and clinical learning, according to opinions among third year MBBS students. In a questionnaire 79 Students were asked about the importance of anatomy as a subject and different components of the undergraduate medical curriculum including vertical and horizontal integration. They were asked to assign between five options to each question (Extremely important to of no use). The result showed that majority of the students were in favour of vertical integration of the various subjects and admitted the importance of anatomy as a subject and its knowledge helps them in better understanding of the other subjects included in medical curriculum. On the basis of the above utility and importance of Anatomy and vertical integration was assessed and it may help planners in planning new curriculum for undergraduate medical education.

Key Words – Opinion, Anatomy, Curriculum, Para-clinical, Clinical, Vertical and horizontal integration.

374. ASSESSMENT OF ADEQUACY OF ANATOMY SYLLABUS AND NEED FOR CLINICALLY ORIENTED TEACHING

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Teaching in Anatomy had always been a challenge. Due to its vastness it has always been a difficult subject for the student. Human Anatomy is one of the fundamental subjects in a medical curriculum, but the time assigned for teaching of Anatomy to undergraduates has been substantially reduced. Various techniques and teaching methods are being implemented these days for making it more interesting. So we have done a retrospective evaluation about adequacy of Anatomy syllabus and need for clinically oriented teaching from medical students of MGM Medical College, Navi Mumbai.

Objective: To present results of study concerning views and feedback from medical students about adequacy of Anatomy syllabus, as well as need for clinically oriented teaching.

Method: A questionnaire was distributed to 150 medical students. They were asked to take a critical look at the adequacy and relevance of their Anatomy courses ranking different regions and courses as "too short", "adequate", "too long", and "unnecessary". They were also requested to suggest means to improve Anatomy curriculum.

Result and conclusion: 114 students responded to questionnaire. Most respondents found that duration of gross Anatomy was adequate except in few regions which will be displayed in presentation. Most of them also were in favour of clinical teaching along with Anatomy and admitted the importance of Anatomy as a subject. It may be helpful in planning new curriculum for undergraduate medical education and coordinating clinical teaching with Anatomy teaching.

375. MAKING ANATOMY EASY WITH THE HELP OF A SIMPLE HANDMADE MODEL

MONALI SONAWANE, NAZMEEN SILOTRY

Anatomy department, MGM Medical college Kamothe, Navi Mumbai.

Aim and objective-To give better understanding of certain difficult topics like pelvic floor with the help of a model.

Material and methods-The coloured cardboard paper is cut in pieces according to shape of levator ani, coccygeus muscles and urogenital diaphragm which forms pelvic floor. Then these pieces are stuck on the pelvic girdle similar to attachment of the urogenital diaphragm and muscles forming pelvic floor.

Abstract-Some of the topics in anatomy posed difficulty to the students unless a visual impact is available. Pelvic floor being not very easy for dissection at the undergraduate level. We in the department of anatomy in MGM Medical college decided to make simple model of pelvic floor showing all attachments of pelvic floor so as to enable the students to understand the attachment and anatomy of pelvic floor.

Conclusion-Opinions were taken from the students after teaching pelvic floor. Students were happy and they understand very well the topic with the help of a handmade model.

376. ASSESSMENT OF DIFFERENT METHODOLOGIES USED FOR TEACHING HISTOLOGY TO 1ST MBBS STUDENTS

DR. SONALI S. VIDHALE, DR. KAVITA TYAGI.

Aims: To make learning Histology simpler for students of 1st MBBS for better understanding and also from exam point of view.

Objectives: 1. To find out students response to three different combination of teaching methodologies by giving them questionnaire. 2. To compile data and analyse statistically.

Material and Method: A class of 100 students of 1st MBBS from MGM Medical College Navi Mumbai was taken for the study after informed and written consent.

Histology lecture was delivered to all 100 students using chalk and board.

Afterwards they were divided into 3 batches. One batch was sent for practical after lecture. Next batch was shown power point presentation and then sent for practical. Third batch was shown regular practical slides with the help of a Digital Adapter through projector then sent for practical. Sequence was repeated with rotation of batches.

Students were given a questionnaire for grading the combination methods and were also given a list of 10 questions to answer to assess their understanding of subject.

Result: Amongst 100, 65 students chose Digital Adapter through projector over other methodologies. Details of the results and questionnaire would be presented in detail at the time of presentation.

Conclusion: Amongst the three combinations methods students found learning with Digital Adapter through projector excellent for understanding and also from exam point of view.

377. MEDICAL EDUCATION- EVALUATION OF AUDIO VISUAL AIDS IN UNDERGRADUATE HISTOLOGY TEACHING

v. r. wankhede, a. m. tarnekar, m. r. shende

DEPARTMENT OF ANATOMY, MGIMS SEVAGRAM, WARDHA, MAHARASHTRA,

378. TEACHING OF ANATOMY THROUGH RADIO IMAGING TECHNOLOGY

ANUSHA GUDIMALLA ., NILNA NARAYANAN., V R K RAO., SHAKUNTHALA R PAI, ANTHONY SYLVAN D'SOUZA, SHARADA. R

DEPARTMENT OF ANATOMY, KASTURBA MEDICAL COLLEGE, MANIPAL UNIVERSITY, MANIPAL. KARNATAKA, INDIA.

Osteology made easy to KMC, Manipal : we have nowadays dearth for bones to teach osteology to students; we also have a very good technology that is radio imaging technology hence we tried to prepare a CD for 1st MBBS students so that they study osteology at their convenience. Dicom, a software we used is of Philips make CT imaging. Raw data reconstructed by volume rendering technique gives the images which are then labelled according to standard books

379. ROLE OF PROBLEM BASED LEARNING (PBL) AND OBJECTIVE STRUCTURED PRACTICAL EXAMINATION (OSPE) IN ANATOMY TEACHING PROGRAMS.

DR. RAMESH.K.GOPALAKRISHNAN

DR. NEETA.V.KULKARNI

DR.M.V.INDIRA

Dr.SMCSI Medical College, Karakonam, Thiruvananthapuram District, Kerala, India

Content:

The aim of the study is to identify the gaps in knowledge, skills and attitudinal domain development of the students in the present Anatomy curriculum and develop methods to address the same.

Material/Methods: The present Anatomy curriculum was evaluated for various parameters under knowledge, skills and attitudinal domains. Based on the gaps identified, methods to fill the same were analyzed in the available literatures under medical education. As a result, PBL and OSPE modules were developed in the department of Anatomy of DR. SMCSI medical college. The PBL was designed and developed in consultation with clinical departments. The OSPE module for lower limb formative examination was conceptualized and developed within the department of Anatomy. **Results:** PBL as a module is very student centered and this helps them to develop independent learning skills and problem solving skills, which are not well addressed in the current curriculum. By using OSPE, skills and attitude apart from the knowledge component was also assessed. The development of OSPE has enabled the integration of the competence based assessment. Both the PBL and OSPE modules were designed to integrate into the present curriculum without altering the frame work and norms of the existing curriculum. **Conclusion:** By this way gaps which exist in the knowledge, skills and attitudinal domains of the present Anatomy curriculum was to a great extent minimized.

380 ANATOMY POST GRADUATION AS CAREER OPTION: A SITUATIONAL ANALYSIS

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4. Public Health Foundation of India (PHFI), New Delhi

Research Question: What is the present scope of Anatomy Post-graduation as career option?

Aims & Objectives:

1. To carry out situational Analysis of Anatomy PG Seat in Medical colleges

2. To Suggest suitable recommendation based on study findings

Methodology

Present situational analysis based on data of official web page of Medical Council of India (On September 2010) www.mciindia.org. in which we use PG college database and faculty database. The variable used is no of college with Anatomy PG facility, Annual PG seat intake, their reorganization status, All these data were entered in Microsoft excel sheet and analyzed on basis different variable.

Situational Analysis

As Per Medical Council of India (MCI) database (till Spt 2010) total number Medical colleges in India 314 of which only 133(42.3%) colleges having PG seat in Anatomy Discipline. Annual Anatomy PG

seat intake in all colleges 414. Total MBBS seat intake Yearly 35122, the ratio of MBBS to Anatomy PG seat is 100: 1.1. Maharashtra is having highest number anatomy PG seat annually 74(17.8%) followed by Karnataka 53 (12.8%), Andhra Pradesh 50 (12.7%). These three state namely Maharashtra, Karnataka, A.P is contributing about 42.7% PG seat in India. In Last Five year 42.8% colleges are in process of increasing PG seat. Till now 21% college PG seat intake permitted in 10(A) section of MCI. Total numbers of Anatomy faculty in India are 3210. Remaining analysis finding will presented in conference.

381. SPECIALIZATION IN PRECLINICAL SUBJECTS WITH SPECIAL REFERENCE TO ANATOMY

Kohli Mangala, Gupta Vanita, Garg Krishna, Rath Gayatri.

The post-graduation in the field of medicine has become essential these days, due to advancement in various disciplines of medicine. The increase in the number of post-graduate seats in clinical, pre and para clinical branches had given a chance to medical graduates to get a subject of their choice. It is observed that number of graduates opting for anatomy (preclinical subject) are very few as compared to clinical branches. The reason could be many, including the personal preference of the candidate, most find it a non attractive branch in terms of work satisfaction. There is a general perception that, after doing PG in anatomy one can only take up teaching. So, there is need to lay emphasis on the importance of anatomy and bring forth its vast expanse.

382. ITEM BANKING SIMPLIFIED"

LT COL (DR) ASEEM TANDON, LT COL (DR) R BHATNAGAR

A longstanding criticism of the validity of Mcqs is that testing cognitive knowledge does not guarantee competence as professional competence integrates knowledge, skills, attitudes and communication skills. Other substantive criticisms include unfairness, the promotion of factual regurgitation over higher order thinking and their lack of professional authenticity. However decades of research into reasoning and thinking have unequivocally shown that knowledge of a domain is the single best determinant of expertise. Mcqs are therefore a valid method of competence testing as cognitive knowledge is best assessed using written test forms. Hence has emerged the importance of item analysis which is largely used for creating viable question banks of tested Mcqs. A simple method to facilitate the creation of such item banks has been developed and is presented.

383. EFFECT OF SINGLE DOSE DI ISOBUTYL PHTHALATE ON HEPATIC DEVELOPMENT IN WISTER RATS TREATED PRENATALLY

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Phthalate esters are plasticizers widely used in the manufacture of plastics. In general, are colorless, high-boiling liquids, soluble in organic solvents but immiscible in water. And they are degraded very slowly in the ambient environment. Di iso butyl phthalate (DIBP) is used as a plasticiser ranging from the plasticisation of PVC to the production of paints, printing inks and adhesives. Therefore, DIBP exposure in people in adhesive industries and pharmaceutical industries are higher in comparison to general population where it is low. Major route of excretion of DIBP is through urine, with some excretion in the faeces, presumably due to biliary excretion. Aim of this study was to determine the effect of single dose of DIBP on developing liver of Wistar rat. One hundred and eight adult pregnant Wistar rats were divided into control and experimental groups. Rats in experimental group were given DIBP on day 10, 12 and 14 of gestation at 0.375, 0.75 and 1.25ml/kg body weight dose intraperitoneally in a single dose.

Sections of liver collected on day 21 of gestation were stained with haematoxyline and eosine and examined histologically. Congested blood vessels, areas of hemorrhage and increased areas of fibrosis were the striking findings. As pregnant women are constantly exposed, effect of DIBP on the liver of a developing fetus would denote the consequence in future generation.

384. EFFECT OF SINGLE DOSE DI ISOBUTYL PHTHALATE ON PRENATAL DEVELOPMENT IN WISTER RATS

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DIBP[phthalic acid, di isobutyl ester 1,2-benzenedicarboxylic acid, bis-(2-methyl propyl) ester di-(isobutyl)-1,2-benzene dicarboxylate] are classified under widely used industrial compounds, phthalates. DIBP is used in nitrocellulose plastic, nail polish, explosive materials, lacquer manufacturing etc. It is used as an additive to keep the plastics soft or flexible. People are exposed to higher levels of DIBP, e.g. adhesive industries and pharmaceutical industries in contrast to daily exposure in population in general. Aim of this study was to determine the effect of single dose of DIBP on intrauterine development of Wistar rat. One hundred and eight adult pregnant Wistar rats were divided into control and experimental groups. Rats in experimental group were given DIBP on day 10, 12 and 14 of gestation at 0.375, 0.75 and 1.25ml/kg body weight dose intraperitoneally in a single dose. Weight and length of rat fetuses collected on day 21 of pregnancy were noted and fetuses were inspected for presence of congenital abnormalities. The results were then tabulated under: Male and female ratio, height and weight measurements, congenital anomalies observed. The most common anomaly reported was anencephaly. As pregnant women are constantly likely to be exposed to DIBP, effect on developing fetus would denote the consequences of its exposure in offsprings.

385. OVARIAN DEVELOPMENT IN WISTER RAT TREATED PRENATALLY WITH SINGLE DOSE DIISOBUTYL PHTHALATE

BISWABINA RAY, VINOD KUMAR, PUGAZHANDHI B, MELANIE ROSE D'SOUZA, A. S. D' SOUZA, DAYANAND NAYAK, SUSHMA R.K., PRASAD SHETTY

Phthalates are a class of industrial compounds with an array of toxicological properties used in day to day life. Di iso butyl phthalate on (DIBP) is used as an additive to keep the plastics soft or flexible (plasticizer) in nitrocellulose plastic, nail polish, explosives, lacquer manufacturing etc. Although DIBP exposure in humans is generally low, people in adhesive industries and pharmaceutical industries are exposed to higher levels. Aim of this study was to determine the effect of single dose of DIBP on developing ovary of Wistar rat. One hundred and eight adult pregnant Wistar rats were divided into control and experimental groups. Rats in experimental group were given DIBP on day 10, 12 and 14 of gestation at 0.375, 0.75 and 1.25ml/kg bw dose intraperitoneally in a single dose. Sections of ovaries collected on day 21 of gestation were stained with haematoxyline and eosine and examined histologically. On the tenth day of pregnancy oocytes were seen in clusters and the number of empty follicles increased with increase in the dosage of DIBP. On the 12 day of pregnancy the oocytes clusters decreased and number of follicles also decreased with increase in dosage. On the 14 day of pregnancy showed dilated blood vessels and empty follicles, few congested blood vessels with plenty of empty and degenerating follicles and follicular cells. As pregnant women are constantly exposed, effect of DIBP on ovary of a developing fetus would denote the long term consequence in future generations.

386. ANATOMICAL BASIS OF ILEAL ATRESIA

DR PRATIMA KULKARNI, DR. S.A. AMBEKAR, Dr. V. K. NIRMALE , DR MRS C.V.DIWAN & Dr. ANANT BEEDKAR

A case of multiple intestinal atresia was reported. A child of 7 days old weighing 2 kg. brought to surgery department at government medical college, Aurangabad. Parents reporting complaints of distended abdomen, vomiting, not accepting milk and not passing stools. No H/O of jaundice, cyanotic spells or convulsions was recorded.

Dilatation of the bowel was observed during ultrasound scan. The infant had feeding intolerance caused by small bowel obstruction but abdominal distension developed during the first day.

On ultrasonography, multiple intestinal atresia were found.

On explorative laprotomy, resection of atretic ileal segment with ileo-ileal side to side anastomosis was done.

Various embryological events in correlation with ileal atresia will be discussed at the time of paper presentation.

387. CROSSED RENAL ECTOPIA WITH DIPHALLUS

H RAJSHREE, DEVI, N Sanjib Singh, S Rajendra, Damayanti N

A 6 year boy reported with dribbling of urine and deformity penis in the department of Urology. The case was referred to Plastic Surgery for management and simultaneously Department of Anatomy was informed. On examination he had a duplicated penis, left one looked normal and right epispadiac and incontinent. The two appendages (penile shaft) were separate but fused at the root at the base. An Intravenous urography and retrograde cystourethrogram further revealed associated congenital anomaly i.e. unfused left sided crossed renal ectopia (CRE) however ureters were found inserted at the normal position in the bladder. The same contrast study also revealed two urethras originating from the neck of the urinary bladder. Diphallus is an extremely rare Congenital anomaly and the degree of duplicacy and deformity widely variable. The reported incidence is 1 in 5500000 population. CRE was first described by Pannorlus in 1964, and is a rare congenital anomaly consisting of transposition of a kidney to the side opposite its normal position. The associated ureter crosses the midline to insert in its normal position in the bladder. Crossed renal ectopia is extremely rare, with no good epidemiologic data available. The unfused CRE is reported to be as low as 1 in 75000 autopsies.

The case is reported because of presence of rare congenital anomalies of 1. Diphallus 2. Epispadias 3. Crossed unfused renal ectopia in this child. The documentation of fetal ectopic kidneys is important because it signals the need to search for associated anomalies.

388. EFFECT OF PRENATAL LAMOTRIGINE EXPOSURE ON BEHAVIORAL ALTERATION IN RATS

Dr. Anand Mishra,

DEPT. OF Anatomy, Rohilkhand Medical College, Bareilly (U.P) aims & objectives

Lamotrigine is a novel anticonvulsant used for refractory partial seizures & generalized tonic clonic seizures. It is a known teratogen causing cleft lip & palate in rats but its effect on cognition of pups born to rats exposed to Lamotrigine during pregnancy is not known.

MATERIAL & METHODS: Lamotrigine is administered in doses of 2mg/kg, 6 mg/kg, and 10 mg/kg body weight during 9-12 day of gestation to Charles Foster rats. The animals from treated as well as controlled group were allowed to deliver on gestational day 21. The offspring culled at birth on basis of sex and weight were subjected to behavioral test (Open field exploratory test, Elevated plus maze test, Morris water maze test) at age of 8 weeks.

RESULTS: The Lamotrigine treated rat offspring showed enhanced anxiety, increased fearfulness, reduced spatial learning and memory on behavioral tests.

CONCLUSION: These finding suggest that prenatal exposure to Lamotrigine during a critical period of brain development leaves a

lasting impression on the brain, resulting in abnormal anxiety and depression states and reduced cognitive ability.

389. STUDY OF VARIATIONS OF CIRCLE OF WILLIS IN HUMAN BRAINS.

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Circle of willis is an anastomosis of basilar system and internal carotid system lying in the interpeduncular cistern. Considerable variation exist in circle of willis which is important to neurosurgeons..

50 adult brains [40 males and 10 females] were obtained from dissection hall of NKPSIMS & RC, Nagpur. Brains were cleaned and fixed in 10% formalin for 24 hrs. Diameters of anterior cerebral, anterior communicating, posterior cerebral, internal carotid and posterior communicating were measured with vernier caliper on both sides and observations were tabulated.

Posterior cerebral artery (PCA) in females shows diameters of equal size in 6 brains [60%], right thicker in 1 [10%], and left thicker in 3 [30%]. In males, 23 brains showed equal diameters [57.5%], right thicker in 8 [20%], left thicker in 8 [20%] and right side artery absent in 1 [2.5%].

Posterior communicating artery (PCoM): In females, shows equal diameters in 8 [80%], right thicker in 2 [20%]. In males, 26 brains have equal diameters [65%], right thicker in 8 [20%] and left thicker in 6 [15%].

Internal carotid artery (ICA) in females, show equal diameter in 100% but in males 32 brains have equal diameters [80%], 4 showed right thicker [10%], 4 showed left thicker [10%]

Anterior cerebral artery (ACA) in females, 6 brains showed equal diameters [60%], right thicker in 2 [20%], left thicker in 2 [20%]. In males 26 brains showed equal diameters [65%], right thicker in 10 [25%], left thicker in 4 [10%].

390. GENESIS OF LAUGHTER

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- Human beings are the only species that Laugh. We all heard the saying "Laughter is the Best Medicine". There is strong evidence that the laughter can actually improves health and help fighting diseases. The laughter is a Rhythmic, vocalised expiratory and involuntary action.

- The aim of the study is to trace the pathway of laughter.

- The human responds laughter by triggering other natural circuit in brain. Laughter is an activity which is governed by Central Nervous system. Like other activities it also has a stimulus, received by receptors organs and sent to the brain through the various tract, where it is perceived, correlated and integrated for the suitable response by the effector organs and laughter.

- The stimuli for laughter may be visual, auditory, somatic and psychic.

- The Pre frontal cortex is concerned with emotional and social behaviour i.e. smile and laughter. hypothalamus contains positive reward centres leads to pleasurable sensation of intense drive i.e. People will repeatedly self stimulates its hypothalamus until exhausted. That's only once you starts laughing it will continues for the period sometimes till you exhausted.

- The mid brain reticular formation are relayed to autonomic and somatic motor nuclei of brain stem and spinal cord which controls the movement of muscles of face, neck, shoulder, trunk and limbs.

- Zygomaticus major draws the angle of mouth upward and laterally as in laughing Zygomaticus minor elevates lip exposing the maxillary teeth. It also deepens and elevates naso labial fold. Acting with levator

labii superioris alaquinasi and levator labii superioris. it curls the upper lip in smiling.

- Levator labii superioris alaquinasi, levator labii superioris and Zygomaticus minor in upper lip, and depressor labii inferioris and platysma pars labialis in lower lips are known as director labial tractors.

- Their action elevates and everts the whole or part of upper lip and depresses and/or everts the whole or part of the lower lip - important action during smiling and laughing.

- Laughing relaxes muscles all over the body right from scalp to legs and exercises them. HE WHO LAUGHS, LASTS!

391. STUDY OF DIFFERENT POSITION OF MASTOID FORAMEN RELATED TO SKULL BONE. (100 SKULL)

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The anatomy of mastoid foramen is clinically important for ENT Surgeon 40% of mastoid foramen is seen on occipito temporal suture.

Although knowledge of mastoid foramen with different variants or position is basic and very important to the surgeons and radiologists before and during surgical interventions.

Besides surgical importance this study will provide useful information in human anthropometry.

Since variation in mastoid foramen are mostly under diagnosed the present study will definitely provide immense contribution in diagnosis so as to rationalize the line management and treatment both clinically and surgically.

Key Words : Mastoid foramen, Temporal bone, Occipital bone, Sigmoid sinus.

392. CAROTID BODY AND CAROTID SINUS PRESENT IN BOTH SIDE OF THE NECK

DR BHARAT D TRIVEDI PROFESSOR AND HOD,
DR DIMPLE PATEL, ASSOCIATE PROFESSOR, AND DR.
BHASKAR PATEL ASSISTANT PROFESSOR

In humans being the carotid sinus is a slight dilatation of the upper part of the common carotid and the adjacent part of the internal carotid artery. the carotid body is a small gland like structure placed on the deep surface of the carotid bifurcation; it may seen twisting the arteries round and cleaning between them.

393. EFFECT OF BODY MASS ON BONE MINERAL DENSITY IN OBESE PERSON

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Following study was done to

- Compare the effect of body mass index on bone mineral Density in obese people.

This study was conducted in dept. of anatomy of J.N.M.C. Sawangi Meghe, wardha. Camps to detect bone mineral density, was organized in collaboration with orthopaedic OPD.

Present study was conducted on 200 patients of age above 20 yrs. The weight and height of each subject was measured with the help of Weighing machine and body mass index was obtained by calculating with standard formula.

Body Mass Index = $\frac{\text{Weight in Kg.}}{\text{Height in m}^2}$

Bone mineral density of each subject was obtained with ultrasonographic bone densitometer. The distal end of radius and middle of shaft of tibia were the sites used for measuring bone mineral density.

in present study it was found that non obese male & female subjects had osteoporosis while obese male & female subjects had normal bone density, which proved that there is no co-relation between body mass index and bone mineral density.

394. HYPOPLASTIC LEFT LOBE OF LIVER - A CASE REPORT

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In routine investigations a male patient aged 39 years, a hypoplastic left lobe of the liver was seen in CT reports. In addition to this hypoplastic left lobe other interesting features are also observed in CT scan and the same are described presently. Attempt is made to explore and also the reasons for the defect if it is congenital defect.

395. STUDY OF EXTREMELY RARE DENTAL ANOMALIES

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Dept. of Anatomy, Mysore University, Manasagangothri, Mysore.

Aim : the aim of present study is to study and report a rare case of dental anomaly in a female.

Place of study : This study was done in Banashankari dental clinic at Bangalore.

Material and methods : A female aged about 17 years who came to dental clinic at Banashankari constituted the material for present study.

Various histories : were taken like family, obstetrics, personal, maternal and systemic diseases. no drug history by her mother. no similar history in the family. personal history, no maternal systemic diseases. but there was history of consanguinity.

Result : Local examination : on examination the absence of many teeth since birth. No other anomalies were found. Systemically normal. She had only eruption of canine teeth and partial eruption of other teeth as a result she had problem of sheaving and deglutition. The above anomaly was correlated and compared with available literatures.

396. STUDY OF GASTRO INTESTINAL ANOMALIES IN TWO DISTRICTS OF KARNATAKA

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Aim : The objective of present study is to know types of anomalies and percentages of incidences of gastro intestinal anomalies

Places of study : This study was done in two Medical College teaching hospitals of Sree Devraj Urs.

Medical College, Tamaka Kolar, as well as Sree Raja Rajeswari Medical College, Bangalore.

Period of study : A twenty four months study was done in the above teaching hospitals

Material and methods : A eighty eight (88) cases of anomalous babies from two medical college teaching hospitals of Sree Devraj Urs medical college, Tamaka Kolar, as well as Sree Raja Rajeswari Medical College, Bangalore. In the various clinical departments constituted the materials for the present study. Proper family history, obstetric history, personal history, maternal history systemic diseases for each case were taken followed by detail clinical examination was done. Later a thorough clinical examination in all anomalous babies. All the other systems were also examined in detail to rule out any systemic diseases. Necessary investigations were carried out along relevant special investigations

Results : Anomalies in Gastro intestinal system - Total incidences of gastrointestinal anomalies was 45.36% in Bangalore District - There were seventeen (7.73%) cases of anomalies were observed in this district. Megacolon constituted higher number of incidences (3.58%)

followed three cases of congenital pyloric stenosis (1.58%). There were single cases of Omphalocele, gastrochisis, mesenteric cyst constituted (0.51%) There was a single case of Atresia of jejunum with dilatation of stomach which was diagnosed by ultrasound. In Kolar District - Anomalies in Gastro intestinal system in Kolar District is 37.63%

There were 71 cases (37.63%) of Gastro intestinal Anomalies higher incidences were Megacolon (7.28%) followed by rectal anomalies (4.85%) and umbilical hernia (4.84%). There were rare some cases like mesenteric cyst (0.97%) and Omphalocele (0.97%)
Conclusion : These studies of anomalies gastro intestinal system give sound knowledge of anomalies and awareness to gastroenterologists and general surgeons. Hence it has been studied and reported.

397. ESTIMATION OF STATURE FROM LONG BONE, (FEMUR)

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Dept of Anatomy, SCB Medical College, Orissa
Stature of person can be calculated with 95% accuracy with Mean deviation range

(male).....0.188-1.1.316.

(Female).....0.195-0.778

150 male and 150 female known Femur bones were examined for the purpose at SCB Medical College, Cuttack & FSL, Bhubaneswar in Orissa State and observations were discussed in view of calculation of stature which is helpful on Forensic point of view. Study on other long Bones would add the Accuracy of Estimation of Stature.

398. VARIATION IN SENSORY DISTRIBUTION OF MEDIAN AND ULNAR NERVES HAND-EMBRYOLOGICAL AND CLINICAL SIGNIFICANCE

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Aim : To study the variations in the sensory distribution of median and ulnar nerves in hand and discuss the embryological basis and clinical significance.

Material and Methods : A total of twelve cadavers were collected from May 2010 to October 2010 for departmental academic purpose. During routine dissections a case showing the variation in the sensory distribution of median and ulnar nerves in the region of hand in left upper limb was observed. The observations were recorded and photographed.

Results : The sensory distribution of median and ulnar nerves showed variation at the level of proper digital supply for all the medial four digits except thumb. Additional communicating twigs from ulnar and median nerves were observed.

Conclusion : Dual Sensory innervation for lateral half of ring finger by both the median and ulnar nerves which was normally supplied by the median nerve alone is observed. This distribution of ulnar and median nerves to the same area will define a risk area and may subject to iatrogenic injury during common surgical procedures in hand. The embryological basis and clinical significance will be discussed at the time of presentation.

399. DISTRIBUTION OF ABO BLOOD GROUPS AND RH "D" FACTOR IN ABORIGINAL TRIBES IN VISAKHAPATNAM DISTRICT, ANDHRA PRADESH

K.P.S. ADINARAYANA, S. UMA MAHESHWARA RAO

Introduction : ABO blood groups and Rh. Factors are genetically determined. The present study is to study the distribution of gene frequencies relation to ABO and Rh. Factors in this limited populations.

Materials and Methods : Blood samples were collected from 205 persons in Na₂EDTA anticoagulant solution test tubes. ABO allele frequencies were calculated as per Bernstein's formula.

Result and Discussions : Phenotype frequencies "O" group 60.49% "A" Group 16.10%; "B" Group 19.5% and "AB" Group 3.90% of all the four groups "O" is higher.

After comparison of gene frequencies the present population is found to be under equilibrium.