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VINAYAKA MISSION'S RESEARCH FOUNDATION
(Deemed to be University under section 3 of the UGC Act 1956)

AVMC
AARUPADAI VEEDU MEDICAL COLLEGE

BMS e-CON 2022

Departments of Anatomy, Biochemistry, Physiology & Centre for Biomedical Research

Organize

3rd International e-Conference on

"Role of Basic Medical Sciences in Academia, Diagnosis and Research Advancement"

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About Vinayaka Mission's Research Foundation (VMRF)

VMRF is a pioneering and vibrant Research Foundation (Deemed to be university) accredited with **'A' Grade** by NAAC offers multi disciplinary courses in a multi-cultural environment with an ambience marked by harmony in diversity. The VMRF is committed to offer education in the most professional manner and ensures enormous growth potential to the students. One of the biggest Research Foundation in India, VMRF boasts of the most diversified education in terms of number of faculties ranging from Medicine, Allied Health sciences, Engineering and Technology to Management - almost an entire gamut of academic disciplines. VMRF's main campus in Salem, Tamil Nadu is truly a scenic marvel surrounded by mountains and is a hallmark in the city.

About College

The Aarupadai Veedu Medical College and Hospital was established at Pondicherry in the year 1999, with due approval from the Government of India and Medical Council of India. The Institution offers MCI recognized MD/MS programs in several disciplines in addition to MBBS program. AVMC campus is located in sprawling 100 acres and is home for a variety of flora and fauna. The eco-friendly, plastic and tobacco free campus is Wi-Fi enabled and houses Nursing, Physiotherapy and Allied Health Science colleges. Unique and distinguished program is also offered by BASLP. Presently 800 students are studying in the College. From 2020, 150 students will be admitted in the MBBS program.

About Preclinical Departments

All the 3 Pre-clinical departments of AVMC were established in the year 1999. Major activities of the departments are teaching and research. Department of Anatomy has established a Plastination lab and organized several hands on workshops in Plastination techniques. Department of Biochemistry is known for adopting newer T-L methods. Department of Physiology has a Centre of excellence in Clinical Physiology and offers value added courses in nerve conduction, ECG and Pulmonary function testing. Multidisciplinary Centre for Biomedical research provides multi user, state of art equipment facility in the field of molecular biology. It also supports research activity in all departments and is responsible for initiating several internal and external research grants.

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About BMSCON

We, the preclinical departments (Anatomy, Physiology and Biochemistry) along with Centre for Biomedical Research from Aarupadai Veedu Medical College and Hospital, a constituent college of Vinayaka Mission's Research Foundation (VMRF) started the trend of conducting one international conference every year from the year 2020.

Our 1st International Conference conducted in 2020 emphasised on the emerging trends in Research in the field of Basic Medical sciences. This was among the very few academic events that took place in 2020 when all educational activities came to a grinding halt due to Covid restrictions. The 2nd international conference (2021) focused mainly on exploring newer modalities in teaching - learning and Research in Basic Medical Sciences during COVID era. Both conferences had around 1000 registrations. The highlights included Young Research Scholar Award presentations in Faculty, PhD, and Postgraduate categories, oral presentations in all categories and Poster competition for undergraduates. Apart from guest Lectures, there were panel discussion and e-workshop too.

About This Conference

It is our pleasure to host the 3rd International e-conference on Role of basic medical sciences in academia, diagnosis and research advancement" that will be conducted from 17th-19th November 2022.

Basic medical Sciences form the strong foundation for the medicine and surgery and its allied specialties to build up. After the new CBME curriculum has been implemented into medical colleges in 2019 the teaching learning methods like ECE, SDL, IGT, SGT, skills training, DOAP sessions have gained prime importance. Diagnostic modalities in lab testing related to clinical biochemistry, immunology and molecular biology have advanced in leaps in last few years. Information on such recent advancements in diagnostics helps the medical fraternity to render better patient care services.

Basic research in molecular biology, immunology and cell biology provides an infinite amount of data and knowledge. Applied research uses that information to understand the pathophysiology of diseases and apply this knowledge for the betterment of patients. Research demands critical thinking, logical reasoning and creative application by exploring newer approaches, techniques and methods. So the health professionals should be aware of the latest research advances.

This conference can serve as a wonderful platform for educationists, diagnostic consultants and researchers to share their experiences and findings which would be of great help for many other participants to gather, improvise and put into practice the novel and innovative ideas.

Abstract-1

Computerized Tomography Based Study of Deviated Nasal Septum: An Anatomical Study

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Introduction: Nasal cavity is divided by a vertical osseocartilaginous partition that is approximately median in position known as nasal septum. Deviation of the nasal septum can be defined as any midline deviation. Septal deviations may be cartilaginous type, bony type, or both cartilaginous and bony type.

Aim: To look for normal bony structural variations in nasal septum on CT scan in patients attending tertiary care hospital.

Materials and Methods: This cross-sectional observational study was conducted for a period of one year. Non-contrast CT scan Nose and Paranasal sinuses (NCCT Nose and PNS) was done using Siemens Somatom Emotion 16 slice Multidetector Spiral Computerized Tomography (CT) scan and data was acquired in axial plane.

Results: In our study of 200 cases, 120 (60%) cases were males while females were 80 (40%) .169 (84.50%) cases were having DNS. 126 (63%) were having bony DNS, 3 (1.5%) were having cartilaginous DNS and 40 (20%) were having both bony and cartilaginous DNS out of 169 cases of DNS, 81 (47.93%) cases had DNS towards right side, 74 (43.79%) had DNS towards left, 12 (7.10%) cases had bilateral DNS while two cases had bony DNS on right side and cartilaginous DNS on left side.

Conclusion: When significantly deformed, the nasal septum may cause dysfunction and cosmetic deformity, potentially having an impact on many functions of the nasal cavity.

Abstract-2

Vasosensory Reflex Responses Elicited by Chemical Mediators of Inflammation in Anesthetized Rat Models

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Introduction: Tissue injury and inflammation releases mixture of nociceptive agents into circulation. The reflex cardiorespiratory alterations elicited by these nociceptive agents present intra-arterially (i.a.) are termed as 'vaso-sensory reflex responses'.

Aim: The present study was designed to evaluate such reflex responses produced after i.a. instillation of histamine and to delineate the afferents and efferents mediating these responses.

Materials and Methods: Blood pressure, electrocardiogram and respiratory excursions were recorded before and after injecting saline/ histamine, in a local segment of femoral artery in urethane anesthetized rats. Paw edema and latencies of responses were also estimated. Separate groups of experiments were conducted to demonstrate the involvement of somatic nerves in mediating histamine-induced responses after ipsilateral femoral and sciatic nerve sectioning (+NX) and lignocaine pre-treatment (+Ligno). In addition, another set of experiments was performed after bilateral vagotomy (+VagX) and the responses after histamine instillation were studied.

Results: Histamine produced concentration-dependent hypotensive, bradycardiac, tachypnoeic and hyperventilatory responses of shorter latencies (2-7 s) favoring the neural mechanisms in eliciting the responses. Instillation of saline (time matched control) in a similar fashion produced no response, excluding the possibilities of ischemic/stretch effects. Paw edema was absent in both hind limbs indicating that the histamine did not spill out into the systemic circulation. +NX, +VagX, +Ligno attenuated histamine-induced cardiorespiratory responses significantly.

Conclusion: Instillation of 10 mM of histamine produces optimal vasosensory reflex responses originating from the local vascular bed; afferents and efferents of which are mostly located in ipsilateral somatic and vagus nerves respectively.

Abstract-3

Effect of Prehypertension on Cardiovascular Health Among School Going Adolescents in Chennai

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Introduction: Adolescence is an important phase of life and recent lifestyle modifications have made them more prone for early development of metabolic disorders. Worldwide there is a silent increase in prehypertension among adolescents and is associated with early morbidity and mortality.

Aim: To evaluate the effect of prehypertension on cardiovascular parameters among school going adolescents in Chennai.

Materials and methods: The study was conducted among school going adolescents (n-673) in Chennai between the age group 15-19 yrs. Cardiovascular performance was assessed using autonomic function (heart rate variability), arterial function (pulse wave velocity) and salivary cortisol. Stress and sleep hygiene were assessed using validated questionnaires (PSS and ESS).

Results: The overall prevalence of prehypertension was found to be 22.3%. Prehypertension was found to be more in females (23.1%) than males (21.6%). Prehypertension was found to be associated with increase in Heart Rate Variability (HRV), Pulse Wave Velocity (PWV) and cortisol. Adolescents with prehypertension were found to have moderate stress, disturbed sleep and poor academic performance ($p<0.05$).

Conclusion: Increased prevalence of prehypertension among adolescents is observed and is associated with altered cardiac functions. Hence, they should be taught about the importance and benefits of healthy lifestyle for a healthy future.

Abstract-4

Fatty Acid Transport Protein (FATP) Profiling in Women with and Without Breast Cancer

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Introduction: FATPs/SLC27A(1-6) are a group of proteins involved in fatty acid transport mainly localized within cells, cellular membrane and have a key role in long-chain fatty acid transport. FATPs can alter fatty acid metabolism, cell growth, cell proliferation and are involved in the development of various cancers.

Aim: The study aims to compare FATPs (1-6) gene expression status in women with and without breast cancer (BC).

Materials and methods: In this case-control study, 50 breast cancer and 50 control subjects were recruited. Serum was separated from the blood; RNA was extracted from serum samples and converted into cDNA using a commercially available kit. Further RT-PCR was done to study the FATPs (1-6) gene expression. $P<0.05$ was considered statistically significant.

Results: The FATP (1-6) gene expression in subjects with breast cancer differed significantly between the case and control. The gene expression of FATP1, FATP2, FATP3, FATP5 and FATP6 were differed between the two groups and were statistically significant. FATP4 was also differed between two groups but it was moderately significant compared to other FATPs.

Conclusion: Though, extensive research on breast cancer is underway, Study reports on gene expression of all FATPs (1-6) in BC are scarce. Current study demonstrates the importance of FATPs (1-6) in BC. Further study on the molecular regulation of FATPs in BC will add to the knowledge, and findings of the study implicates for utilizing FATPs (1-6) as a biomarkers in breast cancer.

Abstract-5

Normative Data of Anterior Chamber Volume in Normal Indian Adults by Pentacam

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Introduction: Pentacam is useful in assessing normal dimensions of various parameters of eye.

Aim: To establish normal values in the adult Indian population without any eye disease for reference for future studies.

Materials and methods: The study was conducted in 250 normal Indian subjects (500 eyes) to assess anterior chamber volume (ACV) by using Oculus pentacam. Participants were made to sit comfortably on examination stool and were instructed to keep both eyes open and look directly at black fixation target for 2 seconds. The chin was placed at chin rest and forehead was placed on forehead rest. A black cloth was placed on subject's head to omit any light. Three readings of ACV measurements were conducted between 9:00 am to 2:00 pm and at least 4 hours after waking and participants had at least 6 hours of overnight sleep and their mean value were considered.

Results: ACV was found to be 164±27.75 mm3 . There was no significant difference in ACV values of right and left eyes (p=0.6839).

Conclusion: ACV values were not comparable with different studies due to variation in ethnicity of various countries.

Abstract-6

Evaluation of Correlation Between Glycemic Control and Plasma Homocysteine, Lipoprotein A, hsCRP and Atherogenic Index to Assess Cardiovascular Risk

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Introduction: Diabetes mellitus is an important risk factor for cardiovascular disease, which is a major cause for morbidity and mortality in the world.

Aim: To determine the association between different grades of HbA1c and markers of inflammation i.e. plasma homocysteine, hsCRP, lipoprotein A, atherogenic index and lipid profile to assess cardiovascular risk.

Materials and Methods: 60 cases of type 2 Diabetes mellitus were selected from patients attending Out Patient Department (OPD) in NIMS Hospital. Fasting samples were collected and were analyzed for glycosylated hemoglobin, homocysteine, lipid profile, serum creatinine, lipoprotein A, fasting glucose and hsCRP levels in the auto-analyzer. Atherogenic index of plasma (log TG/HDL) was calculated. Patients were grouped depending on the level of glycemic control into three groups- HbA1c <7 (good control), HbA1c 7-9% (poor control) and HbA1c >9% (uncontrolled).

Results: The mean HbA1C level in each group was 5.8, 7.9 and 10.6 respectively. Significant difference is seen in hsCRP, triglycerides, HDL and atherogenic index when the three groups were compared. However, LPA and homocysteine did not show any significant difference between the groups. Spearman rank correlation coefficient showed positive association between HbA1c and hsCRP, Lipoprotein A, atherogenic index, triglycerides, while an inverse association was noted between HbA1c and homocysteine and HDL.

Conclusion: Poorly controlled diabetes mellitus is associated with increased levels of markers of inflammation. These markers may be contributing factors for atherosclerosis in diabetic patients. Subjects with uncontrolled diabetes need to be evaluated by a multi-marker approach for possible risk for atherogenesis.

Abstract-7

Study Of Biomechanics Of Hip Joint And Hip Stabilization Mechanism

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Introduction: Hip joint is unique anatomically, physiologicall and developmentally. Hip joint is as structural link between axial skeleton and lower limb.

Aim: To study biomechanics of hip joint and hip stabilizatioin mechanism.

Materials and Methods: In this review,we will discuss about morphological characteristic of hip joint especially on the intramuscular tendon of gluteus medius tendon and its inserton site, hip capsular attchement on anteriosuperior region of acetabular margin and compositon of ileofemoral ligament and anthropometric study of 100 dry femur and hip bone.

Results: The characteristic of gluteus medius tendon suggest that even a single muscle has multiple functional subunit with in muscle. The characteristic of hip capsular attachment suggest that wider width of capsular attachment have adaptive morphology to mechanical stress. The characteristic of iliofemoral ligament and its relation to periarticular structure suggest that it have ability to dynamically cordinate joint stability.

Conclusion: These anatomical prospective provide better understanding biomechanic of hip joint and hip stabilization mechanism and essential for clinician, physiotherapist.

Abstract-8

An Observational Study of Parietal Foramina in Adult Ancestral Dry Human Calvariae in Vadodara

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Introduction: On posterosuperior angle of parietal bone generally shows parietal emissary foramen which allows the passage of parietal emissary vein. Incidence of parietal emissary foramina have very much clinical significance such as in neurosurgeries.

Aim: This observational study was conducted to find out the occurrence of parietal emissary foramina in calvariae.

Materials and Methods: Total of 90 calvariae were collected from department of anatomy at medical college Baroda, Gujarat. The calvariae were observed carefully for parietal foramina. Occurrence of foramina, their numbers on each side, their shapes were observed in study.

Results: Out of 90 calvariae, bilateral presence and absence of foramina, only on right and only on left were observed in 57.77% and 13.33%,10% and 12.22% respectively. Presence of parietal foramen on sagittal suture, double parietal foramina on right and left side were observed in about 3.33%, 5.55% and 5.55% calvariae respectively. Out of total foramina, round and oval shapes were observed in 79% and 21% respectively.

Conclusion: This study is helpful for surgeons to prevent accidental damage of emissary veins during scalp and neuro surgeries.

Abstract-9

Auditory Evoked P300 Potential in Patients of Parkinson's Disease With Cognitive Impairment

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Introduction: Parkinson's Disease (PD) is the second most common neurodegenerative disorder. Though the cardinal features of PD are motor symptoms, it is also associated with non- motor symptoms such as cognitive impairment, autonomic dysfunction, sleep disorders which could affect the quality of life of patients.

Aim: To assess the neurophysiological changes in cognitive impaired PD patients using auditory evoked P300 potential.

Materials and Methods: In this cross- sectional study on 32 idiopathic parkinson's disease patients, MoCA questionnaire was filled and P300 recording was done using SCHWARZER TOPAS EMG neurophysiological measuring system.

Results: There was significant positive correlation between MoCA score and P300 amplitude at Pz (ρ= 0.772, p= 0.000), Cz (ρ= 0.550, p= 0.001) and Fz (ρ= 0.351, p= 0.04) and there was significant difference between MoCA score and P300 amplitude at Cz (p = 0.001) and Pz (p = 0.003) when Mann Whitney U-test used.

Conclusion: There was significant reduction in amplitude of P300 wave in cognitive declined PD patients when compared with PD patients of normal cognition.

Abstract-10

Burden of Cardiovascular Disease Risk Factors and QRISK3 Risk Scores in Male and Female High Risk Cardiovascular Disease Subjects

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Introduction: Cardiovascular disease includes atherosclerotic vascular conditions, cerebrovascular disorders, and coronary heart diseases. Heart disease becoming more prevalent in India, attributed to high lipoprotein levels as well as environmental and lifestyle risk factors.

Aim: To determine the burden of cardiovascular disease risk factors and QRISK3 risk scores in male and female high risk cardiovascular disease participants.

Materials and Methods: Study was conducted in Physiology Department at RUHS College of Medical Sciences and associated hospital, Jaipur, after receiving the Ethical Clearance. Out of the 7154 screened patients at the OPD, 200 participants with >20% QRISK3 Cardiovascular Disease risk score enrolled. Parameters recorded for data collection: anthropometric (Body Mass Index, Waist Hip Ratio), Blood pressure, biochemical (Fasting blood glucose, HbA1C, Lipid profile parameters).

Results: A total of 7154 subjects were screened, out of which 200 (2.79%) subjects had QRISK3 risk score >20%, they were categorized in high-risk subjects and further subdivided into male 98 (49%) and female 102 (51%). Significant difference of mean values of Body Mass Index, waist-hip circumference, fasting blood glucose, lipid profile parameters and QRISK3 score in male and female subjects.

Conclusion: The results of the current study show that the QRISK3 risk score increases in relation to cardiovascular disease risk variables. Body mass index, waist-hip circumference, fasting blood glucose, and lipid profile parameters all had significant difference of mean values.

Abstract-11

To Find the Effect of 15 Days Mahamrityunjay Mantra Chanting on Memory and Cognitive Function of Child of 7-10 years

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Introduction: Yoga is a psychological, physical and spiritual science which aims at the holistic growth of human body, mind and soul. Cognition is the set of all mental abilities and process related to knowledge, attention, memory and judgement, evaluation and decision making. Memory is the process in which information is encoded, stored and retrieved. Mahamrityunjay Mantra, an advanced yogic technique comprises almost all the characteristics of vedic mantra chanting which helps to bring about dissolution of mind. Yogic practices enhance attention and concentration, remote memory and have a better mental health.

Aim: To find the effect of 15 days Mahamrityunjay Mantra chanting on memory on cognitive function of child aged 7-10 yrs.

Methods and Materials: Sample size- Test group: 30 (17 female 13 male). Control group: 30 (17 female 13 male). Source- Benta chowk, Darbhanga. Design- RCT. Inclusion criteria: healthy child of age 7-10 years. Exclusion criteria: child taking any medicine or any physical and mental disease. Process: chanting in test group daily for 15 minutes for 15 days.

Results: Significant difference between control and test group measured by Wechsler Digit Span Test and Digit Letter Substitute Test after 15 days.

Conclusion: This form of meditation appears to be effective on memory and cognitive function.

Abstract-12

Serum Vitamin D Levels In Vitiligo Patients – A Case-Control Study

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Introduction: Vitiligo is known to be an acquired, autoimmune depigmentary disorder of the skin. As vitamin D is synthesized in the dermis hence its levels may have some association with vitiligo. Vitamin D is responsible for skin pigmentation, increases tyrosinase activity and melanogenesis and exhibits immunoregulatory functions.

Aim: The aim of this study is to compare serum vitamin-D levels in vitiligo patients with controls.

Materials And Methods: A case-control study was conducted in GGH, Kakinada. 60 patients were enrolled on the study, out of which 30 were clinically diagnosed vitiligo patients(case) whereas 30 non-vitiligo patients acted as a control. Analysis was carried out by using Epi info software.

Results: The mean age of the patients was 31.33±7.73 years. The mean baseline level of vitamin D in patients was 19.80±10.47 ng/ml whereas that of controls was 31.51±5.62 ng/ml but this difference was not statistically significant (p=0.557). A total of 24 vitiligo patients were deficient in vitamin-D levels(<25ng/ml) whereas 6 had insufficient levels (25-74 ng/ml).

Conclusion: Vitamin D levels were reported to be decreased in vitiligo patients because vitamin D is responsible for skin pigmentation, and increases tyrosinase activity and melanogenesis. Although lower vitamin D levels were found in the majority of vitiligo patients, but that level was not statistically significant.

Abstract-13

Vitamin B12 and Homocysteine in patients with Major Depressive Disorder

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Introduction: Alterations in level of neurotransmitters is evident in patients with Major Depressive Disorder (MDD). Vitamin B12 mediates the synthesis of neurotransmitters and hence vitamin B12 deficiency could be associated with depression.

Aim: To assess the levels of serum Vitamin B12, Homocysteine (Hcy) and hematological profile in MDD patients.

Materials and Methods: A total of 59 patients with MDD were recruited based on ICD-10 criteria. Severity of depression was assessed by HAM-D scale. Vitamin B12 and Hcy levels were estimated.

Results: Vitamin B12 was deficient / depleted in all patients with depression. Median level of Vitamin B12 in serum was 164.2 pg./ml and significantly lower in patients with severe MDD (p-value 0.031). The mean value of Hcy was 18.34 µmol/l. which was high compared to normal reference range. RDW CV varied significantly between the three groups of MDD patients (p-value 0.037). Patients consuming non-vegetarian food had a significant higher median value of serum Vitamin B12 (p-value 0.031).

Conclusion: Vitamin B12 deficiency is found in patients with MDD and varies inversely with severity of MDD. Hcy is found to be higher in patients with MDD. The manifestation of depressive symptoms precedes the more commonly known hematological manifestations of Vitamin B12 deficiency in this study.

Abstract-14

Drug Utilization Study in Neonatal Intensive Care Unit at Tertiary Care Hospital

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Introduction: A Neonatal Intensive Care Unit (NICU) is a highly functional unit that provides prime care to premature, low birth weight, or critically ill newborn. Fluid therapy vitamins, antibiotics, are among the most frequent medications used in NICU.

Aim: To study and explore drug usage in the neonatal intensive care unit of a tertiary care hospital. As neonates are more prone to drug interactions, adverse effects and hence a caution should be taken while prescribing medication to them.

Materials and Methods: This is a prospective study. The prescriptions of 100 neonates admitted to a NICU during 2nd July 2022 to 4th September 2022 were studied prospectively at Deccan Medical College and Hospital in a period of 3 months.

Results: Among 43% were males and 57% were females. Notably, 55% of patients were preterm. 45% were term, and only 5% were post-term. Also 68% were born by cesarean section and 32% were born by normal vaginal delivery. Preterm respiratory distress syndrome and hyperbilirubinemia are the most common indication for NICU admissions. Followed by term patient with transient tachypnea of newborn. The most commonly used medications included 10% Dextrose, potassium, vitamin K then followed by Antibiotics 1st line – Taxim i.v, Amikacin. 2nd line – Piptaz, 3rd line – meropenem, vancomycin. Drug induced thrombocytopenia is the adverse effect of meropenem and vancomycin is observe in 12% (three babies).

Conclusion: A special precautions is essential while prescribing drugs in NICU. Premature birth and resulting low birth weight were the main reasons for drug prescription. High administration of antibiotics is probably an area of concern and should be seriously considered.

Abstract-15

Ectopic Peritoneal Deciduosis of Pregnancy

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Introduction: The ectopic decidual reaction of peritoneum and omentum is very rare in occurrence as it is commonly seen in ovary and cervix. It is physiological phenomenon due to exaggerated response of progesterone in pregnancy, usually asymptomatic and incidental histological finding, disappears without complication in the postpartum period.

Material and Method: A 27 years old nulligravida presented to the Obstetrics and Gynaecology outpatient department at term for routine checkup with complaints of mild vague left sided abdominal pain. Pelvic Ultrasonography (USG) and Magnetic Resonance Imaging (MRI) was non-specific. During laparotomy occasional whitish nodules were noticed on surface of omentum.

Results: Omental biopsy was taken for histopathological examination. Microscopy revealed clusters of large polygonal cells with abundant eosinophilic cytoplasm, large centrally placed nuclei with conspicuous nucleoli within adipose tissue along with blood vessels. The clusters are seen beneath the peritoneal lining. Provisional diagnosis of ectopic decidual tissue was made. Immunohistochemistry was put to confirm the origin of the cells and also to rule out metastatic deposits and mesothelioma. Immunohistochemically, the cells clusters showed positivity for Vimentin(vim) and Progesterone Receptor (PR) which confirms to be deciduous.

Conclusion: Ectopic peritoneal deciduosis develops with the effect of progesterone in pregnancy. Immunohistochemistry may help the differential diagnosis of peritoneal deciduosis where problems are experienced differentiating the case from malignant mesothelioma or metastatic tumor.

Abstract-16

Morphometric Study of Right and Left Oblique Diameter of the Fetal Liver

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Introduction: Liver size is a beneficial parameter in the diagnosis and monitoring of intrauterine growth retardation. It develop at the third week of the embryonic stage and grows rapidly from the fifth to tenth week of gestation. The liver represents 10% of total body weight at 10 weeks. Initially, both right and left lobes have same size. After that right lobe become larger.

Aim: To correlate Oblique Diameter of Right and Left lobes of liver with the Gestational age (GA) of the foetus.

Material and Methods: This study was conducted on 50 formalin fixed fetuses with the gestational age ranging from 12 to 36 weeks in Department of Anatomy D.Y. Patil Medical College with the collaboration with Obstetric and Gynecology Department of D.Y. Patil Hospital, Nerul, Navi Mumbai. Liver were dissected and measurements of Right And Left Oblique diameter were taken with the help of Vernier Caliper.

Results: From this study the mean value and standard deviation of right and left oblique diameter of fetal liver was calculated. The value of which are 25.49167±7.026446 mm and 25.36±6.878433 mm respectively at 12 weeks. At 13-24 weeks of GA the values were 37.756±7.064894 mm and 38.0572±7.558465 mm and at 25-36 weeks of GA the values were 52.37235±10.74477 and54.87118±17.79437 mm respectively. Calculation of Right and Left oblique diameter of fetal liver found to be statically significant.

Conclusion: From this study it was concluded that there is significant correlation of right and left oblique diameter of fetal liver with the gestational age.

Abstract-17

Development of a New Predictive Equation for Maximal Oxygen Uptake (VO2 Max) in Healthy Adults

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Introduction: Maximum oxygen uptake (VO2 max) can be measured by direct and indirect methods. The direct method requires specialized equipment and it is expensive. VO2 max is measured indirectly by based on exercise tests and using non-exercise based equations like Jones, Hansen, and Wassermann. These equations were formulated on the basis of normative data obtained from the Caucasian population, which is different from the Indian population. Physiological predictors (age, height, weight) could directly or indirectly influence the VO2 max.

Aim: To determine the relation of the Jones, Hansen, and Wassermann predictive equations with direct method of VO2 max estimation and develop a new predictive equation for VO2 max based on height and weight in adults.

Material and Methods: This cross-sectional study was conducted at RUHS-CMS Jaipur, Rajasthan, between January and October 2019. VO2 max was measured using direct method (sub-maximal exercise test on treadmill) with the help of AD Instrument's Gas analyzer and indirectly predicted by Jones, Hansen and Wasserman equations in 419 students (18–25 years). The paired t-test, Pearson's correlation, was used to compare the direct and predicted VO2 max. Regression analysis was used to develop a new predictive equation.

Results: Mean VO2 max for direct estimation, Jones, Hansen, and Wasserman 43.42±8.98, 50.98±13.59, 49.17±5.40, and 50.72±4.49 ml/kg/min respectively. Pearson's correlation failed to reveal any relationship between direct VO2 max and predicted VO2 max. R2 is 0.041 and 0.049 for males and females respectively.

Conclusion: This study concludes that these equations give overestimated results of VO2 max when compared with the VO2 max values obtained from the direct method. Newly derived equation based on height and weight is recommended for maximal oxygen consumption in Indian population.

Abstract-18

Anthropometric and Biochemical Metabolic Risk Factors in Normoglycemic, Pre-diabetic and Diabetic Metabolic Population

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Introduction: The term "Metabolic Syndrome" (MetS) describes a collection of risk factors with metabolic origins that increase the chance of developing type 2 diabetes and Cardiovascular Illnesses (CVD). Diabetes is becoming more prevalent in underdeveloped countries, which challenges already limited health expenditures.

Aim: To determine the burden of anthropometric and biochemical metabolic risk factors in normoglycemic, pre diabetics and diabetics metabolic population.

Materials and Methods: Study conducted in Physiology Department at RUHS College of Medical Sciences and associated hospital, Jaipur, after receiving the ethical clearance. The study's sample size was 300. Parameters recorded for data collection: anthropometric (Body Mass Index, Waist Hip Ratio), Blood pressure, biochemical (Fasting blood glucose, HbA1C, Lipid profile parameters).

Results: A total of 300 metabolic syndrome subjects were divided into three groups based on their Fasting Blood Glucose level and HbA1C level according to the American Diabetes Association for Diabetes Classification as normal [79 (26.33%)], pre-diabetic [85 (28.33%)], and diabetic [136 (45.33%)].There was significant difference of mean values of age, Waist Hip Ratio, Systolic Blood Pressure, Diastolic Blood Pressure, Fasting Blood Glucose, HbA1C, total cholesterol, High Density Lipoprotein, Low Density Lipoprotein and Triglyceride in three groups.

Conclusion: According to the findings of the current study, the metabolic population of pre-diabetics and diabetics has a greater prevalence of metabolic risk factors.

Abstract-19

Clinical Exome Sequencing for Congenital Hypothyroidism In A Tertiary Care Centre at Pondicherry- A Cross-sectional Study

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Introduction: Newborn Screening (NBS) is screening in neonates between 48 – 72 hours of life for conditions that are treatable, but not clinically evident in the newborn period. NBS was first started in 1961 by Robert Guthrie, and is considered to be one of the greatest public health achievements. The goal is to identify infants at risk for several conditions early enough to confirm the diagnosis. It is important to estimate the incidence of treatable disorder like Congenital Hypothyroidism (CH), as there is paucity of data, from Indian population, conducted on large sample size.

Aim: By conducting a prospective cross-sectional study, we aim to identify the prevalence of the disorder in this region.

Materials and Methods: All neonates who were born between June 2021 and May 2022 at the study centre were included in this cross-sectional study. Babies admitted to the Neonatal Intensive Care Unit (NICU) were screened between 48 hours of life and prior to discharge, were offered screening after initial stabilization. Thyroid Stimulating Hormone (TSH) for diagnosing Congenital Hypothyroidism was assayed by CLIA, on day 3, with interpretation as <10μIU/m as normal 10-20: Borderline and >20: High Serum TSH. Neonates discharged before 48 hours, those who died in the NICU and those babies whose parents refused consent did not undergo NBS. Thyroid profile including fT3, fT4, TSH were performed for confirmatory testing and those screened positive cases were taken for Clinical Exome sequencing.

Results: The results and discussion will be revealed at time of oral presentation.

Abstract-20

Dermatoglyphics: A Qualitative Analysis of Sexual Dimorphism Among Medical Students in Puducherry

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Introduction: Dermtoglyphics is the scientific study of palms and soles using varying pattern of epidermal ridges. It's the unique character possessed by every individual, which determines their identity. The qualitative analysis of dermatoglyphic prints among varying gender is undertaken to determine the existing specific variations among medical students.

Aim: 1. To study the varying dermatoglyphic pattern among medical students. 2. To correlate the dermatoglyphic pattern with varying gender.

Materials and Methods: The present study was carried out among medical students in AVMC and H, Puducherry after getting Informed consent form Ink method have been followed to obtain the fingertip pattern. Data were collected and analyzed.

Results: There were four types of patterns generally found like loop, whorl, arch and composite. Among the four types loop pattern were observed to be the commonest type followed by arch, then by whorl and composite found to be meager.

Conclusion: This study helps to determine the different patterns existing among individuals of varying gender. Hence, this may be used as a vital tool for determining the gender under forensic medico legal aspects.

Abstract-21

Forensic Importance of Cheiloscopy

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Introduction: Despite methods such as dactylography, DNA sampling, odontology etc are followed for investigations, many cases remain unresolved due to lack of sufficient evidences. So, alternatives such as cheiloscopy was brought into practice, where lip print patterns are researched, studied and contributed to the field of forensic medicine.

Aim: The main aim of this work was to carry out a meta-analysis of study the various types of lip prints of various races, age groups, genders, and twins.

Materials and Methods: Nearly 120 articles collected from various journals sourced out from libraries of Karpaga Vinayaga Institute of Medical Sciences, Maduranthagam, TN, India and Anna Medical College, Mauritius. Online journals collected from https://pubmed.ncbi.nlm.nih.gov/ and https://www.researchgate.net/. Results were tabulated, analyzed and studied.

Results: Type III and type IV were predominant in the male while type I and type I' were predominant in the female in Indian population. Type IV was predominant in the Mongolian and African males and type I was predominant in Mongolian and African females.

Conclusion: From the above study it was concluded that females irrespective of the categories mentioned owned type 1 lip pattern while men owned type 3 lip pattern. Further scope of study in the areas of lip print patterns among transgenders, lip print patterns among various continents, in the field detective science are needed to further add information in the field of cheiloscopy and its forensic importance.

Abstract-22

A Study on Effect of Etymology on Learning

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Introduction: Etymology is the study of origin and history of words. Majority of our medical terms stem from Latin and Greek and therefore are quite hinder some in remembering. Knowledge of etymology will aid in better understanding as well as facilitating professional expression. The knowledge on relationships of these words can contribute to meaningful learning that is more likely to be retained compared to other learnings.

Aim: To study the effect of etymology on learning on medical students.

Materials and Methods: The study was an interventional study with a sample size of 144 medical students. They were separated into two groups, as etymology (study group) and non etymology (control) based learners randomly with odd numbers as study and even numbers as control group. On day 1, lecture was given on the topic limbic system for both groups by the same lecturer. For study group, etymology of specific words was explained. A pre and post test was conducted with a standardized questionnaire consisting of 15 single word answer questions on the selected topic from standard physiology book. Day 2 the same procedure was repeated with the crossover of groups and with a new topic (basal ganglia). The pre and post scores of both the groups for 2 days was analyzed using paired and unpaired t-test.

Results: There was a significant difference between the results of pre-test and post-test (p value<0.001) in both the groups. There was also a significant difference (p value<0.001) in the results between the study group and control group where the etymology-based learners were found to have performed better.

Conclusion: Learning vocabulary through etymology seems to be more effective and useful in learning.

Abstract-23

Academic Curriculum Changes Expected by Medical Students

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Introduction: The contributions and the efforts of resource persons, teachers and students. It The new Graduate Education Regulation attempts stand on the shoulder of intends to take the learner to provide health care to the evolving needs of the nation and the world. CBME norms includes Assignment SDL, AETCOM and feedback sessions about their academics for improving the quality of medical student.

Aim: To analyze the changes about the CBME academic curriculum expected among the medical students.

Materials And Methods: The study is an observational based cross-sectional study with sample size of 300.This study is done among first, second and third year medical students in Velammal Medical College Hospital and Research Institute, Madurai. The questionnaire was circulated in the group and the response were collected among the students and the results were analyzed.

Results: Around 50 percentage of the students prefer to have Integrated teaching to be a part of their regular teaching programme. Most of the students prefer AETCOM (Role Play) activity. Assignments and SDL Around 50 percentage of the students prefer to have the Integrated teaching was the one that was least preferred by around 20 percentage of the students. Around 30 percentage of the students prefer ECE.

Conclusion: Most of the students prefer to have viva voice along with every internal examination. Many students preferred to have integrated teaching to be a part of their regular teaching programme. Most of the students feels the feedback session improves their academic performance.

Abstract-24

Hypovitaminosis D And Variations in Blood Pressure in Young Females with Severe Premenstrual Syndrome: Coincidence or Causal Association?

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Introduction: Premenstrual Syndrome (PMS) is a neuro-endocrine disorder in the reproductive age group whose etiopathogenesis is an enigma. The ovarian hormones are known to cause variations in Blood Pressure (BP) during the menstrual cycle. Vitamin-D, being an immunomodulator is capable of modifying neurotransmitters and has an anti-inflammatory property.

Aim: To estimate serum vitamin D levels in young females during the luteal phase and associate it with the severity of PMS and BP variations during menstrual cycle.

Materials and methods: A prospective study comprising 97 females aged 18-24 was done as part of ICMR–STS 2022. Premenstrual Symptoms Screening Tool (PSST), a pre-validated questionnaire was used to assess severity of PMS. 11th day (i.e., follicular phase) and 5-7 days before next expected menstruation (i.e., luteal phase) was scheduled for recording BP and anthropometric assessments. SPSS version 20 was used for statistical analysis amongst the study subjects grouped as “No/mild PMS” “Moderate to Severe PMS” and “PMDD”

Results: The Systolic and Diastolic BP was elevated in luteal phase as compared to follicular phase. All subjects experienced symptoms of PMS and had hypovitaminosis D. The serum vitamin D levels were 19.37±5.32, 18.12±3.91 and 16.55±7.73 ng/ml respectively in the three groups. Vitamin D deficient individuals had higher BP and suffered from worser PMS as compared to the vitamin D insufficient females.

Conclusion: Vitamin D estimation is useful in evaluation of PMS and its deficiency causes hemodynamic instability in luteal phase. Elevated BP in luteal phase is an early indicator for developing hypertension at a younger age in future.

Abstract-25

Comparative Study of Traditional Conch Blowing Practice Along with Respiratory Exercises and Therapies To Advanced Level of An Invention of Spirometry

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Introduction: The Indian scared customs includes blowing of conch during auspicious beginnings. Sound waves produced by conch shell enhance huge beneficiary effect on health especially on respiratory system. Lungs are the foundational organs of the respiratory, whose most basic function is to facilitate gas exchange. Lung capacities are the summation of lung volumes. Restrictive lung disease results in reduced lung compliance and a reduction in lung volumes and capacities. Various treatments for lung disease have been developed, among which respiratory muscle- strengthening exercises, spirometry is one of the most commonly used approaches to test pulmonary function.

Aim: To establish the significance of traditional practices such as conch blowing which has an effective outcome in lung function enhancement. The objective of this study is to look for respiratory exercises and measures carried out during modern days.

Materials and Methods: The respiratory therapies most popularly include feedback breathing exercises FBE, balloon blowing exercises BBE etc. the diagnostic tools such as spirometer is aided to evaluate obstructive and restrictive lung patterns. The most important variables reported include total exhaled volume, known as the vital capacity (FVC), the volume exhaled in the first second, known as the forced expiratory volume in one second (FEV1), and their ratio (FEV1/FVC). These effects include improved pulmonary function, exercise performance, respiratory function and respiratory muscle strength.

Conclusion: The evolution of long-established traditional conch blowing practice can be correlated to present days respiratory exercises and therapies along with the invention of spirometry.

Abstract-26

Application of DNA Sequence Technique for Rapid Detection of Drug-Resistance *Mycobacterium tuberculosis*

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Introduction: Early diagnosis and rapid detection of anti-drug-resistant Tuberculosis is important for the proper management of MDR/XDR TB which is an alarming threat to global health. DNA sequencing using Sanger sequencing technique is capable of sequencing hundreds of nucleotides that detect mutations associated with resistance to first and second-line drugs.

Aim: To study the drug associated mutation of M tuberculosis for first- and second-line drugs by DNA sequencing from direct clinical samples.

Materials and Methods: Clinical samples, DNA extraction kit (HELINI™ Pure fast Bacterial genome DNA Minispin prep kit), PCR kit (QIAGEN). Sanger Sequencing was performed on nine loci associated with resistant mutant for first- and second-line drugs.

Results: In this study, the resistance associated mutation was seen for drugs Rifampicin (RIF), isoniazid (INH), and ethambutol (EMB) as well as some unknown mutants, not classified as drug resistant mutation were also found.

Conclusion: DNA sequence technique could be one of the promising and reliable tests for conducting DST for the M tuberculosis complex resulting in timely treatment and finally aiding in a reduction in the transmission of TB.

LIST OF FACULTY ORAL PRESENTATIONS

Abstract-27

Morphometrical Analysis of Superior Articular Facet of Atlas Vetebrae in Telangana Population

Jasmeen Vajir Shaikh, Associate Professor, Department of Anatomy, Apollo Institute of Medical Science and Research, Hyderabad, Telangana, India.

Introduction: The atlas (C1) is the most superior (first) cervical vertebra of the spine. It is named for the atlas of mythology, because it supports the globe of the head. The atlanto-occipital joint allows the head to nod up and down on the vertebral column.

Aim: Morphometrical analysis of superior articular facet of atlas vertebrae.

Objectives: 1.To evaluate the morphometric measurement of atlas vertebrae. 2.To study variations in the anatomy of atlas vertebrae. 3.To apply this knowledge in the field of neurology, neurosurgery and orthopaedics. 4.To compare findings of the present study with the previous and similar studies.

Materials and Methods: 200 dried human atlas vertebrae of either sex were included.

Sample Source: From departmental collections and medicolegal samples of the bones at the Department of Anatomy and Department of Forensic Medicine of Medical and Dental Colleges. All samples were inspected to ensure that they were free from osteophytes or metastatic tumours before measurements were made. All the parameters were measured by single observer throughout the study. Each measurement was measured twice for minimizing the errors.

Instrument Set: 1. Electronic digital calliper (0-150mm, of Aerospace Company with the precision of 0.01mm). 2.A half circle protractor marked in degrees (180 degrees). 3.Metric scale. 4. Digital camera. Parameters to be Measured: A) Metrical parameters : 1) Length of superior articular facet of atlas vertebrae:The distance between the anterior and the posterior tips of the superior articular facet along the long axis. 2) Width of superior articular facet of atlas vertebrae: The horizontal distance taken at the midpoint of long axis of superior articular facet. 3) Angle Of Inclination (AOI) superior articular facet of atlas vertebrae: It was measured by extending long axis of right and left superior articular facet on the photographs of these components of CVJ. The distance of angles from the median point on the posterior surface of anterior atlantal arch was measured. B) Non Metric parameter: different shapes (bipartite, dumbbell, asymmetry) of superior articular facets and tunnel.

Statistical analysis: was done using the statistical package GraphPad Prism 5 software. The p-value of < 0.05 was considered as significant for all the tests applied. The mean values of the different parameters were compared by using unpaired t-test. To determine the relationships between the studied parameters, pearson correlation coefficients(r) were calculated.

Results: 1.Tunnel for the passage of vertebral artery: was detected in 1 out of 200 dry atlas vertebra. 2. Pleurapophyseal malformation was detected in 10 out of 200 dry atlas vertebrae. 3.Dumbbell shape SAF of atlas vertebrae was found in 02 out of 200 dry atlas vertebrae. 4. Asymmetry in the SAF of atlas was found in 08 out of 200 dry atlas vertebrae.

Conclusion: One has to be familiar with these anatomical structures and the probable variations of these structures in order to achieve the widest exposure with the best surgical outcome. Neurologists, neurosurgeons and medical community in general should have knowledge about the superior articular facet of atlas vertebrae variations and requires careful radiological analysis while dealing with the patients complaining of symptoms of vertebrobasilar insufficiency like headache, vertigo, shoulder and arm pain.

Abstract-28

Teaching Pterygopalatine Fossa Anatomy Using 3D Images and Physical Model – A Novel Teaching Strategy

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Introduction: Medical students struggle to appreciate Pterygopalatine Fossa (PPF) anatomy, owing to the difficulty in understanding the spatial orientation through textbook diagrams or the deeper location and smaller size of the space in the cadaveric specimens. Providing a visual representation of the PPF could enable better anatomical understanding.

Aim: The Aim of the study is to compare the test scores and perception scores among students exposed to 3D images and physical model of PPF during small group teaching.

Materials and Methods: A quasi-experimental pre-test/post-test control study design. The student's prior knowledge was assessed using 20 spatial oriented MCQ's one week prior to the sessions. For the control group, we allocated computers with a Microsoft PPT presentation containing a sequence of four 3D images. The interventional group utilized the cardboard model with wires representing the neurovascular structures. The investigators ensured that the subject content and time spent on delivery were the same for both groups. The students were given the same test questions and a 10-item feedback questionnaire four weeks after the teaching session. The score improvement was calculated using the formulae posttest – pretest score.

Results: There was no significant difference in the score improvement and perception score between the 3D image and physical model group.

Conclusion: 3D images have the ability to provide visuospatial orientation equivalent to a similarly designed physical model. The outcome measures selected were such that tactile manipulation did not confer any benefit. Hence, the results did not distinguish the superiority of the physical model.

Abstract-29

Jackson's Membrane: An Anatomical Veil that may Cause an Intestinal Obstruction

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Introduction: Intestinal obstructions may result from a variety of causes and it is probably not so infrequent as one might suppose from a consideration of a single cause. Two types of obstruction are found: first, that are produced by partial or complete occlusion of the lumen of the bowel from pressure outside; second, those which are caused by inherent abnormalities in the bowel.

Case description: During dissection in a 50 year old male,a membrane was found passing anterior to the ascending colon towards the right paracolic gutter. It extended from the right hepatic flexure above to the upper end of caecum below. Traced upwards, this membrane at the hepatic flexure became continuous with an abnormal peritoneal fold i.e, cysto-colic ligament.Below it faded away upon the caecum without ending below in a free edge.

Discussion: The cause can be embryonic or reactive. The borrowing of the parietal peritoneum, during a delayed descent of caecum can be the embryonic cause. The reactive cause be due to adhesions between the colonic surface and the peritoneum by some serous exudate producing chronic reaction which later on may lead to vascularization and connective tissue banding.

Conclusion: Such a band may cause exaggerated symptoms of intestinal obstruction and may also mimic acute appendicitis. Surgeons must be aware of the occurrence of such bands.

Abstract-30

Morphometric Study of Mandibular Fossa and Articular Eminence and to Identify It's Relation with Temporomandibular Joint Dysfunction

Gouri Shankar Jha, Assistant Professor of Anatomy; Archana Gautam, Tutor Anatomy; Radhika Raman, Assistant Professor of Anatomy; G K Mishra, Professor and Head Department of Anatomy, Darbhanga Medical College, Bihar, India.

Introduction: Mandibular fossa is situated on lateral aspect of base of skull behind the articular tubercle. It is formed by squamous and tympanic part of the temporal bone. Only anterior part of mandibular fossa which is contributed by squamous part of temporal bone is articular forming the Temporomandibularjoint. The Inferior surface of the anterior root of zygomatic process of temporal bone shows a projection which is known as articular tubercle or eminence. Three types of shape of mandibular fossa was described in previous studies 1) Concave 2) Angular 3) Flattened. Morphometric changes of mandibular fossa or change in the position of articular tubercle is closely related with dysfunction of temporomandibular joint.

Aim: Morphometric analysis of mandibular fossa and the articular eminence to correlate it's relation with temporomandibular joint dysfunction.

Materials and Methods: Present work was carried out on 65 dry skull (130 sides) of unknown sex and age in the department of anatomy and 45 CT scan (90 sides) in the department of radiology, Darbhanga medical college and hospital, laheriasarai.

Results: The shape of mandibular fossa observed was concave in 65% and angled in 35% of cases.

1.The average height of mandibular fossa was 6.81 mm.

2.The average width of mandibular fossa was 14.13 mm.

3.The average depth of mandibular fossa was 5.16 mm.

Articular Eminence- The average distance between the lowest point of articular eminence and the center of mandibular fossa was 10.18 mm.

Conclusion: Temporomandibular joint is one of the important and differentiated joint of human body. It is important to understand the temporomandibular joint morphometry to distinguish between a variant anatomy and a pathological condition

Abstract-31

Accessory Brachial Artery- An Obstacle for Surgeon

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Introduction: Although vascular anomalies are commonly encountered in upper limb but accessory brachial artery is rarely found. It can arise from axillary artery or brachial artery which again rejoins with brachial artery distally in arm or cubital fossa.

Case description: During routine dissection of 55 year old male cadaver, the brachial artery was found to be dividing into medial accessory brachial artery and lateral main brachial artery just below the lower border of teres major. Accessory brachial artery was located medial to the median nerve in proximal two third of arm and it was crossed superficially by median nerve in distal third. Moreover, median nerve lies deep to main brachial artery while crossing it. Throughout the course accessory brachial artery was narrower, placed superficially and medially as compared to the main brachial artery which was wider, placed laterally and deeply. It unites with U shaped bend of main brachial artery. Median artery, anterior and posterior interosseous artery were originated from this bend of brachial artery whereas radial and ulnar artery were originating from both the ends of this arterial bend.

Discussion: Accessory brachial artery may arise due to the persistence of more than one cervical intersegmental artery or due to persistent proximal part of radial artery before the point of rejoining to the main brachial artery at the origin of ulnar artery during development.

Conclusion: Such arterial variation, its course and relation to nerve can be an obstacle for surgeon. Hence, they should must be aware of it.

Abstract-32

Morphometric Study of Proximal end of Tibia and its Clinical Implications in the Population of Bihar

Gouri Shankar Jha, Assistant Professor of Anatomy; Archana Gautam, Tutor Anatomy; Radhika Raman, Assistant Professor of Anatomy; G K Mishra, Professor and Head Department of Anatomy, Darbhanga Medical College, Bihar, India.

Introduction: Knee joints are the largest and most complicated joints in the human body. It is the major weight bearing joint in the body. It is prone to undergo degenerative changes with advanced age and leads to osteoarthritis. So, knowledge regarding the morphometry of articular surface of tibia is important.

Aim: To measure the dimensions of the upper end of tibia which can contribute and help to design tibial prosthetic components of total knee replacement surgery.

Material And Methods: In this cross - sectional study, 112 dry tibia in the Department of Anatomy, Darbhanga Medical College, Bihar, India were studied. Out of these 55 were on the right side and 57 were on the left side. The Anterior- Posterior (AP) and Transverse Diameter (TD) of the Medial (MTC) and Lateral (LTC) Tibial Condyles and Total tibial Condyle (TTC) were taken by digital vernier caliper and were analysed.

Results: It was observed that mean AP and TD of MTC were more than that of AP and TD diameter of LTC. Measurement values of MTC were higher than LTC on both right and left side. Measurement of MTC and LTC were significantly higher in male ($p< 0.5$) than female in both side. In the TTC the AP diameter and TD were more in male than in female on both sides.The area of MTC and LTC was more in male than in female on both sides ($p<0.5$).

Conclusion: The information gathered by our study will provide a baseline data pertaining to morphometric details of the upper end of the tibia with reference to unicompartmental or Total arthroplasty of the knee joint in the population of Bihar.

Abstract-33

Effect of Aspirin on Placenta and Umbilical Cord of Developing Swiss Albino Mice

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Introduction: Aspirin is a non-steroidal anti inflammatory drug (NSAID). It has antipyretic, analgesic and anti-inflammatory actions. Aspirin is among the widely used drugs, especially during first trimester of pregnancy. Pregnant women by themselves easily purchase over the counter (OTC) NSAIDs to relieve their discomfort such as headache, fever, and arthritis which are very common during pregnancy.

Aim: The decision as to which patients to treat must weigh the benefits of chronic aspirin therapy against the possible risks associated with its use. Looking at very few and inconclusive reports about the teratogenic effect of aspirin on the placenta and umbilical cord, the present study has been undertaken.

Materials and Methods: Pregnant mice were divided in to control and treated groups. Aspirin was given to treated group in the dose of 100mg/kg body weight from 3rd to 5th day of gestation. Control group was similarly treated with the same volume of tap water on the same days of pregnancy. The mouse of each group was sacrificed on day 19th of gestation by deep ether anesthesia and fetuses were collected after uterotomy. The collected fetuses were blotted dry and weighed. Placenta with umbilical cord were separated from fetuses. Diameter of placenta and length of umbilical cord were recorded with the help of graph paper. Weight of placenta of both groups was measured.

Results: On examination a significant decrease in the weight and diameter of placenta was observed among the treated fetuses when compared with the control fetuses. A significant decrease in cord length was also observed in the treated group.

Conclusion: Aspirin although widely used may cause toxicity and teratogenicity. Clinicians, therefore, should carefully justify the aspirin therapy to pregnant mothers at the early stages.

Abstract-34

Morphometric Study of Acromion Process of Scapula-An Institutional Study

Midhat Syed, Department of Anatomy, Government Medical College, Srinagar, Jammu and Kashmir, India.

Introduction: Chronic shoulder pain is the most common complaint in patients between 60-69 yrs of age. 36-74% of these patients have pain due to shoulder impingement syndrome. The anatomy of subacromial space has to be known in order to treat this syndrome. An arthroscopic surgical procedure called as acromioplasty is done, for which various acromial dimensions are required.

Aim: To calculate various morphometric parameters of acromion process i,e acromial length, acromial breadth, acromion thickness, distance between acromion tip and coracoids tip, distance between acromion tip and dorsum of coracoid and distance between acromion tip and superior glenoid tubercle.

Materials and Methods: The study was conducted on 50 dry unpaired adult human scapulae. All the important morphometric parameters were studied using verniercalliper.

Results: The mean values of length, breadth and thickness of acromion were 45.68 mm, 24.21 mm and 6.67 mm, respectively. The acromion thickness was less than 8mm in 78.66% and greater than 8mm in 21.2% cases. The mean value of distance between acromion tip and coracoid tip was found to be 37.85.The mean value of distance between acromion tip and dorsum of coracoid was found to be 39.46. The mean value of distance between acromion tip and superior glenoid tubercle was found to be 30.78.

Conclusion: While dealing with a patient of chronic shoulder pain, the clinicians should have a proper knowledge about the variations in the dimensions of acromion process of scapula and its implication in rotator cuff injuries.The results showed that about 21.2 % cases had acromion thickness of greater than 8mm,which makes these people more prone to impingement syndrome and patients of choice for acromioplasty.

Abstract-35

Middle Cranial Fossa Foramina: Morphometry and their Clinical Importance

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Introduction: The floor Middle Cranial Fossa (MCF) has many foramina which exhibit variations in terms of shape, size and frequency of occurrence. Some are always present example foramen ovale, foramen rotundum, foramen spinosum. Some infrequent, small accessory foramina may also be present which are traversed by structures like emissary veins or occasionally the lesser petrosal nerve, and are not regularly present.

Aim: This study aims to provide baseline data for neurosurgeons for easy and safe approach to middle cranial fossa on variations in shape and morphometry of foramen ovale, foramen spinosum, foramen rotundum, foramen vesalius in adult dry human skulls. Distance between foramen ovale and spinosum was also observed.

Materials and Methods: All the distances were taken with vernier calipers. The skulls with broken base or lateral walls were excluded.

Results: Three shapes of foramen ovale namely round, oval and almond shape, oval was the commonest type and that too on left side. AP diameter was more on left side. Transverse diameter was more on right side. For foramen spinosum length was more towards left side whereas width was more towards right side. Distance between foramen ovale and foramen spinosum was more on right side. For foramen rotundum vertical diameter contributed more on left side whereas transverse diameter contributed more on right side. Accessory foramen was found more on left side as compared to right sides.

Conclusion: In this study we found data on left right dissymmetry in shape, position and number of various foramina of skull which will help neurosurgeons operating in this region.

Abstract-36

Third Ventricular Index of Brain: A Morphometric Study by Computerized Tomography

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Introduction: Third ventricle a slit-like cavity between the right and the left halves of the thalami. It communicates with the lateral and fourth ventricles. Understanding the normal and abnormal anatomy of the ventricular system of brain is helpful for clinicians, neurosurgeons, and radiologists in day-to-day clinical practice.

Aim: The study was aimed to establish baseline reference values for the Third ventricular index of normal brain on Computed Tomography for adult Kashmiri people standardized for age and sex from a sample pooled from patients who attended tertiary care hospital.

Materials and Methods: This study was conducted on total of 300 cases. Data obtained from the study was analyzed and results were calculated.Cases were the in and out-patients, of either sex between age groups (20-40) years, (41-60) years, (61-75) years, (76 years andabove) who after the routine clinical evaluation, were to undergo CT examination in the department of radiodiagnosis, due to various indications for the brain CT. Only those patients were included in the study whose brain CT was labeled as normal by an experienced radiologist with respect to normal cerebral ventricular size, form, shape and periventricular translucency, brain parenchyma normal with no evidence of space occupying lesion.

Results: Third Ventricular Index (TVI) showed an increase with increasing age in both males and females and was largest in sixth and seventh decade of life (0.048±0.0432). Mean TVI was slightly larger in females (0.041±0.056 cms) compared to males (0.038±0.042 cms). The present study found that the mean third ventricular index at the level of thalamus was 0.039±0.049 cms and varied from a minimum value of 0.011cm to a maximum value of 0.50 cm, 95% CI for mean was 0.034±0.045 cms.

Conclusion: Third ventricular index showed an increase with increasing age in both males and females and was largest in sixth and seventh decade of life. Third ventricular index was slightly larger in females compared to males.

Abstract-37

Histopathological Changes Induced by Exposure of Mosquito Coil Smoke on Liver of Adult Wistar Albino Rat-An Experimental Study

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Introduction: Mosquito coils are the most preferred anti-mosquito products in many households of Asian countries including India. The most common active ingredients in mosquito coils are pyrethroids that are effective against many genera of mosquitoes. Pyrethroid works by immobilizing the mosquitoes and the combustion of the remaining materials of the coil generates large amounts of sub-micrometer particles and gaseous pollutants which can have many toxic effects. Liver is the largest and most vascular organ of the body and is the primary site of metabolism of many drugs, this property of liver makes it a target organ for many toxins and drugs.

Aim: To evaluate the histological changes induced by mosquito coil smoke on rat liver.

Materials and Methods: Eighteen albino rats were divided into three groups. Group A was the control group, group B and C were exposed to mosquito coil smoke for 4 and 6 weeks respectively. The animals were exposed to the vapors of the mosquito coil for 8 hours daily by keeping the coil at a distance of 30 cm from the cage.

Results: The histopathological alterations examined in the liver tissues of the experimental rats during the study include ballooning degeneration of hepatocyts with nuclear changes, inflammatory cell infiltration, congestion of sinusoids and blood vessels and focal areas of interstitial necrosis.

Conclusion: Mosquito coil fumes do initiate gradual damage to the host.General public masses should be made aware about such possible hazards and adequate measures should be taken to ensure minimal exposure to coil smoke during domestic use.

Abstract-38

A Fetal Study of Holoprosencephaly Associated with Midline Craniofacial Anomalies

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Introduction: Holoprosencephaly (HPE) is an incomplete or absent division of the prosencephalon (forebrain) which is always associated with mild to severe craniofacial anomalies. It's incidence rate is 1:250 inutero and 1:16,000 in live birth.

Case description: A male fetus of 32 weeks of age with congenital abnormalities was collected from Department of Obstetrics and Gynaecology, RIMS, Imphal after taking permission from the concerned authorities and parents .The fetus was examined for external and internal findings. On examination, the external features of microcephaly, single nostril, scalp cutis aplasia, anotia (right sided), syndactyly, polydactyly, short neck, low set ears were observed. On radiological investigation following dissection, semilobarholoprosencephaly with subdural and extradural collection were observed.

Discussion: Relation of neural crest cells migration from the neural tube and development of face explains the association of midfacial anomalies with HPE.Failure of cleavage of prosencephalon gives rise to HPE, resulting in a single lobed brain structure, severe skull and facial defects.The etiology of HPE is multifactorial.

Conclusion: Holoprosencephaly is a rare congenital disorder which includes brain and facial anomalies. Early detection by the prenatal ultrasound is important because of it's poor prognosis.

Abstract-39

Morphometric Analysis of Cerebral Intraventricular Sizes in North Indian Adult Population: A Cross-Sectional Magnetic Resonance Imaging Study

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Introduction: Ventricular size is an important parameter used in the diagnosis and follow-up of cerebral diseases. Deviations of these ventricles from their normal anatomy may indicate brain parenchymal change.

Aim: To determine the normal values of brain ventricles and indices in adult north Indian population using Magnetic Resonance Imaging (MRI). To evaluate sex and age-related differences for easy diagnosis and management of hydrocephalic patients. To assess the applicability of oft-quoted ranges of normal ventricular sizes in our population. To determine correlation between ventricular dimensions with anthropometric parameters.

Materials and Methods: Department of Radiodiagnosis, AIIMS Bathinda, total 142 MRI brain obtained from Department of Radiodiagnosis were studied over a period of two years. Also, to further clarify, MRI images which was reported normal after radiographic evaluation by Department of Radiodiagnosis was included in the study. None of the participants was asked to undergo MRI examination for the sole purpose of research project.

Results: The MRI of 142 healthy individuals aged between 18-72 years were examined and the midsagittal and axial images were used for measurements. The measurements were performed from MRI on a Workstation. The following mean values of brain ventricles and indices were observed; Frontal Horn Width (FHW) (33.07 mm) third (3rd) Ventricle Width (TVW) (4.20 mm); Fourth Ventricle Anteroposterior Width (FVWAP) (8.62 mm); Fourth Ventricle Transverse Width (FVWT) (13.12 mm); and the Transverse Inner Diameter of the Skull (TIDS) (117.6 mm) in males. The same dimensions were 30.20 mm, 3.65 mm, 8.20 mm, 12.62 mm, and 116.05 mm in females, respectively. Amongst them, only TVW

showed statistically significant differences in between the sexes. The mean values of Evans' index which obtained with a maximum width between the frontal horns of the lateral ventricles divided by the maximum transverse inner diameter of the skull were found as 0.33±0.45 in females; whereas the same dimensions were calculated 0.36±0.46 in males.

Conclusion: The findings of the present study will help to determine the normal values of brain ventricles and indices in healthy adult subjects of north Indian origin using Magnetic Resonance Imaging, to evaluate sex and age-related differences for easy diagnosis and management of hydrocephalic patients. The mean values of Evans' index thus obtained for the study population, may provide available and safe means of aiding the diagnosis of some neurological disorders such as early detection of hydrocephalus, cerebral atrophy etc. and provide important follow-up information in affected patients.

Abstract-40

Reappraisal of the Anatomical Diversity of Pyramidalis Muscle with its Substantial Clinical Applicability: Cadaveric Analysis

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Introduction: Pyramidalis, a trivial triangular muscle often present in the inferior part of the anterior abdominal wall, tenses the linea alba on contraction.

Aim: The primary aim of the study was to analyze the morphometric diversity of the Pyramidalis Muscle (PM). Secondarily, their association with side and gender and possible role in muscle biomechanics.

Materials and Methods: 51 foramalin-fixed cadavers (36 males and 15 females) were studied to determine the prevalence, morphology and morphometry of pyramidalis muscle.

Results: The pyramidalis muscle was present in 16 cases, usually bilaterally (29.41%) than unilaterally (1.96%) (p=0.001) and more frequently in females (40.11%) than in males (25.71%). (p = 0.003). Side symmetry was detected except in one case. The mean length of PM in males and females was 4.51±0.14 and 3.33±0.12 cm on the right and 4.51±0.11 and 3.26±0.16 cm on the left side. The mean width of the right-sided PMs in males and females was 1.90±0.17 and 1.58±0.13 cm and the left-sided 1.88±0.14 and 1.55±0.38 cm. The mean of the Pubic-Pyramidalis Index (PPI) in males and females was 32.82±1.65 and 27.50±1.08 respectively. The mean angle of insertion was 24.56 ±3.07 on right side and 23±2.03 on left side) (p= 0.03). Male predominance existed on the right and left-sided PM lengths (p < 0.001 and p < 0.001), bredths (p = 0.001) and PPI (P = 0.001). The strong positive correlation (r = 0.83) between the PM length and width indicates a symmetrical muscle augmentation on the two dimensions.

Conclusion: The pyramidalis muscle is an inconsistent anatomical structure in the Indian population with persistent morphology in terms of origin, shape (triangular) and fibre pattern (longitudinal), level and angle of insertion into the linea. Morphometry shows side symmetry with significant male predominance. The level and angle of insertion into the linea are crucial in the biomechanics of linea alba. PPI, determining the level of termination would be useful to surgeons making midline infra-umbilical incisions and performing procedures involving the muscle.

Abstract-41

Morphometric Study of Glenoid Cavity of Scapula and its Clinical Importance

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Introduction: Glenoid cavity of scapula is quite small which allows space for limited fixation devices. Appropriate fixation of the glenoid component of shoulder is of key importance in total shoulder arthroplasty to prevent loosening, which is a common indication of revision surgery. Knowledge of shape and dimensions of the glenoid is important for orthopaedic surgeons and prosthetic designers to design the best possible prosthesis.

Aim: To calculate various morphometric parameters of the glenoid cavity i.e. supero-inferior diameter, shortest antero-posterior diameter, longest antero-posterior diameter, glenoid cavity index and shape of glenoid cavity.

Materials and Methods: The study was conducted on 50 dry unpaired adult human scapulae of North Indian population obtained from GMC, Srinagar. All the important morphometric parameters were studied using verniercalliper.

Results: The mean values of supero-inferior diameter, shortest antero-posterior diameter and longest antero-posterior diameter were 35.06 mm, 15.8074 mm and 23.3814 mm, respectively. The mean value of glenoid cavity index was 66.68. Regarding the shape of glenoid cavity, 42% were inverted comma shaped, 36% were pear shaped and 22% were oval shaped.

Conclusion: The results showed that mean supero-inferior diameter of glenoid is about 35mm while the average prosthesis for shoulder arthroplasty in the market starts from 40mm. This implies that the smaller dimensions of the glenoid cavities in the North Indian population may have to be taken into consideration while designing and fitting glenoid components for total shoulder arthroplasty in this population.

Abstract-42

Eustachian Tube Anatomy for Its Surgical Approach In Otorhinolaryngology

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Introduction: Eustachian tube is the connection between the nasopharynx and the middle earbehind inferior nasal choncha. It plays an important role in regulating air pressure across tympanic membrane for proper transmission of sound. The pharyngeal opening of tube is an important landmark for endoscopic evaluation in patients suffering from chronic otitis media and also an important anatomical landmark for transnasal approach to the infratemporal fossa.

Aim: To locate the position of the pharyngeal opening of the eustachian tube in relation to various important anatomical landmarks.

Materials and methods: 100 (50 right and 50 left side) adult formalin fixed sagittal sections of head and neck specimens were taken for the study. Shape, size and position of the pharyngeal opening of eustachian tube was noted. The distance between the pharyngeal opening of eustachian tube and various anatomical landmarks were measured with the help of digital vernier caliper. The mean and standard deviation of all the parameters were calculated and tabulated.

Results: Slit-like shape was the most common shape of the pharyngeal opening, present in 62 out of 100 specimens. The difference between the antero-posterior length and vertical height of the two sides showed statistically significant difference.

Conclusion: The present study will help to locate the position of pharyngeal opening of eustachian tube during otorhinolaryngological evaluation for performing various surgeries in the middle ear.

Abstract-43

Poland Syndrome- A Case Study

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Introduction: Poland syndrome is an anomaly characterized by hypoplasia or agenesis of the anterior chest wall muscles. It can be observed sporadically or congenitally. The most affected muscle is the sternocostal part of the major pectoral muscle, followed by the minor pectoral muscle. This syndrome was first described in 1841, when Sir Alfred Poland was a student at Guy's Hospital in London. He performed an autopsy on the cadaver of a 27-year-old prisoner named George Elt, and reported the case with left-sided complete absence of the major and minor pectoral muscles, as well as ipsilateral partial absence of the serratus anterior muscle and symbrachydactyly.

Case description: A 6-year-old female had come to paediatricout patient for upper respiratory tract infection. On physical examination, pectusexcavatum deformity, agenesia of the left pectoral minor muscle, hypoplasia of the pectoralis major muscle and breast asymmetry were observed. In the left breast, glandular tissue, papillae mammalia, areola mammae, and subcutaneous adipose tissue were hypoplastic. There was syndactyly present on left index, middle and ring finger. X-ray of left hand showed syndactyly. Clinical diagnosis of Poland syndrome was made.

Conclusion: Poland Syndrome has very versatile presentations and many systemic associations. Since it was first diagnosed almost two centuries ago, more associations have been added, and different and unusual presentations included. An extensive spectrum of anomalies described in Poland Syndrome till date is included in this review. One may conclude that surgical intervention is generally done in adolescence mostly for cosmesis but may rarely be needed to improve restrictive lung diseases in severe chest wall defects.

Abstract-44

Trends of Body Fat Percentage and Body Mass Index in Response to Stress Among Adolescents

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Introduction: Obesity and psychological disorders are very common among every group of individuals. Physical and mental changes may be associated with each other among adolescents.

Aim: The aim of this study was to analyze trends of body fat and body mass index among female adolescents and to evaluate the correlation between stress and objective measures of adiposity.

Materials and methods: Cross-sectional research design was used to collect data of 600 punjabi female adolescents, ages between 15 to17 years. The measures of adiposity includes body mass index, calculated by height/weight and percent body fat from four site skin fold method. Symptoms of stress were measured with the Depression Anxiety and Stress Scale (DAS scale).

Results: A significant positive correlation was found between quantitative score of stress and percent body fat ($r = .107$, $p = .009$) but no significant correlation between stress and body mass index ($r = .007$, $p = .863$).

Conclusion: Above results indicates that there is a need of some interventions to educate adolescents about negative effects of stress on body.

Abstract-45

Robertsonian Translocation in An Infertile Couple- A Case Study

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Introduction: Bad Obstetric History (BOH) implies previous unfavourable fetal outcome in terms of two or more consecutive spontaneous abortion, history of intrauterine fetal death, intrauterine growth retardation, still births, early neonatal death and/or congenital anomalies. Chromosomal abnormalities are one of the genetic causes of reproductive abnormalities and are important causes of infertility, spontaneous and recurrent abortion, stillbirth, oligospermia or no sperm, and other abnormal fertility problems in couples of childbearing age. The most common Robertsonian translocation is between chromosomes 13 and 14. Evaluation of chromosomal abnormalities is useful to explain the causes and the risks associated with miscarriages, availability of prenatal diagnosis. It also provides information for members of extended families who are at the risk.

Case description: A 27-year-old female came with history of recurrent miscarriages. Family history indicated that it was a second-degree consanguineous marriage. Cytogenetic analysis of the patient showed that a normal female karyotype with apparently balanced Robertsonian translocation between chromosome 13 and 14. – 45XX, der (13;14) (q10; q10). Cytogenetic analysis was also done on her husband which showed that normal male karyotype with homozygous Robertsonian translocation between chromosome 13 and 14. --45XY, der (13;14) (q10; q10) X2.

Conclusion: Cytogenetic analysis for couple prior to planning pregnancy is recommended and in couples with history of recurrent miscarriages and infertility is mandatory. Appropriate testing and the genetic counselling help to control the congenital abnormalities and pave the way to stop the psychological stress or the trauma caused by infertility and bad obstetric history of couples.

Abstract-46

Awareness, Knowledge and Attitude towards Body Donation Among Medical Students-A Questionnaire Based Study

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Introduction: Cadavers are the mainstay of learning anatomy by dissection. Due to lack of awareness regarding the gracious act of body donation, most of the medical institutions in India are facing a shortage of cadavers. Medical students should be aware of the complete procedure of body donation so that they can become motivators of whole body donation to ensure a positive outcome.

Aim: To assess the awareness, knowledge and attitude towards body donation among medical students.

Materials and Methods: A cross-sectional study was undertaken among first-year medical students through a pretested semi-structured questionnaire via a google form.The responses of 182 students who completed 100 % of the questionnaires were considered for further analysis.

Results: A total of 96.7% of medical students had heard about the concept of body donation. Anatomy teachers were found to be the source of information for 65.3% of students.31.8% of students knew that the whole body and eye can be donated simultaneously. Only 27.4% of students had knowledge that a pledge form is available for body donation. 45% felt that the cadavers available for dissection classes are not adequate.90.1% of students opined for inclusion of a chapter on body donation in their curriculum. The virtual anatomy table cannot be a substitute for body donation was perceived by 78% of students. Only 34.6 % of students are willing to donate their whole body and eyes.

Conclusion: Though medical students are aware of the concept of body donation, their knowledge and attitude need to be improved.

Abstract-47

The Effect of Ethanolic Extract of Moringa Leaves on 4G-Mobile Phone-EMR Induced Oxidative Stressin Wistar Rats' Testes

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Introduction: Electromagnetic radiation produced from cell phone can affect the male reproductive system and sperm parameters through oxidative stress. The scientific evidences show that the Moringaoleifera Leaves (MOL) contain some phytochemicals which can exhibit strong anti-oxidant properties in diseases.

Aim: To evaluate the role of ethanolic extract of MOL in protecting rats' testes against 4G-mobile phone-EMR induced oxidative stress.

Materials and Methods: Twenty-four male Wistar rats (four-week-old) were divided into five groups. Control group (n=3): no cell phone. Sham group (n=3): exposed to cell phone in switch-off mode.MOL-2 group (n=6): received orally 200 mg of ethanolic extract of MOL /kg body weight/day for two months.R2 group (n=6): exposed to EMR for 96 minutes/day (4 minutes/half an hour from 8 AM to 8 PM) for two months.R2+MOL (n=6): exposed to EMR (like R2 group) and simultaneously treated with 200 mg of ethanolic extract of MOL/kg body weight/day for two months.After completion of the experiment, the rats were sacrificed and their testes were removed and placed in liquid nitrogen (-190°C) then, kept at -80°C until used for the preparation of testicular tissue homogenate to evaluate biomarkers of oxidative stress. One-Way Analysis of Variance (ANOVA) and a post hoc test (Tanhane/LSD) was applied to identify the statistical difference between groups.

Results: 4G-smart phone radiation-exposed rats in the R2 group showed significantly ($p < 0.05$) decreased and increased level of the SOD and MDA respectively in testis when compared to control, sham and MOL-2 groups. But the simultaneous ingestion of MOL extract during EMR exposure significantly elevated its activity as compared to R2 group.

Conclusion: The ethanolic extract of MOL is capable in normalizing the 4G-cellphone induced-oxidative stress in testis. Such activity of MOL is may be because of its phytochemicals such as flavonoids.

Abstract-48

Effectiveness of Flipped Class Method of Teaching Among Medical Students

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Introduction: The considerable portion of available teaching time in medical course is engaged in lectures which are unidirectional and teacher centric.To overcome these problems and for active involvement of students, the concept of "flipped classroom" was introduced. A flipped classroom is a learning methodology where the traditional teaching time and self-study time are reversed. Students attend the class well prepared through teaching material provided online before the class time. The class time is utilized for interactive sessions at a teamwork level through case studies, debates and solving the problems which favors student learning and active involvement.

Aim: 1.To evaluate the effectiveness of flipped class method of teaching.2.To explore the perception of students regarding introduction of flipped classroom in Anatomy.

Material and methods: Study was conducted in Department of Anatomy, Yenepoya Medical College,Mangalore on 150 first MBBS students of 2021-22 batch.Students were provided with study material one week in advance for self-study. This was followed by a class where case scenarios were projected and the time was used foractive learning exercises in small groups. Students discussed and clarified their queries with the facilitator.Pre-test and Post-test in the form of 10 MCQs were conducted before and after flipped classroom to test their knowledge of the information gained. Students Feedback regarding their perception of flipped classroom was collected. Obtained data was analyzed using SPSS 21.00 Version. Paired t test was applied for comparing pretest and post test scores.

Results: Mean scores values were higher in post test compared to pre-test with a significant p-value <0.05.Qualitative feedback and put was Students agreed that Flipped classroom is more engaging and interactive, motivated to read further and helped in better understanding of the subject.

Conclusion: Post-test scores were better as compared to pre-test scores and students stated preference for flipped classroom relative to didactic lectures indicating Flipped classroom is more interactive and facilitates active learning.

Abstract-49

Bilateral Asymmetry in the Panoramic Mandibular Index: A Radiomorphometric Study in the North- Indian Population

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Introduction: Panoramic Mandibular Index (PMI) is a quantitative radiomorphometric index of the mandible. It is an important indicator of mandibular bone mineral density.

Aim: To examine bilateral asymmetry in PMI in the North- Indian population of Haryana.

Materials and Methods: This study was conducted in the Department of Anatomy, Pandit Bhagwat Dayal Sharma Post Graduate Institute of Medical Sciences, Rohtak utilizing 240 adult human dental panoramic radiographs (or orthopantomographs, i.e. O.P.G.'s) obtained from the department of Dental Radiology. These orthopantomographs were divided into six age groups (30-60 years) with equal number of males and females. PMI was calculated according to the technique described by Benson et al (1991). The left-sided and right-sided PMI values recorded across different age groups for both the sexes were subjected to appropriate statistical analysis using SPSS software (version 19).

Results: In males, the left-sided mean PMI values ranged from 0.302±0.021 to 0.377±0.011 and the right-sided mean PMI values ranged from 0.297±0.031 to 0.384±0.029. Whereas, the mean PMI values recorded in females ranged from 0.294±0.037 to 0.38±0.015 on the left side and from 0.278±0.037 to 0.34±0.016 on the right side, respectively. Comparisons between the left-sided and right-sided mean PMI values showed statistically significant differences ($p<0.05$) in both the genders.

Conclusion: Bilateral asymmetry was recorded for Panoramic Mandibular Index in both sexes.

Abstract-50

A Morphilogical Study of Nutrient Foramen in Human Adult Clavicles

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Introduction: The clavicle is a modefied long bone, only long bone placed horizontally and subcutaneous through out its length. Nutrient artery is the principal source of blood supply to a long bone, during its active embryonic and fetal life. The Inferior surface of shaft of clavicle presenta a subclavian groove, on its lateral end a nutrient foramen is present.

Aim: 1.To note the location, number, direction. 2.Distance of foramen from lateral end of clavicle.

Materials and methods: An on-going study of 80 human adult clavicle (25 human adult clavicle from Department of Anatomy SVMCHRC, Pondicherry during the year 2022 and 55 human adult clavicle from Mysore medical college and research institute Mysore during the year 2016) were observed for the position, number, direction, and distance from lateral end were noted using magnifying lens and digital verniercalioer with 0.001 mm correction.

Results: Out of 80 human adult clavicle(36 right and 44 left), 67 clavicles had foramen- 42 right and 25 left. A total of 13 clavicle showed absence of foramen. Double foramen were present in 34 right and 24 left clavicle. All foramen were directed towards the acromial end of the clavicle. The distance from lateral end is 5±2 cm.

Conclusion : The present study concludes, most of the clavicle had single nutrient foramen, commonest on posterior surface directed towards acromial end indicating the medial end as it's growing end. The knowledge of anatomical variations are of great importance for orthopedic surgeons during operative procedures like bone grafting and microsurgical vascularized bone transplantion.

Abstract-51

Histopathological Analysis of Effect of PIH on Fetal Kidneys Using Special Stains and IHC

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Introduction: Kidneys are the excretory organs present in retro peritoneum. Developmental abnormalities in the kidney and urinary tract amounts to significant causes of multiple renal and other associated diseases. High blood pressure complicates almost 10 percent of all pregnancies, and the incidence is higher if the women are nulliparous or carrying multiple fetuses. Detailed knowledge of developmental anomalies of fetal kidney in PIH cases helps to understand the renal disease and its diagnosis and hence its better treatment.

Aim: To study histology of fetal kidney in PIH conditions using special stains and immunohistochemical methods.

Materials and Methods: A total of eight human fetuses of age 12-36 weeks were included in the study procured from department of OBG, JSS medical college, Mysore. After fixing the fetus with 10% formalin, gross anatomy of the kidneys was noted. Sections of the kidney were stained with Hand E, Periodic acid Schiff for capsule, S-100 for nerves, CD 10 for tubules and CD-34 for blood vessels. After staining the sections were observed under microscope.

Results: Fetuses were studied under 3 groups: A- 12-18 weeks, B- 19-24 weeks and c-25 36weeks.Nephrogenic zone was clearly seen during the early fetal period just beneath the capsule, followed by appearance of crescentic Bowman's spaceenclosing few capillaries. With increasing gestational age cortex was populated by excretory units with decrease in the amount of connective tissue. Corticomedullary distinction was more obvious by the end of 20 weeks. Renal capillaries appeared in early fetal period and their number increased in later ages even in medulla. There was damage to the lining epithelium including podocytes.

Conclusion: With usage of special stain and immunohistochemical methods there is better interpretation of his tomorphology off etalkidney with special reference toangiogenesis and nerves in PIH cases. Such understanding is essential to interpret pathogenesis of various renal disorders and hence for diagnosis and treatment.

Abstract-52

Mapping of Learning Theories into the Anatomy Training Curriculum-using Dissection as an Example

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Introduction: With implementation of new training standard by Accreditation Council For Graduate Medical Education (ACGME), health education is in the way of drastic transformation which asks for the reassessment of teaching learning methods used traditionally and to initiate innovative learning strategies for better learning environment. Learning theories are set of principles that explains the working of a concept or between various principles. Deeper understanding of learning theories helps us to connect various theories together and build a creative learning environment which is innovative and memorable. Other side of the coin involves lack of knowledge resulting in misapplication of theories with bad results and will be no benefit to both students and faculties. Selecting a specific learning strategy. articulation with the learning objectives that can be mapped with the curricular outcomes is the need of the hour in medical education due to paradigm change in health care delivery system, continuous quality check and point of care learning.

Aim: Present study was undertaken to describe the key learning theories proposed by Merriam and Caffarella and to understand the correlation between specific learning methodologies and learning theories.

Materials and Methods: Study was conducted by searching documents related to various student centric methods adapted during dissection from the period of 2021-2022. These pedagogical tools were correlated with various learning theories and an attempt was made to correlate the multiple perspectives of learning theories with specific learning outcomes that are desired.

Discussion: Strong links were found between learning theories and teaching methodologies which encourages proactive approach to learning with autonomy being the predominant feature. It was also found that understanding of learning theory forms the basis for curriculum design and evaluation.

Conclusion: Medical facilitator with a thorough knowledge of learning theories can connect, apply and combine various theories to maximize student learning. A blended approach for teaching anatomy is proposed to transfer knowledge effectively in a particular context.

Abstract-53

Morphometric Measurements of External Ear Indices Among Ethnic Kashmiri Population and their Association with Gender

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Introduction: Anthropometric data for a specific population is always required for identification, product design, ear reconstruction, and ear-related instruments.

Aim: This study aimed at providing data on morphometric measurements of external ear among ethnic Kashmiri population and to estimate any gender differences. The knowledge about various dimensions of external ear can be useful for reconstructive surgeries, forensic and legal purposes and to decide precisely the position and structural framework of auricular system.

Materials and Methods: An arbitrary sample of 200 students both male and female from the sampling frame using convenient sampling method were included. The socio-demographic characteristics and anthropometry data were recorded on a pretested, predesigned proforma. The measurement of external ear was done using an improvised instrument Vernier caliper capable of measuring to the nearest of 0.01 mm.

Results: This study included a sample of 200 participants among whom 54% were females. On inspection of external ear, majority 164 (82%) had oval shaped pinna. The mean of total ear height and total ear width among males was higher than female participants. The morphometric measurements of left ear among female participants were found to be higher in respect to right ear. The lobular height and width among female participants were also found to be greater than male counterparts.The association of the gender and morphometric indices of both ears were found to be statistically significant with p-values < 0.05.

Conclusion: The present study concludes that the external ear indices are greater among males. Females have greater left ear indices than right ears and their lobular height and width is more than males. Furthermore, morphometric measurements of ear and gender have a statistical significance.

Abstract-54

Compensatory Mechanism of Vascular Supply of Vital Organs: Nature's Wish?

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Introduction: Circle of Willis is the balancing mechanism of blood supply to brain between vertebra-basilar and carotid systems. Literature say, the incidence of absent internal carotid artery in Western population is 0.01%.

Aim: This study is to find the incidence of absent internal carotid artery in Circle of Willis among South Indian population.

Materials and methods: A total of 243 cadaveric brains were utilized in this study at various medical colleges in and around Puducherry. Routine dissection instruments were used. The Circle of Willis was studied and photographed.

Results: Left internal carotid artery was absent in one brain, bilateral internal carotid artery was absent in one brain.

Conclusion: Incidence of absent internal carotid artery in Circle of Willis among south Indian population was 0.82%. Since unilateral absence of ICA was associated with Mitral Stenosis,vascular anomalies are to be ruled out during routine investigations of the vital organs such as brain, heart, kidney etc.

Abstract-55

A Study of Morphometric Measurements of Scapula and Suprascapular Notch

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Introduction: The scapula is a triangular flat bone that lies on the posterolateral aspect of the thorax, overlying 2nd to 7th ribs. The bony dimensions of the scapula including the glenoid,coracoid,acromion, spine, and body were measured. This information may be helpful in open reduction and internal fixation of significantly displaced scapular fractures.The study of dimensions of scapula will help the orthopaedicians to correlate suprascapular nerve entrapment syndrome with a specific type of suprascapularnotch.

Aim: 1.To compare the metric difference between right and left scapula.2.To calculate scapular index and infraspinous index.3.To correlate the morphometry between the scapula and the suprascapularnotch.

Materials and methods: A cross-sectional study of 172 dry human scapula from Medical colleges in and around Dakshina Kannada district were used.The length and breadth of scapula, length of scapular spine, length of supraspinous line and infraspinous line, maximum distance between acromion and corocoid process, length of acromion and corocoid process, length and breadth of glenoid fossa, length of axial border, Scapular index, infraspinous index and weight of scapula were measured.

Results: In this study 172 scapulae were measured.78 were right bones and 94 were left bones.Few parameters were more on the right side compared to the left scapulae. The scapular index and infra spinous index shows that right scapula is shorter and broader than left scapula. Supra scapular foramen was found in 3.48% of the scapulae.

Conclusion: The observations in this study will throw light in the field of forensic medicine and anthropology.The dimensions of glenoid fossa will help the surgeons in the field of prosthesis and shoulder girdle arthroplasty.

Abstract-56

A Study of Branching Pattern of External Carotid Artery in the Carotid Triangle – A Cadaveric Study

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Introduction: Carotid triangle is an important neurovascular area located in the anterior cervical region of the neck. Carotid triangle contains carotid system of arteries where pulse can be auscultated and palpated.Variations in the external carotid artery may complicate surgeries like radical neck dissection, aneurysm repair in the carotid triangle.

Aim: To study the branching pattern and variations of external carotid artery in carotid triangle.

Materials and Methods: This study includes 30 formalin fixed cadavers including both right and left side in the Department of Anatomy, Sri Lakshmi Narayana Institute of Medical Sciences Puducherry. This study includes all the cadavers during routine anatomical dissection by the students.

Results: In this study both sides of the neck regions , a total of 60 sides were dissected. External carotid artery branches in the carotid triangle were traced. In the study period we found 3% of superior thyroid artery arising from common carotid artery and common unilateral linguofacial trunk in 6% of cadavers. Other branches of external carotid artery in the carotid triangle were traced.

Conclusion: Carotid triangle is a vascular area contains common carotid artery and its terminal branches, important area for auscultation and palpation of vessels.With in the carotid triangle common carotid artery divides into internal and external carotid arteries .External carotid artery gives eight branches in this five branches arises from carotid triangle. The study of branches of external carotid artery in the carotid triangle was paramount important to avoid iatrogenic injury during neck dissection.

Abstract-57

Lumbar Triangular Safe Zone: A Cadaveric Study

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Introduction: The increasing application of minimally invasive procedures like percutaneous discectomy lends a new importance to study of lumbar region. Working cannulas are used in these procedures and are done through posterolateral approach. The optimal safe working cannula diameter is based on triangular safe zone dimension at each level of intervertebral foramen.

Aim: The aim of the present study were to determine the dimensions of 'safe zone' for the surgical procedure and compare them on both sides and in both sexes.

Materials and methods: A total of 100 intervertebral foramina from 10 formalin-fixed human cadavers examined from L1 to L5 lumbar level. The morphometry of safe zone was noted, whose dimensions is formed by exiting nerve root as the hypotenuse, height is by the traversing nerve root and base by the lower end plate.

Results: The average dimensions of the triangular safe zone were determined to be base 12.9 mm, height 11.6 mm and hypotenuse 16.5 mm. All the dimensions forming the anatomic boundaries of the safe zone were increasing from L1-L2 to L5-S1 level and were statistically significant. The changes observed in the dimension of the safe zone on right and left side and with respect to gender were not statistically significant.

Conclusion: The knowledge of this safe zone will be helpful in safely performing surgery in the lumbar spinal region.

Abstract-58

Study of Fingertip Dermatoglyphic Patterns in the Cervical Cancer Patients

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Introduction: Dermatoglyphics is the branch of science that concerns with the analysis of epidermal ridges and their arrangements on the palmar aspect of hands, digits and plantar aspect of foot and toes. Abnormal genes are the root cause of a wide variety of genetic disorders. The dermatoglyphic patterns are a reflection of any genetic aberration that is passed down to the offspring from the parents. In many diseases with a significant hereditary component, dermatoglyphics is now well established as a diagnostic tool. It is also used as a reliable screening tool for aberrant genetic conditions.

Aim: 1.To study the fingertip patterns in the patients of cervical cancer patients.2.To compare the fingertip patterns of study group with the control group.3.To find out, whether the specific dermatoglyphic trait exist in the cervical cancer patients and whether it is significant.

Materials and Methods: The study consists of 100 histopathologically diagnosed cervical cancer patients in the age group of 25–70 years from Aarupadai Veedu Medical College and Hospital, Puducherry. Similarly equal number of female controls who had no signs and symptoms of cervical cancer and no family history in the same age group as that of cervical cancer patients are taken. Fingerprints are taken by "Ink Method" described by Cummins and Midlo and further subjected to statistical analysis to find the variations in the dermatoglyphic features among cervical cancer patients.

Results: The increased frequency of both loop pattern and whorl were observed in the cervical cancer patients but not statistically significant when compared to female controls. The decreased frequency of arch pattern was observed and statistically significant.

Conclusion: Dermatoglyphics is a developing discipline, and its simplicity and ready applicability make it a valuable tool for clinicians. Dermatoglyphics may be used effectively as a screening procedure in the future, aiding in the early detection of cervical cancer patients.

Abstract-59

Correlation of Metabolic Parameters with Carotid Intima-Media Thickness after the Combined Approach of Yoga Therapy among Prediabetics

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Introduction: Prediabetes is presented as a metabolic state that predisposes persons to a greater risk of diabetes progression in the future. Prediabetes subjects have prone to developing risk of many complications i.e., retinopathy, neuropathy, nephropathy, and macrovascular.Prediabetes is likely to be reversible through adaptation to lifestyle changes based on healthy eating habits and increased levels of exercise.

Aim: The aim of this study was to assess and correlate the effect ofintegrated approach of yoga therapy on biochemical parameters and carotid intima-media thickness.

Materials and Methods: Experimental interventional study was conducted at the Department of Medicine and Physiology at RUHS College of Medical Sciences and attached Hospital. Assessments were made before the intervention and after six months of combined Approach of Yoga Therapy (AYT)C. A total of 250 prediabetic subjects were recruited. The study (yoga) group (group A, n =125) was involved in the yoga session. The control group (group B, n=125) was not engaged in yoga sessions.

Results: Pearson correlation analysis of Fasting Blood Glucose (FBG), glycated hemoglobin (HbA1C), and lipid profile Triglyceride (TG) , Total Cholesterol(TC), High Density Lipoprotein (HDL) with Carotid Intima-Media Thickness (CIMT) showed that FBG (r=.881), HbA1C(r=.651),TG (r=.672), TC (r=.456) were significant and positive correlation and negative correlation (r=-0.391) with HDL levels after six month of yoga intervention in yoga group compare to control group.

Conclusion: This study demonstrated that after yoga intervention metabolic parameters were positively correlated with carotid intima-media thickness which wasa putative index of atherosclerosis, as a part of the pathophysiological pathway for atherosclerosis. It confirms that regular yoga represents a valuable strategy to counter impairments of metabolic parameters and artery structural changes.

Abstract-60

Can Nutritional Intervention Modulate Metabolic Disorder in Adult Rats Subjected to Perinatal Undernutrition?

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Introduction: The fetal origins hypothesis proposes that alterations in fetal nutrition result in a permanent change in physiology and metabolism, thereby predisposing to metabolic disorders in adult life. Astaxanthin, a potent antioxidant, Food and Drug Administration (FDA) approved nutraceutical possess multiple health benefits. Hence, it was hypothesized that, rats suffered undernutrition during perinatal period would develop metabolic disorders in their adult life, which would be modulated by Astaxanthin. Therefore, the present study was designed to investigate the effect of Astaxanthin supplementation during perinatal life.

Aim: To investigate the modulatory effects of Astaxanthin on perinatal undernourishment induced metabolic disorder in the adult life.

Materials and methods: It is an experimental study conducted using a rat model. The animals were divided into four groups with 6 animals each. The insulin level was estimated by the Enzyme-Linked Immunosorbent Assay (ELISA) method. Plasma glucose and lipid profile by autoanalyzer method. HOMA-IR and AI were calculated. The difference was compared between the groups and within the group was done by one-way ANOVA. The $p < 0.05$ was considered as the level of significance.

Results: The bodyweight, triglyceride, total cholesterol, LDL-C, glucose, AI, and HOMA-IR was significantly increased (p=0.0001) in the PeriUN group, whereas HDL-C and insulin were significantly decreased (p=0.001) as compared to control animals, which was effectively modulated by Astaxanthin in the animals of PeriAsX group.

Conclusion: The present study showed that perinatal undernutrition caused metabolic disorders in adult life, which was effectively modulated by Astaxanthin supplementation during the perinatal period.

Abstract-61

Evaluation of Hypoglycemic Properties of Inflorescence of Urtica Dioica (Stinging Nettle) on Streptozotocin Treated Diabetic Male Albino Wistar Rats

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Introduction: Diabetes mellitus, a metabolic disorder is well managed by synthetic drugs but the hunt for more potent compound from natural source is on rise. Previous in vivo studies on leaf extracts have shown opposing findings and few more recent scientific investigations reported a beneficial effect in diabetes. Hence, the present study aims to investigate the hypoglycemic effect of crude extracts of the Inflorescence of Urtica dioica in animal model.

Aim: To examine the phytochemicals and to study the hypoglycemic effect of crude extracts of the inflorescence of Urtica dioica in animal model.

Materials and Methods**:** The preparation of crude extract, qualitative and quantitative phytochemical analysis and in vivo hypoglycemic activity was performed using standard methods. Aqueous extract was fed at the dose of 600 mg/kg b.w. per day for a period of 28 days. Experimental protocol was approved by IAEC of the SMIMS (MC/SMIMS/IAEC/05/2016). Statistical analysis was performed using graph pad prism software.

Results: Phytochemical analysis revealed the presence of different phytoconstituents but nosignificant difference (decrease) in blood glucose level in plant extract treated group with respect to time was observed.

Conclusion: The leaves of Urtica dioica has been reported to possess hypoglycemic activity in the previous study but in the present study, the activity was not observed. The plant parts, plant habitat and solvent used in the previous studies are found to be different; hence there could be a possible difference in the phytochemical profile in the extracts.

Abstract-62

Study of Co-Relation Between Clinical Signs and Symptoms and Electrophysiological Findings in Carpal Tunnel Syndrome Patients

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Introduction: Carpal Tunnel Syndrome (CTS) has been reported to be the commonest entrapment neuropathy. Phalen's test and Tinel's sign are the two provocative tests commonly used to diagnose CTS clinically.

Aim: The present study is carried out to co-relate electrophysiological findings with clinical signs and symptoms of CTS.

Materials and methods: Sensory and motor nerve conduction study were carried out in 100 CTS patients and 60 controls in Department of Physiology, KIMS Karad. Subjects were divided into four groups. Control group, group I (clinical symptoms along with both test (-) ve , group II (clinical symptoms along with either of the test (+)ve, group III (clinical symptoms along with both the test (+)ve . Sensory Nerve Conduction Velocity (SNCV) of median nerve, difference in Distal Sensory Latency (DSL)of median and ulnar nerve, difference in Distal Motor Latency (DML) of median and ulnar nerve, DML of median nerve were compared between four groups.

Results: For all the parameters studied significant differences were observed between control and three Groups ($p<0.01$). No significant differences were observed between three groups (I, II. and III).

Conclusion: Alone clinical symptoms, with negative phalens and Tinel's sign shows no electrophysiological evidence for CTS. So, clinical symptoms along with one of the test (Phalen's and Tinels) Should be positive to get the electrophysiological evidence for CTS.

Abstract-63

Study of Sympathetic and Parasympathetic Control of Haemodynamic in Mid Pregnancy by Cardiac Autonomic Neuropathy Analyzer

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Introduction: Pregnancy is associated with substantial changes in cardiovascular system. The action of autonomic nervous system is essential for circulatory adaptations in pregnancy and nourishing growing fetus.

Aim: The study was conducted to assess the significance of autonomic function tests amongst women of mid pregnancy and non-pregnant women.

Material and methods: A comparative study was carried out amongst pregnant and non pregnant women in Department of Physiology. A total of 60 women (30 pregnant as study group and 30 non pregnant healthy women as control group) aged between 18- 30 years were included in study.

Results: The results indicated that there was statistically significant change in resting heart and highly statistically significant change to deep breathing in mid pregnancy reflecting higher parasympathetic activity in study group (pregnant female) as compared to control group (non pregnant female) while sympathetic activity assessed by isometric hand grip test didn't show any statistically significant change among pregnant as compared to non pregnant.

Conclusion: This study showed role of parasympathetic activity in controlling haemodynamics in mid pregnancy and it may help to return the arterial pressure to non pregnant level by causing haemodilution, although when the increase in activity is excessive, hypertension may ensue.

Abstract-64

Study on the Time of Return of Oxygen Saturation levels after a Single bout of Exercise in Athletes versus Non-athletes

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Introduction: Oxygen saturation is the fraction of oxygen saturated hemoglobin relative to total hemoglobin in the blood and is an essential element in the management and understanding of patient care. Hypoxemia can lead to many acute adverse effects on individual organ systems including brain. Literature shows that exercise induces hypoxemia in both athletes and non-athletes. But information on the time taken for return of oxygen saturation level back to basal value is not documented.

Aim: To measure the time of return of oxygen saturation levels to baseline value after 10 minutes of treadmill jogging between athletes and non-athletes.

Materials and methods: This interventional study was done with a sample size of 80 students: Group A (athletes n=40) and Group B (non-athletes n=40). After measuring the baseline oxygen saturation levels using pulse oximeter, both groups were instructed to perform 10 minutes of exercise in treadmill and post oxygen saturation levels were measured. The time of return of oxygen saturation level to baseline was noted for both groups. Results were analyzed using paired and independent sample t-test.

Results: Pre and post exercise oxygen saturation levels in both athletes and non-athletes had a significant difference (p value<0.001). The time of return of oxygen values to base line was significantly lesser (p value<0.001) in athletes.

Conclusion: The time of return of oxygen saturation levels back to baseline value was comparatively faster in athletes than in non-athletes. This could be used as one of the indicators of physical fitness.

Abstract-65

Impact of Normal Weight Obesity on Ultrasound derived Echo Intensity and Skeletal Muscle Strength in Young Adults

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Introduction: Obesity refers to accumulation of excess body fat. Commonly used BMI does not distinguish between muscle mass and fat mass. Individuals with a normal BMI but with high percentage of body fat have an increased risk for cardio metabolic dysregulation. This condition is referred to as 6 (NWO).

Aim: To assess hand grip strength and ultrasound derived echo intensity in NWO in comparison to Normal Weight Non Obese (NWNO) young adults.

Materials and Methods: A total of 40 subjects with BMI < 25 kg/m2 and percent fat ≥ 20.6% for men and ≥ 33.4% for women were taken as NWO group and 40 NWNO were recruited. BMI, waist, hip and forearm circumference was measured, and percent fat was estimated using bioimpedance analysis. Subjects were tested for handgrip strength. Ultrasonography (USG) was done to measure forearm radial and ulna muscle thickness. The Echo Intensity (EI) was measured from an ultrasound image in pixel using Adobe photoshop.

Results: BMI, muscle thickness, and forearm circumference were comparable. Body fat percent, waist circumference, subcutaneous fat, echo intensity was higher in NWO group compared to NWNO group, whereas Handgrip strength was higher in NWNO group. Linear regression showed there is a significant correlation between Muscle thickness, forearm circumference, subcutaneous fat thickness, echo intensity with handgrip strength (r= 0.823 p <0.001), a small adjustment for the other three parameters, the forearm muscle thickness correlated positively and echo intensity negatively with handgrip strength.

Discussion: USG images of the skeletal muscle of NWO individuals have a higher EI (looks whiter) than those of non- obese individuals due to increased intramyocellular fat accumulation, fibrous tissue.

Conclusion: NWO young adults although muscle thickness was similar, there is decrease in functionality due to increased intramyocellular fat as indicated by enhance EI, contributing to decline in muscle quality.

Abstract-66

Sagittal Abdominal Diameter: A Better Anthropometric Correlate of Serum Leptin Levels in Young Adults

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Introduction: Leptin is secreted in concentrations proportional to body fat mass, and its increased level is associated with poor cardiometabolic health. Physicians traditionally use Body Mass Index (BMI) to assess adiposity. However, Sagittal Abdominal Diameter (SAD) could be a better anthropometric marker to assess adiposity and cardiometabolic health.

Aim: The present study aims to correlate serum leptin levels with anthropometric parameters in young and healthy North Indian adults.

Materials and Methods: The present cross-sectional study involved 55 males and 45 females aged 21.4±1.5 years. Anthropometric assessments of the participants were BMI 22.7±2.7 kg/m2, Hip Circumference (HC) 91.5±6.9 cm, Waist

Circumference (WC)81.9±7.9 cm, Waist-Hip Ratio (WHR) 0.9±0.1, Waist-Height Ratio (WHtR) 0.50±0.04, and SAD 20.8±3.1 cm. Serum leptin level was 389.6±102.7 Pearson's correlation coefficient was used to correlate serum leptin with HC, WC, WHR, WHtR, BMI, and SAD. The confidence interval was set at 95%. Statistical significance was set at $p<0.05$.

Results: Serum leptin level correlated significantly with HC ($r=0.23$, $p=0.02$), WC ($r=0.29$, $p=0.003$), WHtR ($r=0.36$, $p<0.001$), and SAD ($r=0.56$, $p<0.001$). A non-significant correlation was obtained with BMI ($r=0.15$, $p=0.12$) and WHR ($r=0.11$, $p=0.26$).

Conclusion: SAD is a better predictor of cardiometabolic health than other anthropometric parameters in the present study, as it correlated most strongly with serum leptin levels.Primary care physicians should consider including SAD in routine examinations to identify patients with a high risk of developing future cardiometabolic disorders.

Abstract-67

Knowledge and Perception about Artificial Intelligence among Medical Students

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Introduction: The field of Artificial Intelligence in Medicine (AIM) is an ever growing one. From simple algorithms to robots performing surgeries, the applications of artificial intelligence in medical profession are many. A better understanding of the current trends in the field is essential even as a medical student.

Aim: To evaluate the knowledge and understanding of the medical students about artificial intelligence.

Materials and methods: It is a cross sectional study. The questionnaire comprising four dimensions - concepts and definitions, training and education, implementation, and risks was shared among the medical students of Velammal Medical College Hospital and the responses were collected. Each question was given five responses ranging from strongly disagree to strongly agree. A total of 320 students responded for the questionnaire. Descriptive analysis was done for the responses collected.

Results: In concepts and definition, 64% students have opted for - heard of the topic yet unable to understand AIM. In training and education dimension 42% students agreed and 28% students strongly agreed to gat a training in AIM. The implementation parameter showed mixed results implying a varied understanding among students as to where AIM can be used. 48% of students disagreed with the risks dimension.

Conclusion: The average medical student are aware of and are willing to learn more about AIM. Yet, they are unsure about their usage in routine clinical practice showing that medical curriculum could further impart some focused attention in teaching about AIM and its practical applications.

Abstract-68

Social and Hospital Phobia among Transgender Community- A Single Center Study

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Introduction: Stigma and discrimination within the health care sector in general may impact transgender people's desire and ability to access appropriate care. The transgender community have specific health care needs which may go untreated leading to increased disease burden in the community. In India there is a gap in understanding the factors affecting health services use by transgender community.

Aim: To determine the percentage of transgender individuals with social and hospital phobia in a transgender community center.

Materials and methods: A cross-sectional, observational study done on 24 transgender adults available at a transgender community center in Chennai, were interviewed using a structured questionnaire for social phobia and hospital phobia.

Results: The study population was majority in age group of 18 to 35 (19 participants of 24) and identified themselves as transwomen (18 out of 24). Out of 24, 9 had hospital related anxiety score more than 4 out of 9. Social phobia scores out of 36 was given and the highest score was 27, with a mean score of 11.4 (8.4 SD). Hospital phobia score out of 32 was given and mean score was 13 (6.04 SD).

Conclusion: There is high prevalence of social and hospital phobia among the transgender community. More can be done to make our hospitals feel safe and welcome to them.

Abstract-69

Post Recovery and Long-Term Effects of the COVID -19: Physiological Insights into Immunological Mechanisms and Future Implications

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Introduction: Replication and shedding occurs after S. protein binds host cell receptors (ACE-2). Virus propagates in Endoplasmic Golgi Intermediate Compartment (ERGIC). COVID-19 stimulates cellular and humoral immunity. There is decline in CD-4 and CD -8 T-cells and recently role of memory T-cells has been highlighted. Symptoms may persist in COVID-19 patients even after recovery. People with co-existing co-morbidities are at risk of long Covid-19.

Aim: The present review provides physiological insights into long term effects of COVID-19.

Materials and Methods: Articles (2019-2022) were searched from database using MeSH and keywords like "Long COVID" OR "Post recovery effects of COVID" OR "Sequel" "Physiological mechanism" OR "ACE-2 receptors" OR "CORONA VIRUS Sequel" AND "Physiology", AND "Physiological insights" "COVID AND cytokine", "AND", "Physiology" OR "Long COVID" OR "Physiological basis". With inclusion and exclusion criterion and removal of duplicates, selected articles were reviewed.

Results: Neuropsychiatric symptoms post-recovery were found to be correlated with cytokines IL-2, TN-α, IL-6, IL-1. Imbalance between the inflammatory (IL-1, 6, IFN-γ, TNF-α) and anti-inflammatory (IL-10, TGF-β) cytokines are reported. ACE-2 receptors (expressed in GABAnergic and glutamergic neurons) and TMPRSS2 play role in hypoxia, inflammation, thrombosis. Increase APTT, d-dimer and fibrinogen result in coagulation defect and subsequent ischemia in small vessels of brain and lung. Placenta has ACE-2 receptor but varying reports regarding transmission to fetus have been suggested. TNF-α, IFN-γ, MCP- 1 and IL-1β plays role in reducing the insulin sensitivity. Monitoring of cytokines would help in assessing the disease progression and even act as therapeutic targets in diseases management. Transcription of the NLRP3 (role in virus elimination) involves NF- κB. Inflammatory cytokines have anti-viral effect by increasing neutrophil recruitment and enhancing adaptive immune response. Treatment strategies include anti-histaminics, naturopathy, probiotics, fibre rich diet and management of the complications which will be discussed in detail in paper.

Conclusion: Cytokines are implicated in long term effects of COVID-19 in patients post recovery. Understanding of physiological mechanisms is vital to mitigate long term effects. People with co-morbid states are vulnerable to harmful effects and thus need monitoring.

Abstract-70

Association of Ferritin with Liver Function Parameters in COVID-19 Patients

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Introduction: Corona Virus 19(COVID-19) is a complex multisystemic disease which remains to be a great challenge to the international health care system. Liver damage can occur in COVID-19 patients due to immune mediated inflammation such as cytokine storm induced by ferritin. The effect of ferritin on liver biochemistries in COVID-19 patients are still obscure.

Aim: To study the association of ferritin with liver function parameters in COVID -19 patients. To find the association of ferritin with liver enzymes such as Aspartate transaminase, Alanine transaminase, AST: ALT ratio, Alkaline phosphatase, albumin,total protein and serum bilirubin.

Materials and Methods: The study was a retrospective cross-sectional study conducted at Sri Ramachandra laboratory services and medical records department of SRIHER. Ethical approval was obtained from Institutional ethical committee (IEC), SRIHER to collect the data of COVID -19 patients who were RT-PCR positive. The patients were enrolled on the basis of their inclusion and exclusion criteria. All the liver function parameters were analyzed in Beckmann Coulter 5800.

Results: A significant elevation in AST and ALT were observed. There was no significant alteration in serum alkaline phosphatase indicating that biliary obstruction was not a significant component in COVID -19 infection. The levels of total protein and albumin were considerably decreased. Increased levels of bilirubin was noticed in mild and severe COVID-19 patients.

Conclusion: COVID -19 patients showed significant correlation of ferritin with liver function parameters thus all the COVID -19 patients should have their liver test indicators assessed and monitored periodically to prevent mortality due to liver damage.

Abstract-71

Jigsaw Method of Medical Education why to Stimulate Interest in Biochemistry among Medical Students: An experimental study

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Introduction: Jigsaw technique is method of collaborative and cooperative learning where students learn and teach to each other.

Aim: To introduce jigsaw technique in teaching Biochemistry and to assess its effectiveness and perception of students towards this technique of medical education.

Methodology: The present interventional study was conducted in the Department of Biochemistry, Vardhman Mahavir Medical College and Safdarjung Hospital, Delhi. All the students of MBBS first professional batch 2021–2022 were enrolled in the present study. After sensitizing the faculty and students regarding jigsaw method of learning, it was undertaken in two different batches on four different days, with senior residents acting as facilitators. The topics(lipid chemistry) were taught by power point presentation and the study material are provided to students in digital format ,pretest questioner are given to students before the conduction of jigsaw activity with five groups containing six students each and six topics to discuss .after that posttest questioner are given to students.

Results: On comparing means of Pretest and Posttest scores (n=140) statistically significant (p=0.01) difference between the score of Traditional and Jigsaw method was observed. Students and faculty enjoyed the learning and recommended this technique.

Conclusion: Jigsaw technique is effective and enjoyable method of interactive learning. It shall be implemented for teaching.

Abstract-72

Study the Biochemical and Hematological Biomarkers Association with COVID-19 Disease Progression and Hospitalisation in a Tertiary Care Hospital Puducherry

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Introduction:COVID-19 disease caused by SARS-COV-2 belongs to the family coronaviridae.In worldwide, it affected more than 100 million people and 2.2 million patient died. Many studies have been conducted to determine the clinical, biological, and radiological characteristics of COVID-19 for better identification of infected people at an early stage and stop disease development to an advanced state.

Aim: The aim of our this study was to take advantage of the biochemical and haematological parameters in predicting the prognosis and mortality in disease severity COVID-19 patients.

Material and Methods: This study included total of 100 COVID-19 positive patients were included. Biochemistry and hematological parameters were tested for the COVID-19 positive patients and patients were categorized as mild, moderate, and severely ill based on clinical status.

Results: The Biochemical parameters and inflammatory markers like D-Dimer, C-reactive protein (CRP), Ferritin, and Lactate Dehydrogenase (LDH) levels differed significantly between mild, moderate and severely ill cases respectively. The mean difference of hematological parameters like total leucocyte count, neutrophil %, monocyte and lymphocyte % were shows significant different between mild, moderate and severe symptoms cases.

Conclusion: The biochemical parameters, inflammatory markers haematological indices are a good guide for predicting the severity and disease outcome of corona virus disease and could be used as a screening tool to identify patients requiring intensive care.

Abstract-73

Alteration in Liver Enzymes and Lipid Parameters in COVID-19 Affected Patients and its Association with Inflammatory Markers

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Introduction: Coronavirus disease 2019 has challenged the global healthcare system since 2019. Cytokine storm due to the release of pro-inflammatory cytokine scan lead to systemic inflammation reaction. Dysregulation of lipid profile and liver enzymes Aspartate Transaminase (AST) and Alanine Transaminase (ALT) are reported in COVID-19 patients. De Ritis ratio (AST/ALT) ratio is a non-invasive, cost–effective test however its usefulness in COVID-19 is unclear.

Aim: To determine serum host serum lipid levels and serum levels of AST, ALT and De Ritis ratio in admitted patients and its correlation with inflammatory markers.

Materials and Methods :It was a retrospective study conducted from June 2020 to December 2020, included 500 COVID-19 admitted patients. AST, ALT, Total Cholesterol, Triglycerides, Low Density Lipoprotein, High Density lipoprotein, Ferritin, Procalcitonin, hsCRP estimated in Autoanalyzer and Interleukin-6 by ELISA.

Results: A significant increase in Serum Triglycerides and decrease in HDL-C was observed with no remarkable finding in other lipid parameters. A statistically significant ($p<0.05$) correlation was observed between TG (positive), HDL (negative)and inflammatory markers such as hsCRP, PCT, Ferritin, IL-6. The De Ritis ratio was significantly lower in survivors than non-survivors whereas no significant differences was seen in ALT and AST concentrations. In ROC Curve analysis, the AUC value of the De Ritis ratio was 0.80(95% CI 0.56 to 0.65, $p<0.0001$) with sensitivity and specificity of 70.64% and 70.27%, respectively as compared to AST (0.60) and ALT (0.64).

Conclusion: Liver enzymes and lipid profile are cost-effective and easily accessible in all laboratories. Its correlation with inflammatory markers can be used as a significant biomarker in prognosis and management of COVID-19 admitted patients without incurring any additional cost.

Abstract-74

Uncertainty of Measurement of Biochemical Parameters as an Analytical Performance Specification and Interpretation of its Results

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Introduction: Medical laboratories should guarantee that laboratory reports contain all the information required for the correct interpretation of tests results. In the clinical laboratory random and systematic errors canact together to produce an error ofmeasurement (total error) and generate a query (uncertainty) about thetrue value of the measured quantity. Measurement of uncertainty is numerical information that complements a measured value, indicating the magnitude of the doubt about this value and providing quantitativeindication of the quality of a measured value.

Aim: To calculate uncertainty of measurement for routine biochemical parameters as an analytical performance specification in the interpretation of its results.

Materials and methods: The uncertainty of measurement was calculated for 24 routine biochemical parameters. The calculations for the uncertainty of measurement were performed using the data generated from the internal quality control (level I and II) and external quality control ofbiochemistry clinical laboratory for the time period of six months. Uncertainty of measurement was calculated by two methods using CV% and the formula Uc = (U(RW)2+U(Bias)2)1/2. And obtained value was compared with permissible total allowable error.

Results: All the calculated values of the measurement of uncertainty of routine biochemical parameters were in acceptable range of total allowable error in accordance to (CLIA guidance) using CV%. Using the formula all parameters were within permissible levels except for triglyceride.

Conclusion: Laboratories should calculate the measurement of uncertainty for each parameter to ensure that clinicians take those factors into consideration while evaluating the patients' results.

Abstract-75

A Study of Advanced Glycation End Product and its correlation with Serum Magnesium in Diabetic Neuropathy (DN)

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Introduction: Uncontrolled hyperglycemia in type 2 Diabetes Mellitus (DM) leads to formation of Advanced Glycation (AGE) products like Pentosidine. AGE-modified peripheral nerve myelin is susceptible to phagocytosis by macrophages and contributes to segmental demyelination; modification of major axonal cytoskeletal proteins such as tubulin, neurofilament, and actin by AGEs results in axonal atrophy/degeneration and impaired axonal transport; and glycation of extracellular matrix protein laminin leads to impaired regenerative activity in diabetic neuropathy. Hypomagnesemia in Diabetic Neuropathy (DN) could be due toinsufficient intake, autonomic dysfunction, alteration in metabolism of insulin, glomerular hyper-infiltration, osmotic diuresis, metabolic acidosis and decreased levels of serum potassium levels.

Aim: To evaluate serum pentosidine levels and its correlation with serum magnesium in diabetic neuropathy.

1. To estimate serum pentosidine levels in DN and type 2 diabetic controls. 2. To estimate serum magnesium in DN and type 2 diabetic controls. 3. To correlate Pentosidine levels with magnesium in DN and diabetic controls.

Materials and Methods: 66 clinically diagnosed DN patients of both genders in the age group between 40-60 years visiting general medicine Out Patient Department (OPD) of MGMCRI were included as cases and 66 type 2 DM were included as diabetic controls. Patients suffering from chronic and autoimmune disorders were excluded. Serum magnesium was estimated by Xylidyl Blue method and pentosidine by ELISA. Statistical analysis was done using SPSS 20 IBM, USA.

Results: Serum pentosidine was statistically significantly elevated in DN. Serum magnesium was significantly decreased in DN when compared to controls. There was a negative correlation between serum pentosidine and magnesium in DN.

Conclusion: Uncontrolled hyperglycemia induced AGE formation decreases magnesium levels and causes significant elevation in pentosidine which is responsible for early onset of complications like DN.

Abstract-76

Effect of Positive Deviance Approach on Promotion of Safe Disposal of Child's Faeces in Rural Tamil Nadu: A Community-Based Quasi-Experimental Study

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Introduction: Safe disposal of faeces is ensured when it is deposited into a toilet.Whereas, unsafe disposal of child's faeces play a crucial role in disease transmission and environmental pollution. These areas are overlooked by many sanitation promotion interventions.

Aim: To determine the effect of Positive Deviance (PD) approach on safe disposal of child's faeces among households who owned a toilet.

Materials and methods: A community based quasi-experimental (pre and post intervention) study was carried out in the four field practice villages of Urban Health Training Centre, Villupuram for 18 months. Households who owned a toilet and had a child less than five years were included. After Institutional Ethical clearance, information were collected from a representative sample of 100 households before intervention and another 100 households after intervention. PD approach was applied for six months to promote safe disposal practices in the study villages.Data was analyzed in SPSS software (version 24). Chi square test was used to determine the significance of difference between baseline and endline data. Effect size was calculated to estimate the magnitude of difference between baseline and endline data.

Results: Before intervention, only 3% households disposed the faeces into a toilet. While, after intervention, almost 38% households disposed in the toilet (c2=37.39; df=1; p=0.001). Effect size (Cramer's V) was found to be 0.43.

Conclusion: PD approach demonstrated considerable improvements in safe disposal of child's faeces in rural settings. Further, in order to sustain the behaviour change frequent reinforcement of key messages at frequent intervals need to emphasized.

Abstract-77

Medical Student's Insight into Different Types of Set Induction

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Aim: The aim of the study is to study the differences in a questionnaire-based perception score measured on Likert scale between the three types of set induction scores.

Materials and Methods: The study is a prospective observational study done on MBBS students of second, third and fourth year students of Deccan College of Medical Sciences. They were firstly introduced to different types of set induction namely case -based scenarios, narratives and audiovisual aids, Then a questionnaire was answered and results were noted and analyzed statistically in R-language software.

Sample size: Total number of students 312 among them 208 (66%) students participated.

Results: Set induction impacts the students immensely and has significant role to play for all the batches 2018(4rd year), 2019(3rd Year), 2020(2nd year).Case based scenario, narration based and audio-visual instruction are significant for all three batches. There is statistically significant difference in between batches in responding to whether they liked set induction though they liked case based initial instruction followed by narration based and then audio visual ($p<0.05$) 0.03. Gender based differences were significant in some like introductory part, absorbing and engrossing ($p<0.05$) 0.03, maximum number said they could connect grasp and enhance their present knowledge (42.7%).

Conclusion: Set induction must be deliberately designed to facilitate its incorporation to facilitate smooth teaching learning process.

Abstract-78

Role of Vertical Integration in Student's Perception on Vertical Integration to Learn Basic Sciences in Ophthalmology

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Introduction: Both horizontal and vertical integrated teaching learning, bridge gaps between theory and practice. It also connects the basic science and advance learning thus widens the knowledge gained of the subject. It is observed that memory of basic sciences in medical curriculum and its correlation with clinical work among undergraduates is less than expected. This necessitates the vertical integration of Ophthalmology with Anatomy, Physiology, Biochemistry and pathology; horizontal integration with Medicine, ENT and community medicine as mentioned in the CBME Curriculum.

Aim: The aim of this study was to assess the student's perception of integration of Basic science in Ophthalmology.

Materials and Methods: One hundred and six out of 151 third MBBS students who had undergone vertically integrated sessions by Ophthalmology and basic science departments were included in this questionnaire based cross-sectional study.

Results: 50.9% students agreed that integrated teaching helped in the application of the basic science knowledge to health and disease. 51.4% agreed that integrated teaching improved the performance in clinics and university examinations. 37.1% preferred integrated teaching method while 34.3% were neutral. 67.3% of the students preferred the horizontal to vertical integrated teaching. The students opined that integrating the medical subjects was useful and they should be continued with more interactive sessions.

Conclusions: Although basic sciences are a cornerstone of undergraduate medical education, it has been observed that students' basic science knowledge is not well retained. Hence incorporating integrated learning in our medical education aids in imparting and accomplishing abetter quality education to them.

LIST OF PG ORAL PRESENTATIONS

Abstract-79

Sexual Dimorphism in Human Sacrum in Population of Rajasthan and its Clinical Significance

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Introduction: Determination of sex is an important data for identification. Sex of an individual can be estimated by morphological assessment, statistical methods and DNA analysis. Knowledge of sex determination is important in forensic, anatomical and archaeological cases.

Aim: To study the differences between a male and female sacrum based on the measurements of an adult human sacrum in Rajasthan population. To study the accuracy and limitations of various sacral indices and measurements in identifying the sex of an adult human sacrum.

Materials and methods: For the present study a sample of 100 sacrum, completely ossified with no deformity are taken from Jhalawar and SMS medical college, Rajasthan. Digital vernier caliper and Standardized flexible ribbon measuring tape were used. From each sacrum, maximum straight and curved length, maximum and minimum sacral width, transverse and anteroposterior diameter of the body of the first sacral vertebra, length of auricular surface and length of ala were measured to sacral index(maximum width/ maximum length*100),Index for body of first sacral vertebra(A.P diameter of S1/ transverse diameter of S1*100), curvature index(maximum length/curved length*100), corporobasal index(T.D of S1/sacral width*100) and auricular index(length of auricular surface/sacral width*100).

Results: After a detailed study, it is noted that corporobasal index, curvature index, auricular index, index of body of S1 and sacral index is <0.05 that means statistically highly significant and help in to know the sex of the unknown samples of sacrum.

Conclusion: The most useful index for sex determination of sacrum in present study is sacral index with 95% accuracy.Continuance of such studies will definitely help in establishing the anthropometric standards.

Abstract-80

Comparison of Dimension of Foramen Transversarium on Right and Left Side in Axis Vertebrae in North Indian Population

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Introduction: The blood supply to brain is carried by circle of willis, which is formed by two carotid arteries and two vertebral arteries. Out of two vertebral arteries, a high percentage of left vertebral artery dominance (increased diameter in comparison with that of the other side)has been documented.

Aim: To investigate whether the dimensions of foramen transversarium of axis vertebrae, reflects the vertebral artery dominance. Objective is to compare the various dimensions of foramen transversarium on right and left side in axis vertebrae.

Materials and Methods: Fifty dry axis vertebrae collected from the Department of Anatomy, SHKM, were used in this study. Only intact axis vertebrae were included. The Anteroposterior (AP) diameter, transverse diameter, depth, and the angulation of foramen transversarium on the right and left side of the axis vertebrae were measured. Linear measurements were measured using vernier calliper and angular measurements were measured using goniometer. A p-value <0.05 was considered statistically significant.

Results: The AP diameter on right was 6.09±0.95 mm and left was 6.01±0.91mm, transverse diameter in right and left were 5.76±0.79 mm and 5.87±0.90 mm respectively, depth of foramen transversarium were found to be 7.61±1.62 mm in right and 8.17±1.57 on left and p value were not <0.05 and were not statistically significant. Angulation of foramen transversarium on right was 45.11±10.00 ° and on left it was 32.40±8.22°, the p value was found to be less than 0.05 and was found to be statistically significant.

Conclusion: It was found that the dimensions of foramen transversarium of axis vertebrae, does not corelate with the vertebral artery dominance.

Abstract-81

Evaluation of the Effectiveness of Early Clinical Exposure among Pre – Clinical and Clinical Students

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Introduction : Early Clinical Exposure (ECE) is a teaching learning methodology which fosters the exposure of medical students to the patients as early as the first year of medical college. In the medical curriculum, ECE makes an overall impact on students performance and confidence. The vision 2015 of Medical Council of India states that the Indian Medical graduate should have the necessary competencies (Knowledge, Skills and Attitude) to assume his or her role as a health care to be provided to the people of India. ECE is one of the measures taken by MCI to enact its vision. ECE can help to instill the skill component of medical education in the first year students helping to minimize the line of demarcation. Hence, this study was undertaken to assess the skill learning of students through ECE and to collate the perception of them.

Aim: 1.To develop a protocol for the Introduction of ECE in undergraduate medical training. 2.To validate and to deliver it to the first year MBBS students and assess their perception.

Materials And Methods: The 150 voluntary participants were first year MBBS students who consented to undergo study. These 150 students were arranged in one group (Group A -ECE Group) and 150 students of final year MBBS students(Group B- non ECE Group)in Government Medical College, Cuddalore. Group A was trained by using ECE method for two hours per week for 9 weeks in various clinical departments in preclinical year. Group B was directly exposed to various clinical department after completing preclinical years. Both groups were tested. Questionnaire was framed based on their experience when they entered the first clinical year.

Results: There was found statistically significant difference in the knowledge, skills and attitude of students of two groups namely ECE group and non ECE group. All faculties (100%) agreed that ECE increases student interest in learning and increased recall capacity.

Conclusion: ECE was better learning methodology than traditional teaching for medical students in Indian scenario. The challenge for health profession education is to look for ways to improve the quality of clinical education by comparing students understanding and modifying practices of clinical education in new circumstances.

Abstract-82

Anatomical Variant of Vertebral, Renal and Obturator Artery in A Single Human Body – A Cadaveric Case Report

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Introduction: Isolated arterial variations are more common and widely reported, but the literature regarding the multiple variations in the blood supply of vital organs in a single human body is scarce. We describe a unique triad of arterial variations that include vertebral, renal, and obturator arteries in a single cadaver.

Case description:A combination of arterial variations was observed in a 60 year male, formalin embalmed cadaver, during the routine dissection while teaching undergraduate students. The origin, course, branching pattern, and termination of the vertebral, renal, and obturator arterial systems were noted along with the vessels' diameter close to their origin.

Discussion: The following variations were observed: a) duplication of a V4 segment of the right vertebral artery, b) the right testicular artery originated from a distal accessory right renal artery, which in turn originated from the abdominal aorta, c) right obturator artery originated from the posterior division of the right internal iliac artery, and the left obturator artery originated from the trunk of the left external iliac artery. Such a combination of variations in the anatomy of vertebral, renal, and obturator arteries was not reported previously.

Conclusion: In the future, if physicians, neurosurgeons, or radiologists are noticing any one of these arterial variations during the medical or surgical management or radiological interpretation, then they should also look for the presence of other arterial variations in the same human body to plan the favorable treatment methodology and to avoid the iatrogenic complications.

Abstract-83

A Rare Case of Deciduosisin- A Previous Caesarean Scar

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Introduction: Endometriosis refers to development of endometrial tissue outside the uterus. Rarely, it may develop from scar tissue from prior abdominal surgeries like caesarean section or episiotomies, and shows histological characteristics like decidual alteration, fibrosis, hyperplasia, metaplasia and calcification. Cutaneous deciduosis, a very rare form, is frequently misdiagnosed as primary cancer or metastatic desposits and is difficult to diagnose. Reported cases of surgically verified deciduosis is 1.6%.

Case Description: 29 year old women presenting with routine antenatal checkup. Ultrasound showed increased scar thickness, is approximately 5.3mm. Lower segment caesarean section with scar tissue removal was done and the scar tissue were sent for histopathological examination.

Discussion: Specimen consisting of scar tissue came for histopathological examination. On microscopic examination shows marked decidual reaction. These decidual cells were polygonal with large nuclei, abundant homogenous esinophilic cytoplasm and associated with vascular degeneration.

Conclusion: Scar decidosis is usually uncomplicated event with asymptomatic course with a possible manifestation of cutaneous endometrosis. Deciduosis of cesarean scar needs to distinguished from a recently introduced entity called deciduoma.

Abstract-84

Assessment of Self-Directed Learning Readiness among Medical Students in Government Cuddalore Medical College

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Introduction: Learning is the process of acquiring new understanding, knowledge, behaviors, skills, values, attitudes, and preferences, whereas education facilitates learning.The medical profession, by its nature, always requires consistent effort towards learning; even after the completion of the course, it demands the person to be a lifelong learner. To instigate the skill of learning and promote passion towards it, the National Medical Council of India has implemented a new system in the curriculum called self-directed learning. Self-directed learning requires the complete involvement of the individual in planning, time management, and execution of it in a proper way. It requires immense passion of the student towards learning and hence helps them to be excellent professionals. Self-Directed Learning (SDL) is a strategy that allows learners to take charge of their learning process, where they take responsibility for what to learn, when, and how. Students take the initiative to diagnose their learning needs, formulate learning goals and manage their learning activities. Teachers provide advice, directions, and resources to guide the students, while peers provide collaboration.

Aim: To assess the self -directed learning readiness among medical students in Government Cuddalore Medical College.

Materials And Methods : A questionnaire framed with Self -directed learning related enquiries with proper guidance from experienced teaching faculties was given to 300 medical students at Government Cuddalore Medical College, and the answered results were analyzed.

Results : Most of the students substantiated readiness for self-directed learning, except for a few, who remarked that it was time-consuming .Clarification of doubts is expected from facilitators. Suitable topics should be chosen for self-directed learning.

Conclusion: Medical students of this generation, with more exposure to various learning methodologies, are ready to involve in self -directed learning with enthusiasm. Teaching faculty must take the responsibility in choosing apt topics.

Abstract-85

Comparative Study of Palmar Angles in Male and Female Schizophrenia Patients

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Introduction: Dermatoglyphic features due to its permanency, genetic influence in schizophrenia as well as number of easily observable and measurable characters may be considered one of the most suitable parameters to study the disease. The present study compares palmar angles between male and female Schizophrenic patients.

Aim: The aim of present study is to compare palmar angles between male and female Schizophrenic patients. The objective is to compare ATD, TAD and TDA angles of left hand in male and female schizophrenic patients.

Materials and methods: Ink and pad method was used to collect finger and palm prints. The palm prints of 100 male schizophrenic patients and 100 female schizophrenic patients were collected for the study.

Results: The mean value of left hand ATD angle is found to be more in female schizophrenic patients than male schizophrenic patients. The male schizophrenic patients have more meanTAD angle on left hand than female schizophrenic patients. The mean left hand TDA angle in female schizophrenic patients is found to be less than male schizophrenic patients. All these differences were found to be statistically not significant.

Conclusion: The differences between Left hand ATD ,TAD, and TDA angles between male and female schizophrenic patients were found to be statistically not significant which throws light on the use of these parameters for studying differences between male and female schizophrenic patients.

Abstract-86

Assessment of Olfactory and Gustatory Threshold in Smartphone Users

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Introduction: The exposure of smartphone radiations on humans are growing tremendously high with the current lifestyle we chose to adapt ourselves into. The risks of regular exposure of radiations on human health is been extensively studied on the other organ systems like brain, eyes, skin etc while only few studies were done on its effect on oral cavity. There is no literature showing its effect on taste and smell sensation.

Aim: To study the impact of smart phone radiation on olfactory and gustatory threshold level .

Materials and methods: This observational cross-sectional study was done among 80 medical students (both genders), of age between 18-21 years. Their weekly screen time was collected and categorized them into users of maximum and minimum smart phone radiation exposure. For gustation, sip spit rinse test was performed where taste strips are impregnated in sweet and salt solutions of different concentrations (0.05-0.00625 g / ml). Olfactory threshold was measured with various dilutions of rose water (1:10000 to 1:1) using olfactometer. Results were statistically analyzed using Mann Whitney U-test.

Results: Users with maximum smart phone radiation exposure had a significant increase in sweet taste ($p < 0.001$) , salt taste ($p < 0.001$) and smell threshold ($p = 0.044$)when compared with the minimum users.

Conclusion: Users with maximum smart phone radiation exposure had a significant increase in olfactory and gustatory threshold sensation. Desensitization of these senses will cause the subject to indulge in over consumption of food resulting in long term health complications like obesity

Abstract-87

Association between Mobile Phone Addiction and Sleep Patterns Among Postgraduate Students

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Introduction: In Darbhanga Medical College the relationship between smartphone addiction and sleep quality pattern among postgraduate students were studied.

Aim: To understand the mobile addiction with sleep pattern so that a proper balance between mind and body should be maintained.

Materials and Methods: It was a cross-sectional across sectional study done on 275 postgraduates in Darbhanga Medical College. Participants completed smartphone addiction scales short vision, an adapted Pittsburgh sleep quality score and reported smartphone reduction strategies.

Results: A large number of postgraduates' students (66.6) disclosed about their poor sleep and in those with the smartphone addiction 76.27 had poor sleep quality.

Conclusion: Excessive use of smartphone has led to poor sleep cycle and increased disharmony between mind and body.

Abstract-88

Comparison of Menorrhagia in Rural and Urban Girl Students of First Year MBBS of JMC, Jhalawar

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Shrikant Shete, Senior Professor and HOD Jhalawar Medical College, Jhalawa.

Introduction: A woman's uterine lining naturally sheds every month, a process known as menstruation. When a woman loses more than 80 milliliters of blood per menstrual cycle, she is said to be suffering from menorrhagia. Abnormally excessive or protracted bleeding during menstruation is medically referred to as menorrhagia. Stress and anxiety also causes menorrhagia.

Aim: To study the comparison of menorrhagia in rural and urban girls heavy bleeding problems and its causes during menstrual cycle in students of Istyear MBBS of JMC, Jhalawar.

Materials and Methods: A total 100 girls of first year MBBS of JMC, Jhalawar with a regular menstrual cycle participated in this study. Chi-Square test was used to find the relationship between bleeding during menstrual cycle and the stress level of the students. The Sahil's technique was used to measure the level of the hemoglobin.

Results: Out of total 100 students menorrhagia was seen in only 15% of the students 11 rural and 4 urban girls. The 62 students have high stress and anxiety problems and 38 have normal stress level. The chi-square test p-value is .032777. Therefore, there is a significant relationship (association) between the stress level and the bleeding during the menstrual of the students.

Conclusion: Therefore, the high stress is a problem among the student of MBBS and due to which they have abnormal menstrual cycle and heavy bleeding problem. The rural girls have more high stress and menorrhagia in comparison to urban girls.

Abstract-89

Study of Visuospatial Abilities in Opioid Use Disorder Patients and It's Relation with Age of Onset and Duration of Dependence

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Introduction: The term "opioids" includes compounds that are extracted from the poppy seed as well as semisynthetic and synthetic compounds with similar properties that can interact with opioid receptors in the brain. Several studies point to the cognitive impairment in opioid abusers across various cognitive domains. Patients with OUD exhibit deficits in inhibition, planning, and problem-solving. Patients with OUD exhibit poorer performance on neuropsychological measures of visuospatial ability. There is limited data commenting on the visuospatial abilities in opioid use disorder patients.

Aim: To study visuospatial abilities in Opioid Use Disorder (OUD) patients and its correlation with age of onset and duration of opioid dependence.

Materials and methods: A cross- sectional study on 40 OUD patients was carried out from January 2021 to August 2022. After taking consent their visuomotor ability was tested using Bender Visual Motor Gestalt Test.

Results: A total of 90% of the study participants(n=36) were found having dysfunction in visual motor ability. and a small among them 47.5% individuals had dysfunction rating of two whereas 42.5% had dysfunction rating of three. Overall score of Bender visual motor gestalt test did not show significant correlation with the age of onset and duration of opioid dependence.

Conclusion: Assessment of visuospatial abilities among OUD patients could be possible using Bender Visual Motor Gestalt Test. Further more studies using different tests are needed be carried out in the same field.

Abstract-90

Evaluation of Pulmonary Function Test among Construction Site Workers

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Introduction: Occupational lung diseases are one of most neglected conditions across the globe. This is more so in cases of highly populated and resource-limited settings like India. Exposure to cement dust,inorganic respiratory allergens, welding fumes and so in construction site for longer periods had been proved to reduce lung function.

Aim: The aim of this study is to determine the effects of Pulmonary Function Test (PFT) among construction site workers.

Materials and methods: This is Cross-sectional study including 50 construction site workers and 50 normal adults. After obtaining Institutional ethical committee approval PFT were done using computerized spirometry. Parameters of PFT: FEV1,FVC,FEV1/FVC, PEFR, PIFR, FEF 25 – 75 % and FIVC

Results: The study shows statistically significant difference in FVC%, FEV1%, PEFR, PIFR, FEF 25-75% ($p<0.01$). Nonetheless, no significant difference was observed for FEV1/FVC% between two groups.

Conclusion: The current results confirmed that pulmonary function values changed significantly and it shows a restrictive pattern of lung disease in construction site workers. Therefore, for better future for construction workers, health education, wearing protective measures, periodic health check-ups some engineering control measures and approach are recommended to minimize the morbidity among construction site workers.

Abstract-91

A Study of Risk Factors Contributing Towards Hearing Loss in Infants born in Tertiary Care Hospital in Rajasthan

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Introduction: Brainstem Evoked Response Audiometry (BERA) is a noninvasive and diagnostic method that can be used to evaluate the early stages of hearing loss as well as design rehabilitative procedures.

Aim: The purpose of the study was to determine hearing loss using BERA in high-risk infants with different meconium aspirations, respiratory distress, and hyperbilirubinemia.

Materials and methods: BERA was done on 150 high-risk infants who were at risk of developing hearing loss. Statistical analysis of data was performed using cross-tabulation analysis with Pearson correlation and quantile regression.

Results: Results indicated towards a mild to moderate probability in infants where a significant correlation was found between meconium aspiration and respiratory distress (r=0.551) and hyperbilirubinemia and respiratory distress (r=0.723).

Conclusion: There are a significant number of infants at high risk who have hearing loss with a mild to moderate degree of correlation in ascertained factors. In contrast, normal infants have no incidence of auditory deficiency. Because of this, it is imperative that these infants have their hearing evaluated as early as possible so that early diagnosis can give them the best chance of developing functional speech.

Abstract-92

Evaluation of Level of the Serum CRP, Total Cholesterol, Magnesium and Uric acid in Smoker and Non-smoker individual with COPD

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Introduction: Mg++ is associated with bronchodilation and contracts respiratory muscles,stabilises mast cell, produces neuro-humoral mediator.Smoking causes oxidated stress.Uric acid, is an antioxidant and a free radical scavenger during metabolic stress,including smoking.

Aim: To evaluate the level of Serum CRP, Total Cholesterol, Magnesium, and Uric acid in COPD and its comparison in smoker and non-smoker individuals with COPD. 1. To estimate the Uric acid, Magnesium, CRP, Total Cholesterol in smoker and non-smoker individual with COPD. 2. To find out the correlation between above parameters in smokers and non-smokers individual with COPD.

Material and Methods: This study was conducted in Department of Biochemistry and collected 3 ml venous blood sample for analysis. It is analytical cross-sectional study. The subject age between 40-60 years, COPD patient, Smoker and non-smoker. Prior consent taken from study subjects. Excluded Patients<40years, non-COPD, any kind of infection and alcoholic. Study parameters are CRP, Mg++,total cholesterol and uric acid, estimation done by autoanalyzer.

Results: There is significant difference ($p \leq 0.05$) found in cholesterol levels and serum magnesium levels when we compared between smokers and non-smokers but not much significant in uric acid and CRP levels.

Conclusion: Routine magnesium and cholesterol levels must be included in COPD Patients so that prompt treatment can be done. Allied with regular and continues follow-up is must for favourable outcomes.

Abstract-93

Serum Levels of Vitamin D and Uric Acid in Patients of Glaucoma

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Introduction: Glaucoma is a group of optic neuropathies characterized by progressive degeneration of optic nerve.Vitamin D is a fat-soluble vitamin and also having the anti-inflammatory effect. Uric acid is an antioxidant molecule and has the ability to scavenge nitrogen radicals and superoxide in plasma.

Aim: The present study was undertaken with the aim to find out the significance of serum levels of Vitamin D and Uric acid in patients of glaucoma.

Materials and methods: Forty-five glaucoma patients and 45 age and sex matched controlswere enrolled in this study. Serum levels of vitamin D and uric acid were estimated by radioimmunoassay method and enzymatic method respectively.

Results: The present study showed that glaucoma patients had significantly lower levels of vitamin D and uric acid as compared to healthy individuals.Statistical analysis revealed a negative association of vitamin D and uric acid between glaucoma patients and controls.

Conclusion: Lower levels of vitamin D and uric acid suggested the possible role of these parameters in the development of glaucoma.

Abstract-94

To Compare the Serum Ferritin Levels in Person with Anemia and without Anemia with T2DM and Correlate it with HbA1C level

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Introduction: HbA1c is a glycated Hemoglobin that is used as an indicator for patient's glycemic status over the previous three months. HbA1c concentrations may be increased by anemia due to an iron deficiency. The iron status in our body is predicted by ferritin levels. Various previous studies proved that, decreased iron status, is linked with the increased HbA1c levels.

Aim: To compare the serum ferritin levels in person with anemia and without anemia with T2DM and correlate it with HbA1c level. 1.To estimate the HbA1C in T2DM person with anemia and without anemia. 2.To estimate the serum ferritin in T2DM person with anemia and without anemia.3.To estimate the CBC in T2DM person with anemia and without anemia.

Materials and Methods: A case-control study was conducted in 100 diabetic patients in which 50 patients of T2DM with anemia and 50 patients of T2DM without anemia. The study was done in premises of PCMS and Hospital. HbA1C and ferritin levels was measured by Latex Turbidimetric Assay and CBC by Cell Coulter methods.

Results: It was found that HbA1c was elevated 8.37±2.30 in T2DM with anemia compared to T2DM without anemia is 7.94±1.83. Ferritin was elevated 221.69±108.71 in T2DM without anemia compared to T2DM with anemia is 160.68±104.51.

Conclusion: The study showed that there was a positive correlation between the iron deficiency status and increased HbA1c levels in controlled diabetic population.

Abstract-95

To Correlate the Level of Alkaline Phosphatase, Creatine Kinase and Lactate Dehydrogenase in Hypothyroid Patients With Thyroid Stimulating Hormone Level

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Introduction: Hypothyroid is a metabolic disorder due to disturbance of thyroid hormones. its occurs 5-10%. Hypothyroid is characterized by fatigue or feelingcold, hair loss or dryness, sluggishness, weight gain, muscle weakness, infertility.

Aim: To correlate the levels of serum Alkaline Phosphatase (ALP), Creatine Kinase (CK) and Lactate Dehydrogenase (LDH) in hypothyroid patients with stimulating thyroid hormone level. 1. Estimate the serum CK, ALP, LDH of hypothyroid patients. 2. To find the correlation between the serum ALP, CK and LDH in hypothyroid patients with TSH levels.

Material and Method: A hospital based cross-sectional study was conducted in the People's College of Medical Science and Hospital. A total of 140 patients were taken,which were divided in three groups,normal individuals 43 in number,sub-clinical 53 in number, hypothyroid 46 in number. CK was done by IFCC method. LDH by UV method. ALP-AMP by IFCC method.

Results: Correlate between LDH, ALP CK with TSH and subdivided between the group normal. Sub-clinical, hypothyroid. normal ck 16.21±5.88, LDH 317.03±80.85, ALP 66.11±37.82. sub-clinical ck 55.43±33.60, LDH 455.76±397.57, ALP 116.09±32.04 std deviation of ck 33.84±21.88, LDH 336.9±110.3, ALP 146±61.2. ck p-value each group 0.000 and LDH Normal p-value 0.027, LDH hypo p-value 0.338 LDH sub p value 0.053, ALP normal p-value 0.00, ALP hypothyroid p-value 0.000 ALP Sub 0.002. In correlation there is not significance difference between the group. And comparison there is significance difference between the group.

Conclusion: There is no correlation difference between the group and after the correlation there is week significance difference between the comparison.

Abstract-96

Effect of 24 Hours Storage at Different Temperature on Pleural Fluid Adenosine Deaminase Level

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Introduction: Adenosine Deaminase (ADA) is an enzyme of purine catabolic pathway catalysing their reversible deamination of adenosine into inosine. It is possible that pleural fluid,soon after aspiration kept at different temperatures in ward or laboratory for prolonged period of time before analyzing may cause lowering the ADA level in the fluid.

Aim: This study was undertaken to know whether factor such as storage time and temperature of pleural fluid at 37°C and 2 to 8°C over the period of 24 hours can affect pleural fluid Adenosine Deaminase Level.

Materials and Methods: Patients coming to the Pulmonary Medicine, diagnosed with pleural effusion from December 2021 to September 2022 were included irrespective of cause for pleural effusion. Pleural fluid ADA was analysed within two hours of collection and after 24 hours storage at different temperature 37°C and 2 to 8°C and compared the value.

Results: A total 42 patient with effusion were enrolled. Mean value of ADA after 24 hours storage at 37°C was 47.95IU/L and at 2 to 8°C was 48.43 IU/L. The difference in pleural fluid ADA level upon storage at 37°C and 2 to 8°C was not significant (p-value >0.05). The mean value of ADA after 2 hours of aspiration was 46.17IU/L and after 24 hours was 48.42IU/L. The difference in pleural fluid ADA levels upon storage for 2 hours and 24 hours is insignificant (p value >0.05).

Conclusion: There is no effect of storage temperature and time on pleural fluid ADA level.

Abstract-97

Cardiovascular Risk in Women Having Polycystic Ovary Syndrome with and without Metabolic Syndrome

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Introduction: Polycystic Ovarian Syndrome (PCOS) is a complex endocrinopathy affecting reproductive age women resulting in hyperandrogenism and insulin resistance. This leads to Metabolic Syndrome (MetS) and increases the cardiovascular risk. Scant data is available on differences in cardiovascular risk associated with PCOS developing MetS than in those without MetS.

Aim: To assess and compare the levels of insulin, HOMA IR, Lipoprotein(a) and Comprehensive Lipid Tetrad Index in PCOS patients with and without MetS and thus compare cardiovascular risk in the two groups.

Materials and Methods: 71 women, freshly diagnosed with PCOS were enrolled. They were divided into those with MetS and without MetS (32 in each group after age matching) based on NCEP ATP III. Insulin, Lipoprotein(a)were estimated using ELISA. HOMA IR and Comprehensive Lipid Tetrad index were calculated by standard formulae.

Results: MetS was found in a younger age group. Lipoprotein(a) and Comprehensive Lipid Tetrad Index were significantly higher in PCOS patients with MetS than in those without MetS. Though statistically insignificant, insulin and HOMA IR were higher in group with MetS than in those without MetS.

Conclusion: There is higher and earlier cardiovascular risk in PCOS women with MetS than in PCOS women without MetS.

Abstract-98

Hypovitaminosis D and Oxidative Stress in the Pathogenesis of Uterine Fibroid Disorder

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Introduction: Uterine fibroid otherwise called as Uterine leiomyoma are the most common benign tumours of the female genital tract that originate from uterine smooth muscle. This study focuses on the association of vitamin D deficiency and increased oxidative stress levels among Uterine fibroid patients.

Aim: To analyse the level of Vitamin D and oxidative stress marker Malondialdehyde (MDA) in fibroid cases and to compare the same in healthy individuals.

Materials and methods: This study was conducted in Vinayaka Mission's Medical College and Hospital, Karaikal. 30 fibroid cases and 30 age matched controls in the age group of 35-45 years were selected. Levels of vitamin D, lipid profile, liver function test, plasma MDA, complete blood count were analysed.

Results: Patients with fibroid had earlier age of menarche and first child birth when compared to control. They were anemic with low hemoglobin status when compared to control. Level of HDL was low and alkaline phosphatase was significantly elevated in all the cases. Vitamin D was significantly lowered in the cases. Uterine fibroid cases have increased oxidative stress level thancontrols.

Conclusion: Vitamin D deficiency is associated with uterine fibroid. Vitamin D seems to be a safe and low-cost agent for the treatment of uterine fibroids.

Abstract-99

Factors Influencing Cervical Abrasion among School-Going Adolescents: A Cross-sectional Study in Puducherry, South India

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Introduction: Cervical abrasions are non-carious mechanical wear of teeth due to external forces other than tooth-tooth contact. It often leads to tooth sensitivity, plaque trapping, periodontal disease and cavities.

Aim: To find out the prevalence of cervical abrasion among school-going adolescents and to determine the factors influencing the development of cervical abrasion among school-going adolescents.

Materials and Methods: A cross-sectional study was conducted in two schools in Puducherry for six months. A representative sample of 320 students were selected from a sampling frame of 1200 students from 9th to 12th standards using simple random sampling. After obtaining relevant permissions from the school authorities, a pre-tested structured questionnaire was used to collect data from the school students. In addition to the interview, dental observations were made by a person trained in Dentistry. Data was entered in Epi_Info software (version 7) and analyzed using SPPS software (version 24). Bivariate and multivariate analysis were used to determine the factors associated with cervical abrasion.

Results: About 97 (30.3%) students were observed to be having cervical abrasion. Notably, male sex, aggressive brushing habit, nail-biting, pica, teeth grinding at night, usage of abrasive toothpaste, Acid Peptic Disorders (APD), consumption of sweet beverages and lack of regular dental check-up emerged as significant predictors for development of cervical abrasion.

Conclusion: Cervical abrasion was influenced by many preventable habits in the school-going adolescents. Further, frequent dental check-ups for school-going children would help in diagnosing these conditions at the early stages which in turn would prevent severe complications in the future.

Abstract-100

Knowledge, Attitude and Practices Towards Medication Errors and Reporting among Nurses: A Questionnaire-based Cross-sectional Observational Study

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Introduction: Medication errors are one of the most common types of medical error which can threaten the patient's health with nursing medication errors being the most common. Such mistakes are considered as a global problem which increase mortality rate, length of hospital stay, and related costs.

Aim: 1. To assess the knowledge regarding medication error among staff nurses 2. To find out association of knowledge regarding medication error with selected variables.

Materials and methods: In this cross-sectional study total number of 182 nurses were randomly selected. They filled out a pre-developed and pre-validated KAP questionnaire. Data was analyzed using descriptive and inferential statistics in SPSS for Windows 16.0.

Results: A total of 72 percent of nurses were not knowledgeable on medication error reporting. The most common types of reported errors were wrong dosage, missing doses and infusion rate. The most common causes were using abbreviations instead of full names of drugs and similar names of drugs. The most important cause of medication errors was lack of pharmacological knowledge and being chronically overworked, contributing to medication errors.

Conclusion: Medication errors are a major problem in nursing and improvement in medication error reporting system is still needed. Medication error can be improved by assessing current practices, developing interventions to improve such practices and evaluating the impact of these interventions.

Abstract-101

Clinical Diagnosis of Anemia Through Hypouresis- A Cross-sectional Study

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Introduction: Siddha system is one of the oldest systems of Medicine in South India and it is an evolution of daily life style, thereby preventing major diseases by correcting day-to-day life activities. Anemia is a state in which the level of hemoglobin in blood is below the reference range appropriate of age and sex and it is now a serious global public health problem. Although the uniqueness of the system lies in diagnosis through eight-fold examination also called Ennvagaithervu, it has also worked on detailed procedure of urine examination which includes neerkuri like niram(colour), yedai(specific gravity), naattram(odour), nurai(froth), enjal(changes in urine volume) and neikkuri (oil drop spreading pattern).

Aim: To diagnose anemia priorly through hypouresis(reduced urine output) and to confirm with blood investigation of hemoglobin.Also to study the mechanism behind the process.

Materials and Methods: The urination history of participants was noted through history taking and by measuring one's 24 hours urine through U-flow meter or measuring jar with the advice of 3-4 liters of water intake per day. Their blood samples were sent for hemoglobin investigation.

Results: The cases with reduced urine output(hypouresis) were found to be with low hemoglobin who were finally diagnosed as anemic.

Conclusion: This study would help to diagnose anemia priorly, through enjalneerkuri(changes in urine volume) – hypouresis before blood investigation and it also justifies "Paandu Noi enjal ilakkanam" which is mentioned in Siddha classical text.

LIST OF ORAL PRESENTATIONS-PHD

Abstract-102

A Pilot Study on Hypothyroidism and Dyslipidemia

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Introduction: Hypothyroidism is one of the most common endocrine disorder characterized by deficiencies of thyroid hormones T3 and T4. The basal metabolic rate of the body is controlled by these hormones.T3 deficiency is the main reason for clinical and biochemical manifestation of hypothyroidism. It has been reported that prevalence of hypothyroidism ranges from 3.9% - 13.3%, it is more in females 11.4% when compared to men which is 6.2%. Dyslipidemia is a major issue in hypothyroid patients even after taking supplements.

Aim: To assess the profile of hypothyroidism patients and to measure the lipid profile.

Materials and methods: Patients who attended Endocrinology Out Patients Department, informed consent form was taken, ethical clearance approved, age group 15-45years, out of 15 samples 3 men and 12 women.

Results: Out of 15 samples, 7 samples TSH were elevated, T3 and T4 was normal, LDL and Triglycerides were increased,2 samples T3 and T4 decreased TSH increased, LDL, HDL and Triglycerides were increased rest 6 samples TSH Normal, total Cholesterol, LDL, HDL and triglycerides were increased.

Conclusion: The knowledge of hypothyroidism and its association with dyslipidemia which indicates factor beyond blood levels of thyroid hormones. So, cellular levels which further needs justification and validation, further moving on to molecular level.

Abstract-103

Collagen Volume Fraction Analysis of Atrial Appendages in Patients with Structural Heart Disease in Telangana Population

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Introduction: Collagen, the most abundant protein in mammals, has been heavily studied for over a century.Collagen quantification has long been relevant to biomedical research and clinical practice to characterize tissues and determine disease states. Measurement of collagen is an important aspect of biological research toward characterizing the composition of normal tissues, understanding certain pathologic processes, and for development of biomaterials and tissue-engineered constructs.

Aim: To study Collagen volume fraction analysis of atrial appendages in patients with structural heart disease in Telangana population.

Objectives: 1. To determine collagen volume fraction of atrial appendage tissue by masson's trichrome staining method in patients with structural heart disease. 2. To correlate collagen volume fraction and duration of atrial fibrillation in patients with structural heart disease.

Materials And Methods: Type of study design: Case Control study.

Patients were enrolled from Department of Cardiovascular thoracic, Virinchi Hospital, Hyderabad.

Ethics consideration: Approved by Institutional ethical committees of :-a) Vinayaka Mission's Medical College and Hospital Karaikal b) Virinchi Hospital, Hyderabad.

Study participants: Written Informed consent obtained. 100 samples of atrial appendages were obtained from patients who underwent cardiac bypass surgery, mitral valve replacement or left atrial myxoma excision and categorised into case and control groups.

Group 1: Atrial appendage were collected from 50 patients, 47 Right Atrial appendages and three left atrial appendages (31 males and 19 female with age group range 35 to 70 years) with structural heart disease with history of Atrial Fibrillation and who came for open heart surgery, mitral valve replacement surgery and left atrial myxoma.

Control/Group 2: Atrial appendage were collected from50 patients, 45RAA and 5LAA (43 males and 07 females with age group range 35 to 70 years) with structural heart disease without history of atrial fibrillation and who came for open heart surgery, mitral valve replacement surgery and left atrial myxoma.

Methods: Histological examination of Atrial appendage: 5 um thick sections of paraffinized atrial appendage tissues were stained with Masson's trichrome to highlight collagen fibers. The collagen volume fraction was determined by measuring the area of stained tissue within a given field . In the resected atrial appendages, 10 fields were analyzed.

Statistical analysis: Differences in proportions were evaluated by chi-square analysis, unpaired t test for continuous normally distributed variables and Mann-Whitney U test for non normally distributed variables. Differences were considered to be statistically significant when the p value was 0.05. Correlation coefficients were calculated using linear regression analysis.

Results: Histological examination data. : In the present study, we performed a histological examination in the excised right and left atrial appendage tissues and demonstrated that the collagen volume fraction was significantly increased in the atrial Fibrillation group compared with the sinus Rhythm.

Conclusion: The knowledge of collagen volume fraction analysis is important to predict duration of atrial fibrillation and even helpful in knowing development of structural heart disease with or without atrial fibrillation and inventing new therapeutic strategies.

Abstract-104

Role of Genetics in Human Breast Carcinoma – MYC Amplification in Insitu and Invasive Carcinoma by Fluorescence In Situ Hybridization

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Introduction: MYC is a proto-oncogene and plays an important role in cell growth, proliferation, metabolism, differentiation and apoptosis. Multiple mechanisms are involved in MYC regulation in breast cancer as it has a critical role in oncogenesis and progression. MYC regulates up to 15% of human genes.

Aim: To study the MYC gene amplification in breastcarcinoma .To correlate the MYC gene amplification with tumor grade.

Materials and Methods: 45 for malin Fixed Paraffin Embedded (FFPE) blocks of Ductal Carcinoma In Situ (DCIS), DCIS with microinvasion and invasive carcinoma were obtained from the Department of Pathology. Pondicherry Institute of Medical Sciences and Basavatarakam Indo American Cancer Hospital. Hyderabad. Fluorescent InSitu Hybridization (FISH)amplification of MYC by (FISH) was recorded in all the three groups. Correlation between tumor grade and amplification of MYC was determined in all the three groups.

Results: DCIS cases showed amplification, none of the cases of DCIS with microinvasion showed MYC amplification, all the cases of invasive carcinoma showed amplification.

Conclusion: Detection of MYC gene amplification is essential as it helps in differentiating invasive breast carcinoma from DCIS as the treatment protocols of DCIS differ from that of invasive carcinoma.

Abstract-105

Morphometry of Mandibular Canal using Cone Beam Computed Tomography and Its Correlation with Age and Gender

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Introduction: The morphometric parameters of the Mandibular Canal (MC) may vary depending on the population studied. Therefore, clinical data are required. The MC's specific location must know to plan and advise various dental treatments.

Aim: This study aimed to measure the distance of the root of mandibular teeth to the mandibular canal and Identification of the Bifid/trifid mandibular canal.

Materials and methods: CBCT scans of 200 subjects in age group of 18-60-year were evaluated. The distance of the roots from the upper margin of the mandibular canal was measured in the cross-section and axial, coronal, sagittal, cross-sections, and volume rendering were viewed to assess bifid mandibular canal. Statistical analysis was performed in SPSS (VERSION 20.0) and Microsoft excel software.

Results: For the observations, paired t test was applied to compare right and the left side. Mandibular Canal was found to be in close relationship with the roots of second molar, first molar and second premolar with a mean distance of 2.7 mm, 3.2 mm, and 3.9 mm, respectively. The canal divided in the first molar region bilaterally and rejoined in the first premolar region, terminating at the mental foramen. The incidence was found in 2%.

Conclusion: It is critical to clinician to know three dimensionally the topographic relationships between the inferior teeth roots and the mandibular canal before proceeding to any invasive dental or surgical procedure at this region.

Abstract-106

A Dermatoglyphics Study on Interdigital Area Ridge Count in Breast Cancer

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Introduction: The term dermatoglyphics has its origin from Greek words “derma” means skin and“glyphic” means curved. Two genes that are implicated in the pathogenesis of breast and ovarian cancer: BRCA1and BRCA2.

Aim: To observe the interdigital area ridge count of both palms between the control and the case group. To compare ridge count in case and controls group.

Materials and Methods: 1.Kores ink, hand lens, A4 paper, roller, Needle.2. Group(A)50 breast cancer patients and group (B) control (50).The a-b,b-c,c-d ridge count was calculated by counting the number of ridges intersecting a line drawn between the triradius present in the proximal to 2^{nd} to 5^{th} digits in the both the palm.

Results: The number of epidermal ridges between triradius A and B of right hand in case group was 35.44+6.52 and control group was 36.4+5.13.The left hand case group 36.36+5.39 and control group 37.08+6.06.ABRC-R (P-0.000179554) and ABRC-L(P-0.255280535). The number of epidermal ridges between triradius B and C right hand case group 23.72+4.81 and control group 25.8+5.04. The left hand case group 25.24+5.45 and control group 25.4+5.54.BCRC-R (P-1.23772) and BCRC-L(P-7.64269). The number of epidermal ridges between triradius C and D of right hand in case group 33.64+5.14 and control group 33.24+6.3.The left hand case group 30.72+7.19 and control group 33.32+6.72.CDRC- R (P-0.00014963) and CDRC-L (P-3.81863).

Conclusion: The result ABRC-R and CDRC- R statically significance between control and case group. We can use interdigital area ridge count for early diagnosis of breast cancer.

Abstract-107

Srikhandasavamas A Neuroprotective Agent in Alcoholics- A Immunohistochemical Study

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Introduction: Srikhandasavam, a polyherbal formulation may be considered a promising therapeutic agent for the treatment of alcohol use disorders.

Aim: In the present study, an in vitro experimental model of chronic ethanol treatment was used to investigate the ability of the compound to counteract the ethanol-induced neurotoxicity.

Materials and Methods: Primary cultures of rat hippocampal neurons were exposed to ethanol and the neuroprotective effects of Srikhandasavam were assessed by evaluating cell viability, MAP2 expression using immunohistochemical analysis and brain cells glutamate levels was also assessed.

Results: The exposure to ethanol induced a reduction of cell viability, a decrease in extracellular glutamate levels and MAP2 expression. The treatment with Srikhandasavam (50 and 100 mg) 1 hour before and during chronic ethanol exposure prevented all the above ethanol-induced effects.

Conclusion: The present findings provide the first evidence that Srikhandasavam shows a neuroprotective role against ethanol-induced neurotoxicity in primary cultures of rat hippocampal neurons. The phytoconstituents present in Srikhandasavam displayed anti-alcohol and anxiolytic properties in rat. These results suggest that Srikhandasavam possesses a therapeutic tool for use in the treatment of alcohol use disorders.

Abstract-108

An Immunohistochemical Analysis of the Neuroprotective Effects of Dhanwanthararishtamon Stroke Model – An Invitro Study

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Introduction: Ischemic stroke causing mortality and morbidity due to fewer treatments such as the use of thrombolytic agents are of the limited by a narrow therapeutic time window. This invitro study focused on neuroprotection of Dhanwanthararishtam on oxygen-perfused stroke model in human induced Pleuripotent Stem Cells (hiPSCs).

Aim: The present study aims to evaluate the neuroprotective efficacy of Dhanwanthararishtam in oxygen-perfused hiPSC cells by concentrating on MAP2 and Ki67 protein (neuronal tissue biomarker proteins) expression using Immunohistochemical analysis.

Materials and methods: Dhanwanthararishtam was procured from standard ayurvedic vendor. hiPSCcells were cultured in minimal essential medium. After Oxygen-Glucose deprivation, cells were reperfused and incubated for 72 hours at 37°C in 95% air/5% CO2. After the treatment with Dhanwantriarishtam (250 and 500mg) the MAPP2 and Ki67 specific primary antibody was added to the cells and then secondary antibody was added, specific immunostain were added to view the protein expression in cells and digitally quantified using Image J software.

Results: Significantly increased expression of MAP2 and Ki67 levels were observed in stroke induced hiPSC cells when comparing with negative control. Moreover, oxygen perfused hiPSC cells after the treatment with Dhanwantriarishtam (500mg) showed significantly decreased the MAP2 and Ki67 protein expression levels compared with standard.

Conclusion: Dhanwantriarishtam exhibited neuroprotective effects, with accompanying suppression of neurobiomarkers MAP2 and Ki67 proteins. Our findings suggest that Dhanwantriarishtam may have therapeutic value in the treatment of stroke.

Abstract-109

A Morphometric Analysis of the Thoracic Vertebrae's Spinal Canal and its Clinical Relevance

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Introduction: The spine or spinal column of an adult human is composed of 33 vertebral segments, including 7 cervical, 12 thoracic, 5 lumbar, 5 sacral, and 4 coccygeal. Clinical significance pertains to the cross-sectional regions of the spinal canal in inflammatory, degenerative, and traumatic diseases. Small canal diameter is linked to a greater risk of spinal corddamage.

Aim: To analyze the morphometric parameters of vertebral foramen of dry human typical thoracic vertebrae and evaluate them in comparison to earlier authors.

Materials and Methods: The study was conducted on 214 dry human typical thoracic vertebrae selected from the bone bank of the Department of Anatomy, SGT Medical College, Hospital and Research Institute, Gurugram, Haryana. They are of unspecified ages and sexes. The various parameters were measured with the help of a digital vernier caliper. The data was entered in Microsoft Excel. The mean and standard deviation of all parameters were analyzed using SPSS version 21.

Results: In a typical thoracic vertebra, the mean anteroposterior distance of vertebral spinal canal was 16.17±1.58 and the mean interpedicular distance was 19.09±2.08mm.

Conclusion: This kind of research can assist the surgeon in preoperative planning by helping to design implants and instruments.

Abstract-110

Morphological and Morphometric Study of Foramen Ovale and its Clinical Significance

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Introduction: The cranial floor of the middle cranial fossa is formed by the body and greater wing of the sphenoid, and the squamous and petrous parts of the temporal bone. The floor shows several bony elevation and foramina through which neurovascular bundles passes. Thus, the knowledge of the normal and variant anatomy of the foramen ovale which is in the middle cranial fossa is importance for the various surgical approach.

Aim: To determine the morphological variations and morphometric analysis of the foramen ovale in the adult dry human skulls of Indian population.

Materials and Methods: A total of 150 human adult dry skulls of unknown sex and of Indian origin were obtained from the Department of Anatomy, AVMCH. The location, numbers, shape and distance between the right side and left side of the foramina were noted. The length and the width of the foramen is measured by using digital vernier caliper and area is calculated and statistically analyzed.

Results: The mean antero-posterior diameter of the foramen ovale of right side is 6.78±1.09 mm and the left side is 6.86±1.13 mm. Likewise, the transverse diameter of the foramen on right side is 2.86±0.43mm and the left side is 3.04±0.66 mm. The shape of the foramina is almost oval shape (76%), almond shape (13.25%) and round shape in (7.75%) respectively.

Conclusions: The present study will provide great knowledge of the anatomical variations of the foramen ovale in dry adult skull, which will be helpful for the clinicians and surgeons in cases of trigeminal neuralgia and in diagnostic detection of tumours and abnormal bony outgrowths causing ischaemia or necrosis and procedures like administration of anaesthesia involving the mandibular nerve.

Abstract-111

Acute and SubacuteToxicity Studies of Ethanolic Root Extracts of Picrorhiza kurroa Royle ex

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Introduction: Picrorhiza kurroa Royle ex Benth is one of the most important medicinal plants, commonly used in traditional medicinal systems. It is commonly called "Kutki" or "Kurro" and 'Indian gentian'. It is a wellknown herb in Ayurvedic medicine.

Aim: The present study was carried out to evaluate the safety of an ethanolic extract of roots of Picrorhiza kurroa. The acute and subacute toxicity studies were performed as per OECD guidelines (Organisation for Economic Co-operation and Development) – Guidelines 423 and 407. For the acute toxicity study, the female mice were treated with a single oral dose of ethanolic extracts of roots of Picrorhiza kurroa at 5,50,300 and 2000 mg /kg and observed for general toxicity and mortality for 14 days. In subacute studies, both male and female rats were treated with 100,200 and 400 mg/kg orally for 28 days continuously. The animals were observed weekly for any changes in general behaviour, body weights, food intake, water intake, and signs of morbidity and mortality.

Results: The results of the present study demonstrated that the oral administration of this extract does not show any toxicity in both acute and subacute toxicity studies.

Conclusion: The ethanolic root extracts of Picrorhiza kurroa were safer and non -toxic to rats and further chronic studies are required to confirm its therapeutic efficacy in animals and humans.

Abstract-112

Effect of Simplified Kundalini Yoga Practices on Haematological and Hormonal Variables among Medical Students

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Introduction: Stress can have a bad impact on one's physical and mental health, causing unpleasant symptoms including headaches, anxiety, and despair. A curriculum that supports a student's total wellness, encompassing their mental, physical, social, and moral qualities, is thought to be essential. Such a strategy is anticipated to have positive outcomes over the course of their career.

Aim: The purpose of the study was to find out the effect of simplified kundalini yoga practices on haematological and hormonal variables among medical and non-medical students of a tertiary care setting.

Materials and methods:120 students were chosen through purposive sampling method and were divided into two 60 membered experimental yoga and control groups each. All the medical students who accepted to be a part of this study aged greater than 18 years were included in the study. Simplified Kundalini Yoga (SKY) included Simplified Physical Exercises, Kayakalpa Yoga Exercises, Simplified Kundalini Meditation and Introspection. The experimental group had undergone the training program for 12 weeks under the supervision of the investigator. Pretest and postest parameters were analysed.

Results: 53.33% (n=32) of the study participants in the experimental yoga group constituted females, whereas 55% of the control group were females. The cholesterol levels decreased from 151.08±21.03 to 127.08±17.75 A statistically significant difference between pretest and posttest score (p value:0.001) was observed among the blood parameters like High Density Lipoprotein (HDL), total cholesterol, amylase and blood urea. The cortisol levels have decreased from 17.06 + 0.86 to 12.82 + 0.79 in the yoga group after the yoga practice.

Conclusion: The study results indicate that SKY program could be a feasible and acceptable strategy among the medical students in maintaining the overall health.

Abstract-113

QT Dispersion and Insulin Resistance

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Introduction: Insulin resistance is associated with a cluster of CV/metabolic abnormalities collectively known as Insulin Resistance Syndrome. (IRS); a strong predictor of Atherosclerotic Cardiovascular Diseases (ASCVD). increased insulin resistance is involved in a series of poorly investigated outcomes; ventricular instability manifested by an increase in ventricular repolarization, QT dispersion is one of them.

Aim: To assess the correlation of Insulin Resistance (IR) with ECG indices QT interval (QTi), corrected QT interval (QTc) and QT dispersion (QTd). To assess the clinical utility of QTd predicting cardiovascular risk in IR cases.

Materials and methods: In this cross-sectional analytical study, 200 metabolic syndrome cases diagnosed by NCEP ATP III were screened for insulin resistance by HOMA-IR and QT dispersion and compared with 200 age and sex-matched healthy control. ECG derived indices QT interval, Corrected QT interval by Bazzet's equation and QT dispersion (QTd) calculated by 12 lead ECG.

Results: Insulin resistance group had higher BMI, waist circumference, waist-to-hip ratio, serum triglycerides and fasting glucose, systolic and diastolic pressure and lower HDL levels than control subjects. (P<0.0001) The QTc interval and QT dispersion were significantly increased in the IR group compared to the control group, with no significant correlation between HOMA-IR with ECG indices.

Conclusion: Prolonged QTc interval show dysfunction of the sympathetic and parasympathetic nervous system, a predictor of decreased survival and increased deaths from ventricular arrhythmias in patients with IR. We should pay particular attention to the ECG and QTc interval length in patients with insulin resistance.

Abstract-114

A Spectrum of Sickle Cell Diseases and HPLC patterns with Clinico-haematological Profile in Patients Diagnosed at a Tertiary Care Teaching Hospital

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Introduction: Sickle Cell Anemia (SCA) is the most common monogenic disorder that is inherited as an autosomal recessive pattern. Hematological parameters are very useful profiles in the effective management of the disease.

Aim: The objective of the present investigation was to study the spectrum of sickle cell diseases diagnosed at a tertiary care hospital, in Visakhapatnam and also to screen the parents and siblings of the patients for their carrier status.

Materials and methods: The study was carried out at GVP Institute of health care and medical technology Visakhapatnam from January 2020 to February 2022 to assess the yield of HE in referred cases of clinical anemia. A total of 30 Sickle Cell Disease (SCD) cases were reported along with their parents and siblings in order to know their carrier status. Cellulose acetate hemoglobin electrophoreses was performed by using the alkaline gel method and all positive results were reconfirmed by the HPLC method. For hemoglobinopathies, blood screening was done based on CBC and red cell indices, reticulocyte counts were performed to assess anemia status.

Results: A total of 30 children diagnosed with SCD were enrolled and their mean age group was 18.2±13.2. Fever, pallor and splenomegaly were the most clinical presentations. Among the laboratory findings, the results showed that hemoglobin mean value in SCD patients was found to be 7.01±2.38, the RBC count mean value was 3.17±1.02, HCT value 69.6±8.36. It was also found that MCV and MCHC were 19.7±2.9 and 29.2±1.24 in SCD patients.

Conclusion: Hence, this study was taken up to diagnose these conditions and administer suitable counseling measures to minimize the incidence of SCD in the future.

Abstract-115

Association of Hematological Parameters with HbA1C in Metabolic Syndrome

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Introduction: Metabolic syndrome is a condition that includes various health issues related to obesity, cardiovascular disease, high blood pressure, and type 2 diabetes, the relationship of metabolic syndrome among adults which impose prolong risk causing micro-macro complication, which is leading global problems in 21st century.

Aim: To assess and evaluate correlation between hematological parameters and HbA1C in metabolic syndrome.

Materials and Methods: Subjects attending the Out patient department of Medicine and Diabetics between the age group of 25-50 years and diagnosed with metabolic syndrome were taken. Group-A (Subjects) and group B (Controls) with age and sex matched were recruited for study. We analyzed the CBC and biochemical parameters.

Results: A possible correlation between the CBC and HbA1c parameters in Metabolic Syndrome was observed. In Group A, HbA1c value is (5.21±1 .76%) and group B, HbA1c is (3.21±0.82 %). There was a statistical difference found in CBC parameters with increased (Hb, RBC, MCH, MCHC, RDW, PDW, MCV, Neutrophils, WBC, Hematocrit, Lymphocyte) and statistically correlated with HbA1c.

Conclusion: The results conclude that CBC parameters associated with comparable change with increased HbA1c. As they are the first to be exposed during hyperglycemic conditions, with variable statical changes implicated in the study. This study will be helpful tool for clinical correlation for clinicians in the diagnosis, follow-up, prognosis of the of metabolic syndrome diseases. Hematological parameters are significantly related to MetS. However, little is known about its role and correlations need further research.

Abstract-116

Diagnostic value of Serum and Pleural Fluid Adenosine Deaminase in Tubercular and Non-Tubercular Pulmonary Diseases Patients

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Introduction: Serum Adenosine Deaminase (ADA) and pleural fluid ADA are used to diagnose tuberculosis and it also helps to monitor the condition of the patients undergoing treatment.

Aim: The purpose of the study is to diagnose the efficiency of ADA activity in patients with tubercular and non-tubercular pulmonary diseases.

Materials and methods: A total of 142 patients participated in the study between the age group of 25-83 years and were divided in six groups. Group-I includes 35 normal healthy control, group-II pneumonia patients, group-III include 13 sputum positive cases, group-IV include 28 sputum negative cases, group-V include 18 patients diagnosed with lungs malignancy and group-VI includes other lung diseases patients. ADA level was estimated in serum and pleural fluid in all the groups of patients in the tertiary care hospital, Udaipur.

Results: For the healthy control and study groups, the study was tallied individually. It was discovered that the S. ADA and pleural fluid ADA levels in the study group were greater than 18IU/L, which is the suggested upper limit in healthy adults. Patients with tuberculosis had S. ADA levels that were higher than 21 IU/L, whereas all patients had higher levels of pleural fluid ADA.

Conclusion: ADA can be used to confirm a tuberculosis diagnosis, and sputum AFB+ve can also be used to distinguish PTB from Non-Tubercular Pulmonary Disease.

Abstract-117

Characterization of SARS-CoV-2 Isolate (MZ558159) for In Silico Drug Designing, Reported from India

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Introduction: Inadequate information available about the genomics and proteomics characterization of SARS-CoV-2 isolates reported from India and other part of the globe. This characterization is important for the in silico drug designing as there are no approved medications available to treat SARS-CoV-2 infection.

Aim: The aim of the present study is characterization of SARS-CoV-2 (MZ558159) isolate reported from India using homology modelling, validation and in silico drug designing methods.

Materials and Methods: Genome sequence of SARS-CoV-2 (MZ558159) was retrieved from NCBI, and four protein sequences selected for the homology modeling, validation and in silico drug designing e.g., QXN18496, QXN18498, QXN18504, and QXN18497. SWISS-MODEL and UCLA-DOE server used for homology modeling. Validation for structure model performed using PROCHECK and molecular docking using MCULE-1-Click server.

Results: The surface glycoprotein (QXN18496) model corresponding to probability conformation with 93.6%, envelope protein (QXN18498) with 88.9%, nucleocapsid phosphoprotein (QXN18504) with 93.6%, and ORF3a protein (QXN18497) with 91.8% residues in core section of ϕ-ψ plot that specifies accuracy of prediction model. The corresponding ProSA Z-score score -12.67, -0.01, -4.4, and -2.87 indicates the good quality of the models. Molecular dynamic simulation and docking studies revealed the inhibitor binds effectively at the SARS-CoV-2 (MZ558159) proteins. Predicted inhibitor 2-acetamido-2-deoxy-beta-D-glucopyranose exhibited effective binding affinity against surface glycoprotein (QXN18496).

Conclusion: The results of study establish inhibitor 2-Acetamido-2-deoxy-beta-D-glucopyranose as valuable lead molecule with great potential for surface glycoprotein (QXN18496).

Abstract-118

Implementation of Six Sigma Matrix in a Small Biochemistry Laboratory of a Cancer Centre

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Introduction: In the era of automation the major focus of the laboratories is focused on better quality control design and strategy for their laboratory. One such method which has evolved in recent years in Biochemistry laboratory is the six sigma matrix which is now been used by many laboratory across the country to define and identify the errors in there processes to achieve world class quality.

Materials and Methods: This is a prospective study, conducted for the duration of 6 months from September 2021 to February 2022. The data was collected from the internal quality controls than the CV % and bias% was calculated, than the sigma matrix for each level 1 and level 2 was calculated.

Results: Out of 10 parameters three total protein, albumin and AST had a sigma score of >6, 6 urea, glucose, total bilirubin, sodium, potassium, chloride had a sigma score between 3 to 6, 1 direct bilirubin had a sigma score of <3. These results suggested that only 1 out of 10 parameters had poor performance and 6 had good performance. Three had excellent performance on sigma scale.

Conclusion: Based on these results we can now identify the parameters whose performance needs to be checked more frequently, identify the errors in the process, define the frequency of control run, Westgard rules to be applied and keep on repeating the cycle to check the quality of lab by the use of the sigma matrix.

Abstract-119

Estimation of LH and FSH in Patients with PCOS and to Find its Correlation with Insulin Resistance

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Introduction: Poly Cystic Ovary Syndrome (PCOS) ovary syndrome is a common endocrine disorder in women at reproductive age, which is characterized by obesity, hyperandrogenemia, and insulin resistance.

Aim: The present study is done to assess the levels of LH and FSH in cases as well as healthy subjects and to find its correlation with insulin resistance to analyze the relationship in patients diagnosed with PCOS.

Materials and methods: The study include 20 age and sex matched healthy control and 20 clinically diagnosed cases of PCOS with in the age group of 18-45 years visiting the OPD of Pacific Institute of Medical Sciences (PIMS), Umarda, Udaipur. The blood was centrifuged and serum was separated. The serum was used for estimation of LH, FSH by colorimetry and FBS, Fasting insulin by CLIA immunoassay.

Results: The mean value of LH and HOMA-IR (16.53±0.68 and 5.79±1.35 was higher is study group as compared to control group (5.22±4.14 and 1.7±0.19) whereas the levels of FSH 6.15±0.89 was more in control group as compared to study group and were statically significant (p=<0.01).

Conclusion: The patients of PCOS are prone to develop abnormal glucose metabolism which leads to insulin resistance. Further, a significant increase in the levels of LH, HOM-IR was seen in PCOS patients. However, no correlation was found between LH, FSH with HOMA-IR. Hence, for better vision study should include larger number of population.

Abstract-120

Assessment of Erythrocyte Methotrexate Polyglutamate Three Levels in Psoriasis Patients Receiving Methotrexate Monotherapy and Theirassociation with Clinical Response to Treatment

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Introduction: Psoriasis (Ps) is a systematic autoimmune disease; associated symptoms are erythema, induration, and patchy scales. Methotrexate (MTX) is a systemic drug used for the management of Ps. MTX treatment's major drawbacks can cause significant toxicity, and 30-40% population was non responsive to treatment. The main paucity in MTX therapy is the lack of prognostic markers for MTX dose adjustment and toxicity assessment. There is recent evidence that Erythrocyte Methotrexate Polyglutamate three (MTXPG-3) levels can be used to predict treatment response, dose adjustment, and toxicities.

Aim: Estimation of Erythrocyte MTXPG-3 levels and its correlation with clinical response in Ps patients treated with MTX monotherapy.

Materials and Methods: Patients with psoriasis (n=120) who received MTX monotherapy (5-15 mg/week) were recruited.

Recruited patient's demographic and clinical details [Psoriasis Area and Severity Index Scale (PASI), Dermatology Life Quality Index (DLQI) scales] and blood samples were collected. Every four weeks, patients were followed for treatment response and toxicity assessment.After collecting the blood samples from each patient, erythrocytes separated, and MTXPG-3 levels were estimated using Liquid Chromatography-Mass Spectrometry (LCMS/MS).

Results: A total of 106 Ps patients (male 68, female 38) were included for analysis, MTXPG-3 levels at every four weeks intervals (Median with IQR), [week 4: 0.63 (0.34-0.99), week 8: 1.60 (0.99-2.04), week 12: 2.76 (1.96-3.72), week 16: 4 (3.30-4.90), week 20: 4.75 (3.96 – 5.62), week 24: 5.26 (4.92-6.17) increased dose-dependently. MTX treatment response was assessed with PASI score by the achievement of PASI75(75% reduction) from baseline score, where they were called as responders and failed to attain it called as non-responders, and the maximum timeline followed is 24 weeks. The correlation between MTXPG-3 levels and clinical parameters between responders and non responders was not associated.

Conclusion: RBC MTXPG-3 levels may not be a predictive marker for the treatment response in Ps patients on MTX monotherapy.

Abstract-121

Lateral External Carotid Artery: A Rare Variant of Carotid System with Embryological Correlation

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Introduction: Knowledge of anatomical variations in vascular architecture of the carotid arterial system is important for various types of surgical interventions like carotid endarterectomy, carotid stenting, and radical neck dissection, fascio-cutaneous flaps of the neck, etc.

Case description: During routine dissection of Carotid triangle by Phase 1 MBBS students, Laterally placed External Carotid Artery(LECA) and its anterior branches crossing superficial to the ICA were observed in the right side of a male cadaver. The anterior branches obscured the ICA, thus potentially limiting surgical access to the vessel. On the left side, the course of ECA was normal. All the 16 cadavers (10 male and 6 female) procured in the Department of Anatomy were checked to investigate this anatomical variant of ECA and none showed presence of LECA, except the one male cadaver reported here (6.25%; n=1).

Discussion: Carotid arterial system develops from the third aortic arch artery. ECA develops by fresh angiogenesis from the third aortic arch under the influence of various growth factors. Excessive medio-lateral ECA migration during embryogenesis may be responsible for this anatomical variation or it may also be age related, secondary to elongation and tortuosity of atherosclerotic carotid arteries.

Conclusion: The possibility of a transposition of the ICA and ECA must be kept in mind when performing various surgical procedures in the carotid triangle, to avoid damage to the ICA or hemorrhagic accidents. Surgeons and radiologists need to be aware of encountering such arterial variations as they may lead to iatrogenic injury and misinterpretation of images of the neck region.

Abstract-122

Truncus Pharyngeo- Linguofacialis: An Unreported Common Trunk of External Carotid Artery

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Introduction: Knowledge of anatomical variations in carotid arterial system is important for successful surgical and radiological interventions in head and neck region. Herein, we report a Pharyngeo-linguofacial trunk, a rare common trunk of External carotid artery (ECA) which hasn't reported in the medical literature to the best of our knowledge.

Case description: During routine dissection by Phase 1 MBBS students, a common trunk was seen to take origin from the anterior aspect of ECA bilaterally in a male cadaver. On the right side, a linguofacial trunk was found to be arising from the anterior aspect of ECA which later divided into lingual and facial arteries. Left side showed, a Pharyngeo-linguofacial trunk arising from the anterior aspect of ECA,1.5 cm above the bifurcation of CCA. The trunk was 0.4 cm in length and divided into ascending pharyngeal artery, facial artery and lingual artery. Hypoglossal nerve crossed facial artery and ascending pharyngeal artery.

Discussion: Unusual induction by the vascular growth factors namely Vascular Endothelial Growth Factor (VEGF), Platelet Derived Growth Factor (PDGF) and Transforming Growth Factor (TGF-β) associated with hemodynamic changes and failure of regression of superficial anastomoses between the branches might be the reason for such variations.

Conclusion: This anatomical variation is surgically relevant as it is liable to get injured during various surgical and invasive procedures. Analyzing the great vessels of head and neck through radiological interventions before surgery is a must for diagnosing such variationsto avoid surgical complications.

Abstract-123

An Anatomical Study on Morphological Variations of Abductor Pollicis Longus Muscle

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Introduction: Anatomical variations of muscles include hypoplasia, additional heads, additional tendons, unusual origin or insertion and aberrant structures. Herein, author report variations observed in abductor pollicis longus muscle that was encountered during routine dissection in Department of Anatomy.

Aim: To investigate the morphological variations in the attachment of abductor pollicis longus muscle in dissected upper limbs and to provide probable embryological explanation of observed variations.

Materials and Methods: The present study was a cross-sectional study done in 32 upper limbs of 16 cadavers (6 females and 10 males) procured for dissection purpose of phase 1 MBBS students. The upper limbs were carefully dissected as per Cunningham's dissection manual. The abductor pollicis longus muscles were checked for any morphological variations.

Results: In this study, author observed variant abductor pollicis longus muscles in three right upper limb (1 female and 2 male cadaver) and in one left upper limb of male cadaver. The muscle was found to split into two bellies and gave off tendons varying between 2-7, which are inserted separately to the first metacarpal bone. Few muscle tendons were seen to blending with thenar muscles.

Conclusion: Although variations in the origin of the abductor pollicis longus are rare, it may show variations in insertion. The mutations in Hox11 gene could be the probable cause for such variations. Furthermore, knowledge of variations in APL muscle is important in diagnosis and treatment of certain diseases like de Quervain's tenosynovitis, also the extra tendons may be used in tendon grafting.

Abstract-124

Anatomical Study on Venous Sinus of Kelch – A Rare Variant of Dural Venous System

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Introduction: Prior knowledge of the variant anatomy of dural venous system is of substantial importance to Neurosurgeons and Radiologists alike to avoid intraoperative complications and misdiagnosis during imaging process. Herein, authors report the dural venous sinus of Kelch, a rare venous sinus of middle cranial fossa.

Aim: To investigate the presence of venous sinus of Kelch in dissected cadavers and to provide probable embryological explanation of observed variation.

Materials and Methods: The present study was a cross-sectional study done on 16 cadavers (6 female and 10 male) procured for dissection purpose of phase 1 MBBS students. After removing the calvaria, the brain was removed as per Cunningham's dissection manual. Dural folds and the floor of base of the skull was carefully examined for the variations in Dural venous sinuses.

Results: In this study, authors observed the bilateral presence of venous sinus of Kelch in two male cadavers (12.5% n=2). The sinuses on both cadavers extended from superior orbital fissure anteriorly and coursed deep to tentorium cerebelli to terminate in the transverse sinus posteriorly.

Conclusion: Only two cadaveric cases of venous sinus of Kelch have been reported in the medical literature. Signaling errors by various growth factors namely VEGF, PDGF and TGF-β might cause persistence of fetal tentorial sinus causing the development of venous sinus of Kelch. Clinically, knowledge of such variant venous sinus can minimize misdiagnosis on imaging (MRV) and also can avoid intraoperative complications such as iatrogenic hemorrhage during surgery.

Abstract-125

An Anatomical Study on High Trifurcation of Brachial Artery with Embryological Correlation

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Introduction: A comprehensive understanding of variations in the arterial architecture of the upper limb is of great importance for various clinical procedures.

Aim: To investigate the anatomical variations in brachial artery and its branches in dissected upper limbs and to provide probable embryological explanation of observed variation.

Materials and Methods: The present study was a cross-sectional study done in thirty-two upper limbs of 16 cadavers (6 female and 10 male) procured for dissection purpose of phase 1 MBBS students. The upper limbs were carefully dissected as per Cunningham's dissection manual. The brachial artery and its branches were checked for anatomical variations.

Results: In this study, author observed trifurcation of brachial artery in right upper limb of a female cadaver. It was found to terminate into radial artery, ulnar artery and superior ulnar collateral artery at the level of insertion of coracobrachialis muscle in the arm. The median nerve was found to be coursing between the radial and ulnar arteries at the middle of the arm. Rest of the course of both arteries were normal. On the left side, the course, branches and termination of brachial artery was normal.

Conclusion: Brachial artery is the main artery suppling the arm. Vascular variants of Brachial artery may affect numerous diagnostic and therapeutic procedures. Unusual induction by the vascular growth factors namely Vascular Endothelial Growth Factor (VEGF), Platelet Derived Growth Factor (PDGF) and Transforming Growth Factor (TGF-β) associated with hemodynamic changes could be the probable cause of such vascular variations.

Abstract-126

A Case Study on Third Head of Biceps Brachii Muscle with Embryological Correlation

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Introduction: Morphological variations in origin, insertion and innervation of biceps brachii muscle have been reported by various authors. Meticulous knowledge of such variations of biceps brachii and associated structures would provide a clinical strategy for diagnosis and management of the upper limb diseases and minimize the neurovascular injury.

Case description: During routine dissection of upper limb by Phase 1 MBBS students, an accessory head of biceps brachii was noted in two right upper limb (one male and one female) 6.25% (n=2). All the 16 cadavers (10 male and six female) procured in the Department of Anatomy were checked to investigate the morphological variations in the attachments and innervation of biceps brachii. Third Head of Biceps Brachii (THB) originated from the antero-medial surface of humerus in between the insertion of coracobrachialis and the origin of brachialis muscle on both limbs. It traversed deep to short head of biceps brachii and blended with common bicipital tendon before inserting into the radial tuberosity. Musculocutaneous nerve supplied all the three heads separately.

Discussion: The signaling errors by muscle specific genes - Myoblast Determination Protein (MyoD) and Myogenic factor 5 (MYF5) and Hox11 gene which control muscle connective tissue formation might result in such variation.

Conclusion: THB might cause musculocutaneous and median nerve entrapment, misdiagnosis as soft tissue tumors or as a longitudinal tear during routine MRI, abnormal dislocation of fragments of fractured humerus etc. Hence, a thorough knowledge of such variations will help in proper diagnosis and treatment of various upper limb diseases.

Abstract-127

Ophthalmoplegia Syndrome

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Introduction: Ophthalmoplegia syndrome also known as Tolosa Hunt syndrome causes severe unilateral periorbital headaches with painful and restricted eye movements.It was first described in1954. It is usually idiopathic and from non-specific inflammation in the region of the cavernous sinus and/or superior orbital fissure.

Case description: 56-year-old, known case of type 2 Diabetes Mellitus and systemic hypertension presented with: Right unilateral headache for a month, pricking pain in the right periorbital region, ptosis and diplopia of the right eye, right sided facial numbness, nausea. Decreased movements of the right eyeball. Right eye cataract surgery was done 45 days prior. Isointense granulomatous soft tissue lesion in the right superior orbital fissure and cavernous sinus was also present.

Discussion: The diagnosis was Tolosa-Hunt syndrome owing to typical symptoms. Patient was started on injection methylprednisolonethrough IV line once daily for 5 days. It was changed to tablet wysolone once daily for two weeks. Generally, dramatic symptomatic improvement is seen with glucocorticoids. Relapses tend to occur in about 40% of patients.

Conclusion: The estimated incidence is one case per million per year. There is no geographical or racial preponderance but unusual in young people. Although usually unilateral, either side can be affected, and there have been case reports about bilateral involvement.

Abstract-128

Congenital Anomalies of Human Adult Cadaveric Kidney

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Introduction: Kidney is one of the most common sites of congenital anomalies amounting to 20 to 30 percent of anomalies in the prenatal period. This is a case report of an anamolous lobulated kidney identified in a cadaver during a routine anatomy dissection.

Case Description: During a routine anatomical dissection at the Anatomy Department of Sri Ramachandra Institute of Higher Education and Research we, identified a lobulated kidney and would like to highlight it in view of its significance.The dimensions of the kidney was measured and it was weighed.

Discussion: Persistent fetal lobulation is a normal congenital variant. It is the result of fetal lobulation that persists into adulthood. Typically the fetal kidneys are subdivided into lobes by grooves that disappear by the end of the fetal period. It occurs due to incomplete fision of the developing renal lobules. It is discovered incidentally and carries no clinical significance. It is important in imaging to distinguish between lobulation and scarring which can occur due to vesico-ureteric reflux and/ or chronic infection. Lobulations can be seen in CT or ultrasounds as indentations that occur between the medullary pyramids compared with renal scars which are located overlying the medullary pyramids.

Abstract-129

Aortic Tortuosity Syndrome – A Case Report

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Introduction: Tortuous arteries are those with numerous turns in it. Aortic Tortuosity Syndrome (ATS) is a rare, autosomal recessive connective tissue disorder in which the aorta is elongated and becomes tortuous.Mutations in the SLC2A10 gene encoding the facilitative glucose transporter GLUT10 leads to ATS.

Case Description: A 46 year old female with complaints of breathlessness and chest pain visited Sri Ramachandra Hospital. CT aortic angiogram done revealed diffuse tortuosity in the thoracic and abdominal aorta with aortoannular ectasia. Gross meandering of the descending thoracic aorta to the left mid posterior thoracic wall at T7 to T10 level was also seen.

Discussion: The above case was unique because there was no significant wall thickening or aneurysmal dilatation. There was also no evidence of luminal stenosis or kinking throughout the course of the vessel. Few authors state that people with marfan syndrome are more prone to develop ATS.

Conclusion: Abnormal vessels especially the arteries could create complications that could be fatal. It could also obstruct the blood flow to vital organs.In these cases, early detection is very important to avoid mortality.

Abstract-130

Bilateral Linguofacial Trunk: Unusual and Rare Branching Pattern of the External Carotid Artery

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Introduction: An unusual and rare variation in the branching pattern of the external carotid artery is reported in this case report. A common trunk known as -the Linguofacial Trunk (LFT), originates from the anteriomedial surface of the right and left External Carotid Artery (ECA) giving the lingual artery and facial artery in the anterior (Carotid) triangle of the neck.

Case Report: Generally, the facial artery and lingual artery arises as separate branch. But in this case of a 65-year-old female cadaver, these arteries arise from the common trunk - LFT on the anteromedial surface of both the right and left ECA. The LFT arises at the level of greater cornua of the hyoid bone. The LFT was 1.6 cm long on the left and 1.4cm on right. The diameter on the right was 1.7 cm and on the left was 2.5 cm. This LFT is crossed anteriorly by the posterior belly of the digastric and hypoglossal nerve and soon divides into the lingual and facial arteries.The infrahyoid branch which usually arises from the superior thyroid artery arises from LFT.

Discussion: Variation in the vascular pattern of the head and neck region is important to avoid any risk of iatrogenic bleeding and post-operative complications. As in this case, the hypoglossal nerve passes anterior to the common trunk, it may get affected during the ligation of the artery.

Conclusion: The knowledge of this bilateral LFT variation is a must-know for a surgeon and a radiologist. Apart from this no other variations are seen.

Abstract-131

Study of Anatomical Variations of Shapes of Foramen Magnum and its Clinical Importance in Dry Adult Human Skulls of South Indian Population

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Introduction: The numerous surgical methods at the craniovertebral junction require an understanding of the clearly detailed anatomical background. When surgical procedures are performed without in-depth anatomical understanding, high mortality and morbidity are anticipated. The present study will provide a comprehensive understanding of the skull in light of this area's significant clinical value.

Aim: The aim of the present study is to analyse the various shapes of foramen magnum in dry adult human skulls of South Indian population and to find out their clinical correlation.

Materials and Methods: 100 dried adult human skull base obtained from the Department of Anatomy, Aarupadai Veedu Medical College and Hospital, Puducherry were used in the present study. All the dry adult human skulls were observed from outer side at their base by naked eyes to determine the shape of foramen magnum. It was classified into the following shapes: - Oval, round, tetragonal, hexagonal, pentagonal and irregular.

Results: The shape of the foramen magnum in dry skulls were oval in 47.25%, round in 32.44%, hexagonal in 6.23%, irregular in 4.63%, pentagonal in 3.19%, tetragonal in 1.73 %.

Conclusion: Neurosurgeons, radiologists, orthopaedics, anthropologists, forensic specialists, and anatomists will be benefited from the conclusions drawn from the current study, which shows variances in the morphologies of foramen magnum.

Abstract-132

Morphometric Variations of Foramen Ovale and Foramen Spinosum In Human Dry Skull

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Aim: To study the variations in shape, bony growth and divisions of foramen ovale and foramen spinosum in dry human skulls.

Materials and Methods: A total of 150 skulls available in the Department of Anatomy, Aarupadai Veedu Medical College and Hospital, Puducherry. Each skull was measured using vernier caliper. This study was done in both male and female skulls.

Results: It was observed that oval, round, almond, triangular shaped foramen ovale. Variations in the shape of foramen ovale showed the maximum as oval followed by almond and round shape.

Conclusion: Foramen ovaleis of clinical and diagnostic importance in procedures like trigeminal neuralgia and aneurysm and other vascular lesions in skull.

Abstract-133

Morphological Morphometric and Study of Stylomastoid Foramen in Relation to Facial Nerve Block

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Introduction: The Stylomastoid foramen is located in the base of the petrous part of the temporal bone, between the mastoid process and the styloid process. The facial nerve exits the skull from the stylomastoid foramen and passes obliquely inferiorly and laterally into the parotid gland. The knowledge of the normal anatomy and variants of the location, number is great important to prevent complications to the facial nerve while doing surgery and to give facial nerve block by anesthetian.

Aim: The present study was undertaken analyse the location, number , position and distance between the right and left side of the stylomastoid foramen.

Materials and Methods: The study was conducted on 150 dry adult human skulls of unknown age and sex and all the bones were procured from the Department of Anatomy, AVMCH, Puducherry. The length and the width of the foramen is measured by using digital Vernier caliper. The variations in the foramen is noted. The distance between the right and left side of the foramina is noted. The data was collected and analysed by using the Statistical Package for Social Sciences (SPSS) 19 version.

Results: The most common variant observed was the round shaped foramen. The position of the stylomastoid foramen in relation to transverse line passing between the upper end of the anterior border of right and left side of mastoid process is noted. The mean distances between the stylomastoid foramen from various important anatomical landmarks on both right and left sides are tabulated.

Conclusion: The narrow size of stylomastoid foramen varied from individual skull to other. The accurate value for length and breadth, was measured to determine the variations of facial nerve emerging through it. The change in length and breadth of stylomastoid foramen can be correlated with its clinical aspects with reference to facial nerve.

Abstract-134

Study to Assess the Awareness about the Science Behind Social Practices among Medical Students

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Introduction: Humans have adopted various customs and traditions in their lifestyle. We have beenpracticing these norms for ages together, just because of insistence from family and society. In this modern Era, we have forgotten most of it and as young generation we hardly show interestinacceptingandfollowing socialcustoms. For instance intermittent fasting practices is followed widely across various religion , the scientific reason behind this is fasting enhances parasympathetic activity and improves digestion, reduces blood pressure.

Aim: To analyse the attitude and awareness among the medical students infollowing social practices.

Materials and Methods: A study was conducted with ethical approval. Ten social practices were shortlisted. Research articles and valid scientific proof for the topics was studied. A MCQ type questionnaire was prepared and shared among the students. Responses were collected. Depending upon the scores of the subjects results were concluded.

Results: About 39% of the students were aware and 61% were unawareabout the science behind social practice.

Conclusion: Despite following customs, even medical students are unaware about the science behind eachofit. It would be better if we know the significance.

Abstract-135

Survey on Prevalence of Impostor Syndrome among Medical instead of First Year MBBS Students

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Introduction: The term Impostor syndrome or Phenomenon signifies a strong feeling of self doubt and personal incompetence among high achieving individuals despite a high level of accomplishment, skill and competence. They pressure themselves to push them in order to keep others from recognizing their shortcomings presenting with anxiety,depression and low self-esteem,eventually taking a toll on their emotional wellbeing and performance.

Aim: To study the prevalence of Impostor Syndrome in medical students.

Materials and Methods: This questionnaire based observational study was performed with a sample size of 150 students between 18-20 years of age in a duration of about 1 week using Clance Impostor Phenomenon scale.

Results: The mean Impostor score was 56.5. Around 9.33% had Mild Impostor Syndrome ,60.66 % had moderate Impostor syndrome (most common), 26%-significant and 4% Intense Impostor Syndrome.

Conclusion: The study brought out the prevalence rate of Impostor Syndrome and invented practices to be inculcated to escalate self-esteem, embrace being a novice and develop a growth mindset.

Abstract-136

Asanas in Namaz Postures and the Pathway to Lung Health

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Introduction: Any religion cares not only for benefit of society but also for health of people. The five daily prayers of Islam community called as namaz. This constitutes 15-20 minutes of daily activity. Excluding the recitation of Quranic prayer, postures of namaz itself can be equated as postures of asanas. The performance of specific postural positions of namaz are standing, bowing, prostration, and sitting termed as Takbir, Al-qiyyam, Ruku, Sujud and Julus which are equivalent of Tadasana, Prayer, Uttanasana, Balasana and Vajrasana respectively. When Muslims perform the prayer regularly, the benefits of these asanas should reflect in their health. So, authors conducted a study to know the effect of namaz on parameters of Pulmonary Function Test (PFT).

Aim: To evaluate the respiratory benefits of namaz postures.

Materials and Methods: The participants (n=40) were divided into two groups-20 in each arm comprising both genders. The PFT was measured for both the groups. Both the groups underwent same environmental and lifestyle exposure for four weeks. The study group performed the namaz postures without recitation of verses five times a day for 15-20 minutes. At the end of four weeks, again the PFT was measured for both the groups. The inter and intra-group pre and post PFT values were compared and analysed using student's t test.

Results: It was observed upto 25% increase in PFT values in study group than control group. PEF, FEF 25-75%, Vmax25%, Vmax50% changes were statistically significant.

Conclusion: Namaz postures when done regularly do improve pulmonary function parameters.

Abstract-137

Survey on Prevalence and Associated Risk Factors of Premature Greying of Hair among Medical Students

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Introduction: One of the most neglected yet the most important part of our body is hair. As we age, our hair eventually turn into grey and it is a normal phenomenon, however, if we start spotting grey strands at a young age, it becomes a matter of concern. In this study we try to relate how stress and other factors influence premature greying of hair.

Aim: To study the prevalence of grey hair and the factors contributing to it among medical students.

Materials and Methods: This questionnaire based observational study was performed with a sample size of 150 medical students between 18-20 years of age of both the genders.

Results: 23% of the students had grey hair. Among them 56% were females and 44% were males. Stress emerged to be a major factor among the students.48% of them had stress. 32% of them had a family history of premature greying of hair. 12% of them had nutritional deficiencies, while 3% of them agreed over usage of hair products.

Conclusion: The study brought out the prevalence rate of grey hair among the students. Stress emerged to be an important risk factor of premature greying of hair among medical students followed by family history.

Abstract-138

The Scientific Reasoning Behind Mythology

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Introduction: Religion and mythology have shaped various customs and disciplines in our lives. Is mythology just stories and traditions, or does it have a connection to medicine? Most mythological instances do not involve the role of a supernatural force but involve simple concepts of science.The expert archer, Eklavya, was able to master archery even without the thumb.The Warrior Abhimanyu learnt the chakravyuh knowledge while in his mother's womb.

Aim: To bring out the awareness of science involved in mythology among medical students.

Materials and Methods: The present study is an observational cross-section study based on standardized questionnaire. The questions were close ended, and the study duration was 10 days in the Department of Physiology, Velammal Medical College Hospital and Research Institute (VMCH and RI) and the sample size of 300 medical students.

Results: Data from the 300 recorded responses were analysed and interpreted with bar graphs, the results were summarised.23% responded correctly for 1 to 3 questions. 26% responded correctly for 3 to 5 questions.31% responded correctly for 5 to 7 questions. 20% responded correctly for more than 7 questions.

Conclusion: 51% of students (more than 5 questions) were aware about the science in mythology.

Abstract-139

Gut-Lung Axis: Analysis of Association of Chronic Respiratory Disorders and Gastrointestinal Symptoms

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Introduction: In recent years, multiple literatures have been proposed to explain the gut-lung cross talk. Even though the gut and lungs are anatomically distinct, potential communications involving the microbiota have reinforced the existence of gut lung axis. Alterations of intestinal microbiota communities may have a profound effect on lung disease. In the present study, we have tried to establish the correlation of chronic respiratory disorders with functional gastrointestinal symptoms in the patients. Chronic respiratory disorders include Chronic Obstructive Pulmonary Disorders (COPD), Asthma and Occupational lung disorders.

Aim: The analysis of association of chronic respiratory disorders and gastrointestinal symptoms.

Materials and methods: This is an observational cross-sectional study performed on 86 patients with chronic respiratory disorders using a standardized questionnaire. (Bowel disease questionnaire) The sample size included patients in the age group of 40-60 years of both the genders. The results were statistical analysed using Pearson correlation coefficient.

Results: Among the sample population of 86 patients, 46% of the patients had developed upper gastrointestinal symptoms whereas 69% of the patients had lower gastrointestinal symptoms.

Conclusion: The study revealed that majority of patients had developed gastrointestinal symptoms revealing the association between the respiratory system and gastrointestinal system – the gut lung cross talk.

Abstract-140

The Effects of Social Media Usage on Academic Procrastination among Medical Students

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Introduction: Internet is an essential and widely used tool among college students. In recent years, social media usage has increased among students due to low internet cost. Medical students mainly access the internet for academic purpose, but frequent online notifications, provoke irresistible urge to check on social media, which causes academic procrastination.

Aim: To assess the effects of social media usage on academic procrastination among medical students.

Materials and Methods: This study is an observational cross sectional study based on standardized questionnaire (Procrastination assessment scale-student). The study duration was one week in the Department of Physiology, VMCH and RI and the sample size of 252 medical students of both genders.

Result : Out of 252 students 46.8% are Instagram user. 53.8% out of 252 use social media more than 2 hours per day. And 74.6% of the study sample use social media for entertainment purpose, 32.5% of the students responded notification is the major temptation. 73.8% of the study population get only 5-6 hours of sleep a day . 58% of the students procrastinate their regular study. And 47.6% out of 252 students submit their assignment after deadline. The Fisher exact p-value is 0.024 for the relation between academic performance and social media usage duration.

Conclusion: A total of 68.1% student procrastinate academics due to social media.

Abstract-141

Effect of Late Night Studies on Body Mass Index and Waist-Hip Ratio of Medical Students

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Introduction: With the increasing competition and lifestyle changes, students have reversed their body clock nowadays, as they prefer study late night than getting up early in the morning.This not only disturbs their sleep wake cycle but also has adverse effects on the eyes and the body. Hence, the present study was done to observe the effect of late-night studies on health.

Aim: To study effect of late night studies on Body Mass Index (BMI) and Waist-Hip Ratio of Medical Students.

Materials and Methods: This study is an observation based cross-sectional study with a sample size of 100, done among students who study late night from first and second year medical students in Velammal Medical College Hospital and Research Institute, Madurai. The physical heath was analysed by measuring the Body Mass Index and Waist-Hip ratio.

Results: The students who do late night studies are having a higher BMI, higher waist-hip ratio than students who do not study late night.

Conclusion: Students who study late night are having poor physical health than those who study earlier.

Abstract-142

Effect of Posture on Academic Performance of Medical Students

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Introduction: Posture is the position in which you hold your body while standing, sitting or lying down. Good posture involving training your body to stand, walk and sit to place least strain on muscle and ligaments. Posture is critical in the early stages of acquiring new knowledge.

Aim: To study the effect of posture while studying on academic performance and identifying the best posture.

Materials and Methods: The study was an observational study with sample size of 100 medical students. a questionnaire was shared among the students to find out the posture in which they study based on their response they were separated into four groups as sitting erect, lying, standing and walking each groups academic performance data was analyzed and used to identify the most effective posture for increase in the academic performance.

Results: 81% of students sit erect, 15% were lying, 2% stand and 2% walk during studying. Students who were walking got 68%, sitting erected got 64%, lying got 61% and standing got 56% on their academic performance.

Conclusion: Students who walk and study seems to have slight increase in academic performance than the other ones. The effect of posture on academics seems to be small and does little to help improve academics.

Abstract-143

Vitamin D and Thyroid Functions in Chronic Kidney Disease Patients

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Introduction: Chronic Kidney Disease (CKD) is a significant public health issue. Vitamin D levels steadily decrease as CKD progresses despite increasing levels of parathyroid hormone. Thyroid Stimulating Hormone (TSH) level increases with ageing and the high prevalence of hypothyroidism in CKD patients. It has been seen that severe CKD might cause abnormal thyroid function.

Aim and Objective: The purpose of this retrospective analysis was to analyze the levels of vitamin D, Parathyroid Hormone (PTH), calcium, albumin, phosphorus, magnesium, creatinine, and Thyroid Stimulating Hormone (TSH) in the reports of CKD patients and determine the association between thyroid, kidney disease and vitamin D levels.

Materials and Methods: Retrospective cross-sectional analysis of laboratory records of patients admitted with CKD to Sri Ramachandra Hospital, Chennai was done. Results of the mentioned analytes were documented. The data was analyzed in R statistical software version 4.12.

Results: The study involved 259 patients with a mean age of (56.69±16.11) years, respectively. Between TSH and other parameters, vitamin D and phosphorus were shown to be significantly correlated. In patients with hypothyroidism the average vitamin D level was found to be lower than sufficiency. The phosphorus levels were elevated compared to vitamin D.

Conclusion: CKD patients can be advised to be routinely screened for thyroid disorders and timely determination of vitamin D levels can be advocated so that, if suboptimal levels are observed, an appropriate intervention can be taken to reduce the risk of cardiovascular diseases and treat vitamin D deficiency and hypothyroidism.

Abstract-144

Comparison of Thyroid and Renal Function in Subclinical Hypothyroid and Euthyroid Adults: Observations at a Tertiary Care Centre

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Introduction: Every organ system in the body is influenced by the thyroid hormones. These hormones regulate the normal growth, development and function of nearly all tissues, with major effects on oxygen consumption and metabolic rate. Thyroid dysfunction is known to affect Glomerular Filtration Rate (GFR), renal blood flow, tubular function, water and electrolyte balance and kidney structure.

Aim: To study the possible relationship between thyroid hormone levels with the renal function.

Materials and methods: A cross-sectional study with 534 individuals, with 200 subclinical hypothyroidism and 334 euthyroid adults was undertaken. Each participant was tested for thyroid function tests: thyroid-stimulating hormone (TSH), tri-iodothyronine (T3), free thyroxine (FT4) on COBASe411 fully automated immunoassay analyzer. Renal function tests were tested by serum creatinine, urea, uric acid, eGFR by MDRD 4 variable formula and spot microalbumin excretion Toshiba 120FR fully automated analyzer.

Results: The FT4 levels were seen to be reduced in subclinical hypothyroidism ($p < 0.05$). Microalbumin was positively correlated with FT4 ($r=0.117$, $p<0.05$). T3 levels were found to be negatively correlated with serum urea ($r= -0.118$, $p<0.05$) and creatinine ($r= -0.140$, $p<0.05$) in the study population. Our study showed an elevation of serum creatinine in subclinical hypothyroidism.

Conclusion: Monitoring of renal function may be beneficial in subclinical hypothyroid adults and may be included for comprehensive management of patients.

Abstract-145

Correlation of Uric Acid and Lipid Profile in a Tertiary Care Hospital: A Observational Study

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Introduction: Serum uric acid levels are known to be strongly linked with stroke, coronary artery disease as well as hypertension and metabolic syndrome. However, the definite role of serum uric acid in these diseases is not yet established, due to its association with numerous other risk factors such as diet, obesity and dyslipidemia.

Aim: This study aimed to investigate the association of serum uric acid levels with lipid profile and its components.

Materials and Methods: An observational study was performed among 1157 adults. Serum total Cholesterol, triglyceride and HDL Cholesterol are measured using CHOD PAP, GPO TOPS and Selective Inhibition method respectively. Uricase method is used to measure uric acid levels.

Results: The prevalence of hyperuricemia and hypercholesterolemia was 13.3% and 41.3%, respectively. Compared with participants with serum uric acid the Odds Ratio (OR) (95% confidence interval) of hypercholesterolemiafor males and females were 1.833 (1.2372-2.7157) and 1.2101 (0.5945-2.463), respectively. Subgroup analysis showed that serum uric acidwas significantly correlated with the likelihood of hypercholesterolemia in males, but not in females.

Conclusion: Serum uric acid levels are significantly associated with hypercholesterolemia, and this association is impacted by gender.

Abstract-146

A Comparative Study of Thyroid and Lipid Profile among Diabetic Andnon Diabetic Mellitus Adults

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Introduction: Diabetes Mellitus and Thyroid disorder are the two most common endocrine disorders. Dyslipidemia is a common metabolic abnormality in overt and subclinical thyroid disorders and Diabetes Mellitus (DM).

Aim: 1.To determine the thyroid disorder and lipid profile in both DM and non DM. 2.To compare the dyslipidemia pattern among overt and subclinical hypothyroid in both DM and non DM.

Material and Method: A retrospective study with 497 DM patients and 545 non DM patients referred to Department of Biochemistry was undertaken. Each participant was tested for fasting and post-prandial plasma glucose, thyroid profile (TSH, TT3, FT4), lipid profile (Total cholesterol TC, triglycerides TGL, HDL-C) and HbA1c.

Results: Hypothyroid(TSH>4.2IU/mL, FT4 < 0.7ng/dL) were 30(6%) in diabetes and 20(3.6%) in non diabetes. 1.6% and 0.7% were hyperthyroid in DM and non DM. Around 20.7% and 13.2% were subclinical hypothyroid in diabetes and non diabetes respectively. Mean of HbA1c was 8.8% in euthyroid DM and 8.3% in hypothyroid DM individuals. Mean serum triglycerides observed in subclinical hypothyroid DM(149.1mg/dl, $p<0.05$) and overt hypothyroid DM(164.4 mg/dl, $p<0.01$) individuals was significant.

Conclusion: In this study hypothyroidism is most common among diabetic adults than the non diabetic adults. Hypertriglyceridemia is profoundly observed in hypothyroid DM adults in addition to their DM status. This study suggests that early monitoring and management of thyroid function in diabetic patients can reduce the morbidity due to dyslipidemia.

Abstract-147

Study of Dyselectrolytemia in a Tertiary Care Hospital

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Introduction: Electrolytes play an important role in several body mechanisms such as maintenance of acid base balance, membrane potential, muscle contraction, nerve conduction and control body fluid.

Aim: 1.To study the pattern of serum electrolytes in normal patients presenting to VMCH and RI during the study period. 2.To correlate the serum electrolyte levels with age and gender in patients with normal glycemic status.

Materials and methods: This is a hospital based retrospective study. Serum electrolytes, FBS, PPBS and HbA1C of patients attending master health check up were estimated in TBA120FR fully automated analyser, out of which 120 patients with dyselectrolytemia and normal diabetic profile were included in this study. Serum electrolytes were estimated by indirect ISE method.

Results: Statistical analysis was done using SPSS version 20.0. Parameters were analyzed by unpaired student t test. Mean sodium, potassium and chloride levels in patients less than 50 years were 136±14, 4.3±0.3, 105±11 respectively. Mean sodium, potassium and chloride levels in patients more than 50 years were 138±3, 4.3±0.3, 104±4 respectively. There is no statistically significant difference between serum electrolyte levels of patients less than 50 years and more than 50 years. Mean sodium, potassium and chloride levels in male patients were 136±13, 4.2±0.3, 104±10 respectively. Mean sodium, potassium and chloride levels in female patients were 139±2, 4.1±0.3, 105±3 respectively. There is no statistically significant difference between serum electrolyte levels of male and female patients.

Conclusion: The study can throw light on pattern of changes in electrolyte levels in normal patients. The early assessment of dyselectrolytemia in normal population can predict the future outcome of underlying pathology.

Abstract-148

Prevalence and Determinants of Obesity in Young Adults; A Cross-sectional Study from South India

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Introduction: Central obesity is a common cardiometabolic risk factor. Anthropometric measures used to predict the risk of diabetes and hypertension. BMI and Waist circumference are the most commonly used anthropometric measures for prediction of cardiometabolic risk factors.

Aim: The aim of this study is to determine the prevalence of obesity and comparison of different anthropometric indices amongst young adults in south India.

Materials and methods: A cross-sectional study was performed among 125 young adults. Anthropometric measurements including Waist Circumference (WC), Body Mass Index (BMI), Hip Circumference (HC), Waist-to-Hip Ratio (WHR) and Waist-to-Height Ratio (WHtR) have been measured. According to BMI they were separated into normal, overweight and obese. Their blood pressure and capillary blood glucose were measured and analysed.

Results: The prevalence of obesity among young adults were 32.8%. statistical significance ($p<0.1$) was found on anthropometric measures such as weight, WC, HC, mid arm circumference, mid thigh circumference and waist height ratioamong the three groups. The capillary blood glucose value was found to be statistically significant ($p<0.5$) between normal (106±10 mg/dL), overweight (109 ±14mg/dl) and obese (113±11 mg/dL) groups. A positive correlation ($r=0.203, p<0.05$) between weight and waist hip ratio was found.

Conclusion: One effective way of reducing the impact of obesity is by active screening and identification of people at risk. Healthy lifestyle and dietary advice may be included as a part of the curriculum thereby creating health awareness among the young adults.

Abstract-149

Study of Serum Electrolytes in Type 2 Diabetes Mellitus

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Introduction: Diabetes mellitus is the most common metabolic disorder worldwide.Electrolyte imbalance in diabetic patients, due to osmotic fluid shifts induced by hyperglycemia results in hyponatremia, hyperkalemia and hyperchloremia. By previous studies,electrolyte imbalance can be used as an early predictor of metabolic derangements in diabetic patients and is useful in prophylaxis and treatment measures.

Aim: 1.To study the pattern of serum electrolytes in Type 2 diabetes mellitus patients. 2. To correlate the serum electrolytes levels and HbA1c levels in type 2 diabetic patients.

Materials and methods: This retrospective observational study includes 1158 individuals with 520 diabetic patients and 639 non diabetic patients who were treated at VMCHRI, Madurai. FBS, PPBS and HBA1C of all individuals were analysed in TBA120 FR

fully automated analyzer. Serum electrolytes of the same patients were estimated by ISE method.

Results: Statistical analysis was done using SPSS version 20.0. Parameters were analyzed by unpaired student t-test. Mean HbA1c, Fasting Blood Glucose, Post-prandial blood glucose, Serum sodium, potassium and chloride in diabetics were 169±72, 256±91, 8.7±1.8,137±3,4.4±1.8 and 103±6 respectively. Parameters were analyzed by unpaired student t-test. Mean HbA1c, Fasting Blood Glucose, Post-prandial blood glucose, Serum sodium, potassium and chloride in non-diabetics were 93±11, 125±29, 5.7±0.4,138±7,4.5±1.8 and 104±5 respectively. There is no statistically significant difference between serum electrolyte levels of non-diabetics and diabetics.

Conclusion: This study can throw light on the changes of electrolytes levels with HbA1c levels in type 2 diabetic individuals.

Abstract-150

Association of Thyroid Function and Glycemic Control in Subjects across Glycemic Spectrum: Experience at a Tertiary Care Centre

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Introduction: Diabetes is a very common health problem in our country. It predisposes a patient to multiple organ damage if the glycaemic control is not strictly regulated. Thyroid hormones influence functioning of numerous metabolic pathways taking place in our body. The scientific literature hints at an inter-relation between these two major endocrine disorders.

Aim: To study the thyroid function in diabetic patients as well as its relation to glycemic control.

Materials and methods: A cross-sectional study with 378 diabetic patients, 79 prediabetic and 204 euglycemic patients was undertaken. Each participant was tested for fasting and 2-hour post-prandial plasma glucose, glycated haemoglobin(HbA1C), thyroid function tests: thyroid-stimulating hormone (TSH), triiodothyronine (T3), free thyroxine (FT4) on fully automated analyzer.

Results: The TSH levels were seen to be elevated as the glycemic control worsened whereas T3 ($p < 0.01$) and FT4 levels were lower in diabetics when compared with the controls. Among the diabetic individuals' patients with controlled HbA1c had lower TSH than uncontrolled diabetes. T3 had significant ($p<0.01$) correlation with fasting ($r=-0.209$), post prandial ($r=-0.189$) and HbA1c ($r=-0.203$). FT4 had significant ($p<0.01$) correlation with fasting ($r=0.183$), post prandial ($r=0.132$) and HbA1c ($r=0.183$).

Conclusion: There was a higher prevalence of thyroid dysfunction among diabetic patients especially uncontrolled diabetic individuals. This could suggest that monitoring of thyroid function in patients with poor glycaemic control be included for comprehensive management of patients with diabetes mellitus.

Abstract-151

Ambiguous Effects of Obesity on Cancer Prognosis and Treatment Response: A Systematic Review and Meta-analysis

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Introduction: Obesity has been linked to increased mortality in several cancer types; however, the relation between obesity and survival outcomes in different cancer types has shown a paradox, wherein some studies have shown better survival outcomes in cancer patients who are clinically obese. This observation has been stated as the "obesity paradox" by clinicians.

Aim: To assess the association between obesity and outcomes after a diagnosis of cancer and to find a plausible explanation for the "obesity paradox".

Materials and methods: Studies reporting prognosis of patients with obesity using standard BMI categories and cancer were included. Data was sourced from the medical literature database PUBMED. Study selection criteria was restricted to those studies which provided an adjusted hazard ratio (HR) with a 95% CI.

Results: A total of 17 large-scale studies were evaluated for overall survival rate (OS). A total of 15 out of the 17 studies showed a reduced OS (HR > 1), whereas, 2 studies showed a better OS (HR < 1). To find a plausible explanation for the observed paradox, a thorough review of literature was done and some possible explanations were stated.

Conclusion: In this study, obesity was associated with greater mortality overall in patients with cancer. However, patients with obesity and lung cancer, renal cell carcinoma, and melanoma had a lower risk of death than patients with the same cancers without obesity. Explanations include statistical biases and positive effects of adiposity in cancer immunotherapy.