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A Study of Correlation of Foot Length of Neonates with Gestational Maturity

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INTRODUCTION

Appropriate care of a low-birth-weight new born is important and difficult in developing countries since most of the deliveries are conducted at home where adequate facilities do not exist. This study was conducted to find correlation of foot length with gestational age and other anthropometric measurements (birth weight, head circumference, and crown heel length).

METHODS

The study included 350 neonates admitted at Government Medical College, Ajmer. Babies with limb deformities were excluded. Gestational age was assessed by New Ballard score and babies were grouped into term, pre term and post-term. These three groups were categorized in to appropriate for gestational age (AGA), small for gestational age (SGA) and large for gestational age (LGA) using Lubchenco intrauterine growth curve. Correlation of foot length with gestational age and other anthropometric parameters in these groups were statistically analyzed by correlation and regression analysis.

RESULTS

233 (67%) were term, 115(33%) were pre term and 2 (1%) were post-term. 278 (79%) were AGA, 67 (19%) were SGA and 5 (1%) were LGA. The mean foot length was 7.17 cm with a standard deviation of 0.80. The mean gestational age was 36.59 ± 3.49 weeks. Mean birth weight was 2.27 ± 0.67 kg. Foot length correlated significantly ($p < 0.05$) with gestational age, birth weight, head circumference and crown heel length in preterm SGA, preterm AGA, term SGA and term AGA groups.

CONCLUSION

Foot length is a simple and reliable anthropometric measurement to assess gestational age and birth weight in preterm and term neonates especially that are sick. Foot length can be reliably measured by peripheral health care workers and could be used effectively for identifying and referring high risk newborns.

Neutrophil to Lymphocyte and Platelet to Lymphocyte Ratio in Patients with different types of Hypertensions and Obstructive Sleep Apnea

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INTRODUCTION

Neutrophil to lymphocyte ratio (NLR) and platelet to lymphocyte ratio (PLR) are associated with various diseases. Obstructive Sleep Apnea (OSA) is characterized by repetitive episodes of cessation or limitation of airflow which result in intermittent nocturnal hypoxia and sleep fragmentation. The aim of this study was to analyze neutrophil to lymphocyte and platelet to lymphocyte ratio in patients with different types of hypertensions and obstructive sleep apnea.

METHODS

A prospective hospital-based study was conducted on a total number of 120 patients with dipper hypertension (Group A), non-dipper hypertension (Group B), and OSA (Group C) were selected for the study. In all three groups, general physical examination, Neutrophil to Lymphocyte, and Platelet to Lymphocyte ratio were analysed.

RESULTS

The mean NLR for group A was 1.94 while for group B it was 3.07 and for group C it was 4.68. There was a significant difference seen between these groups. The mean PLR for group A was 87.5 while for group B it was 117.38 and for group C it was 214.25.

CONCLUSION

Patients with non-dipper hypertension had significantly higher NLR and PLR compared to dipper hypertension. Inflammation in OSA patients can be predicted by platelet lymphocyte ratio. NLR and PLR, could be used to identify patients at high risk for adverse endpoints. Findings must be confirmed on a study with a larger patient population.

An Observation Study to Compare the Event-Related Potential Profiles over Consonants and Vowels Patterned Implementation Task through an Auditory Stimuli at SMS Medical College Jaipur in 2021-2022

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INTRODUCTION

The study aims to evaluate the hypotheses that “consonants are preferentially used during lexical access” and “vowels trigger a response associated with learning rules of abstraction during the neural processing of language in a rule learning task” by analyzing event-related potentials (ERPs) in response to trisyllabic auditory non-sense word stimuli.

METHODS

The study used the early component (P50), mismatch negativity (MMN), and N400 component of ERP waveform to determine an ERP signature elicited by violating rules implemented on vowel or consonant conditions. Comparison on the ERP response triggered by the violation of rules implemented over vowels and consonants (across phoneme and rule deviant stimuli archetypal linguistic constructions) with that of standard stimuli was done.

RESULTS

The neural response triggered by the violation of rules implemented over consonants exhibited a significant change in both amplitude and latency of ERP waveforms when standard stimuli was compared with respect to both phoneme and rule deviant stimuli. Furthermore, the vowel condition generated significant ERP changes in both amplitude and latency only on the presentation of the rule deviant epitome (in contrast to the standard stimuli).

CONCLUSION

The findings of the study indicate that vowels and consonants are fundamental signature constituents of neurolinguistics, each initiating distinct neural processes. The study underscores the significance of understanding the neural processing of language to better comprehend the mechanisms underlying language acquisition and communication.

Correlation of C-Reactive Protein with Various Cardiovascular Risk Scores in Patients of Rheumatoid Arthritis

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INTRODUCTION

Rheumatoid arthritis (RA) is a chronic systemic autoimmune disease with a prevalence of 0.28 to 0.7% in India. The study aimed to assess cardiovascular risk score in rheumatoid arthritis and its correlation with hsCRP levels.

METHODS

This was a hospital based cross sectional study on a total of 69 participants of either gender with RA. After approval of ethics committee a pre-designed questionnaires were filled by participants to collect information. Lipid profile, serum glucose, serum urea, serum creatinine, hsCRP, ESR and CBC were estimated. Assessment of disease activity and functional disability was done using Disease activity score 28 (DAS28 score) and Health assessment questionnaire-disability index (HAQ-DI). 10-year probable cardiovascular risk was assessed by 3 cardiac risk scores which were FRS, QRISK3, IHRS.

RESULTS

Majority of the study participants were female. Inflammatory markers hsCRP was found to be high in all participants. 10 year probable CV risk in total study participants was highest by QRISK3 followed by IHRS and FRS, respectively. Disease index in present study correlated with hsCRP. HAQ was found to be significantly associated with disease activity. Strongly positive correlation was observed in HAQ with respect to DAS28 which was highly significant. Cardiovascular risk scores were not found to be associated with disease activity.

CONCLUSION

QRISK3 as an appropriate score for the assessment of CV risk in patient of rheumatoid arthritis. Disease index in present study correlated with hsCRP which is established marker of CV disease hence it is significant to measure hsCRP level along with probable CV risk in patient of arthritis.

Morphological and Morphometric Study of Human Cadaveric renal Pelvicalyceal Pattern and its Variation in Western Rajasthan Population

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INTRODUCTION

The knowledge of detailed calyceal anatomy is essential for urologic procedures like percutaneous nephrolithotomy, percutaneous nephrostomy, flexible ureterorenoscopy, endopyelotomy and retrograde intrarenal surgery. The present study was done to analyze the importance of the pelvicalyceal patterns, position of renal pelvis (intrarenal, extrarenal, borderline, absent), frequency of pelvicalyceal pattern (as per Sampao's classification), position of minor calyces (anterior, posterior). Morphometric parameters of lower poles infundibulum (height, width, length in mm) and their variations in cadavers are studied.

METHODS

This was descriptive observational study. Formalin fixed both right and left adult human cadaveric kidney of both sexes aged between 20-70 years, dissect specimens were studied for variations in pelvicalyceal patterns. Morphological parameters like number, orientation and pattern of drainage of minor calyces were observed and length, width, height recorded using ruler, divider and protractor.

RESULTS

In the present study the intrarenal pelvis was most frequent finding, Type AI and bicalyceal pattern was most frequently observed, most frequent occurring minor calyces was six, two in lower pole and most specimens anterior presenting with simple drainage pattern.

CONCLUSION

The different types of patterns of renal pelvicalyceal system must be considered while approaching the patient with renal disease and pathologies.

To Evaluate the Impact of Yoga Lifestyle in Reducing Cardiovascular Risk in High-Risk Subjects

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INTRODUCTION

Cardiovascular diseases (CVDs) are a group of disorders of the heart and blood vessels. CVDs include coronary heart disease, cerebrovascular disease, peripheral arterial disease, rheumatic heart disease, congenital heart disease, deep vein thrombosis, and pulmonary embolism. The aim of the study was to evaluate the impact of a yoga lifestyle in reducing cardiovascular risk in high-risk subjects.

METHODS

A total of 11,150 subjects were screened to achieve the required sample size of 400 (200 study and 200 control group). Yoga and diet intervention was given for six months. Anthropometric, socio-demographic, physiological, and biochemical parameters were collected at baseline, three months, and six months.

RESULTS

This study compared physiological parameters (pulse pressure) and biochemical parameters (fasting blood sugar, glycosylated hemoglobin, lipid profile) at baseline, three months, and six months of yoga and diet intervention in participants among high-risk subjects and these were found to be significantly decreased after a combined approach of yoga and diet. Q RISK 3 and WHO risk scores significantly decreased in the yoga group compared to the control group after six months of yoga intervention.

CONCLUSION

Healthy lifestyle modifications which include yoga and healthy diet would be beneficial for society to reduce and revert cardiovascular risk.

To Study the Correlation of Iron Status and Cardiovascular Risk Score in Sanitation Workers at a Tertiary Care Center

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INTRODUCTION

Iron deficiency is the most prevalent global nutrient deficiency recognized by the WHO that affects both developing and developed countries. The aim of the present study was to evaluate the iron status in sanitation workers and its correlation with cardiovascular risk score.

METHODS

This hospital based cross sectional observational study was conducted among 80 sanitation workers of all the age group of either gender working in RUHS College of Medical Sciences. Data were collected by a self-designed questionnaire for health status of the participants. Dietary intake was assessed. The mean of the four 24-hour dietary recalls was used to characterize the intake of nutrients and food groups. Anthropometric parameters were noted. Iron profile was estimated. Cardiovascular risk score was calculated by using validated Interheart risk score and categorized as per scores.

RESULTS

31 (38.75%) participants were found to be anemic. Out of 80 study participants 16 (20%), 9 (11.3%) and 6 (7.5%) participants belonged to mild, moderate and severe anemia, respectively. On gender wise comparison of iron indices, a statistically significant high serum iron were noted in male participants (p value- 0.0001). 71(88.8%) of sanitation workers belonged to low CVD risk category according to IHRS followed by 9 (11.3%) study participants belonged to medium risk category. None of the participants belonged to high CVD risk category.

CONCLUSION

Potential importance of routine monitoring and screening of iron deficiency and probable cardiovascular risk in sanitation worker was highlighted, Calculating cardiovascular risk using IHRS which consider all main risk factor and protective ones is a useful score to evaluate cardiovascular risk even when laboratory data are not available.

A Cross-Sectional Study of Metabolic Syndrome in Stroke Patients and its Relation with NIHSS Score at Tertiary Care Hospital of Western Rajasthan

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INTRODUCTION

Stroke (cerebrovascular accident) is the first cause of adult neurological disability in developing Countries. The presence of metabolic syndrome has been associated with an increased risk of stroke. The aim of this study was to observe metabolic syndrome in stroke patients and its relation with NIHSS scores at tertiary care hospitals of western Rajasthan.

METHODS

This was a prospective cross-sectional, observational study, conducted among 70 patients in both the genders of age group of 25-75 years. All the patients were subjected to hematological and biochemical tests comprising of the following investigations viz. haemogram, fasting plasma glucose, lipid profile, and CT scan/MRI of the head in stroke patients.

RESULTS

Out of 70 patients, 26(37%) were non-metabolic syndrome patients, and 44(63%) were metabolic syndrome patients. Fasting blood sugar level, total cholesterol, triglyceride, and LDL cholesterol level increased, while HDL cholesterol level decreased significantly, NIHSS score significantly increased in metabolic syndrome patients. Stroke severity was significantly associated with NIHSS score with metabolic components. Member of severe stroke and moderate stroke patients were 23 and 8 respectively.

CONCLUSION

The frequency of stroke is elevated in age between 51-75 years. Stroke risk increased over the spectrum of metabolic syndrome severity and should be counseled toward life-style modification to lower the stroke risk.

To Study the Levels of Serum Incretin, Ghrelin and Glucagon Like Peptide-1 in Impaired Glucose Regulation

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INTRODUCTION

Between diabetes and normal glucose homeostasis lies a metabolic condition referred to as impaired glucose regulation. Patients with type 2 diabetes have a reduced Incretin hormone specially GLP-1 and Ghrelin. The aim of the study was to evaluate serum Incretin, Ghrelin and Glucagon like peptide-1 levels in impaired glucose regulation (IGF and IGT) and diabetic subjects.

METHODS

This cross-sectional study was conducted on a total of 186 subjects. These were enrolled in three groups, 62 with type 2 DM, 62 prediabetes state and 62 normal subjects of first-degree relatives of diabetic group. After clinical examination, blood samples were taken to measure fasting blood glucose, HbA1c, lipids, Incretin, Ghrelin and GLP-1 concentrations.

RESULTS

Serum Incretin and Ghrelin concentrations in patients with impaired glucose regulation were significantly lower as compared to healthy subjects.

CONCLUSION

A strong correlation between serum Ghrelin concentrations and GLP-1 allows us to assume that serum Ghrelin levels may potentially be an alternative indicator of impaired glucose regulation.

A Study on Branching Pattern and Variations of Carotids in Anterior Triangle of Neck

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INTRODUCTION

The knowledge of anatomical variation is important in the surgeries of head, neck and face and also for the radiologists to understand and interpret carotid system imaging when undertaking cerebral angiography. The aim of the present was to examine the morphology of common carotid arteries formation with its branches, various variations in the formation, branching pattern of the carotids.

METHODS

The variations in the level of bifurcation of the common carotid artery (CCA) and the branching pattern of the external carotid artery were studied on 25 cadavers. The common, external and internal carotid arteries were dissected on both sides in the carotid triangle. The level of carotid bifurcation was determined. Branching patterns of the external carotid arteries were examined in anterior triangle of neck.

RESULTS

The external carotid artery (ECA) originated at the level of upper border of thyroid cartilage in 86% cases, while in 1.4% cases it was arising at a higher level. In 4% of the specimens, the ECA was laterally transposed and remaining 96% transposed medially. In 76% specimens, superior thyroid artery was coming from ECA, 16% specimens revealed its origin from carotid bifurcation, 6% from CCA.

CONCLUSION

The anatomical level of CCA bifurcation is decisive clinically as well as surgically. At this level, not only the origin of ECA and ICA takes place but also other important anatomical structures are related to CCA such as cranial nerves.

Evaluation of Cardiovascular Disease Risk in Type 2 Diabetes Mellitus Patients Using Framingham Risk Score, Qrisk3, Interheart Risk Score and their Correlation with Lipoprotein(a) Level

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INTRODUCTION

Cardiovascular events remain the major cause of death for those with diabetes, accounting for about 70% of all deaths in the patient population. The aim of the study was to assess CVD risk in patients of type 2 DM and its correlation with lipoprotein (a).

METHODS

This was a hospital based cross sectional study on a total of 90 participants of either gender with type 2 DM. Ethics approval from the institutional ethics committee was taken prior to the study. Pre designed questionnaires was filled by participants to collect information about demographic characteristics and anthropometric parameters. Serum glucose, HbA1c, lipid profile, Hb and lipoprotein(a) were estimated. Framingham risk score, QRISK3 and INTERHEART risk score were calculated.

RESULTS

In male participants values of height, weight, pulse, BMI, SBP, and DBP were found to be statistically higher($p=0.004$) as compare to female participants. Mean Lp(a) levels in participants with T2DM were found to be normal range. A correlation was observed between FRS, QRISK-3 and DM duration of disease(years), age(years), BMI (kg/m^2), weight(kg), waist circumference(cm), waist-hip ratio, SBP (mmHg), DBP (mmHg), smoking, Hb(g/dl), HDL(mg/dl), and total cholesterol/HDL ratio. Study participants with more duration of disease (T2DM) were in the high-risk CV category.

CONCLUSION

Out of 3 risk assessments model evaluated maximum probability of CV risk was shown in scores calculated by QRISK-3 followed by IHRS and FRS. Risk identification programs and prevention strategies to reduce the occurrence of cardiovascular disease are warranted.

Morphological Study of Lungs and Variation in Rajasthan

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INTRODUCTION

The knowledge of anatomical variations of lobes and fissures of lungs is important to plan surgical procedures. Morphological study and variation in lungs were assessed in this study.

METHODS

A total of 80 adult formalin fixed cadaveric lungs (40 right and 40 left) were observed for the study. Measurement was taken with an inch tape and photographed for knowledge of anatomical variation i.e lobes and fissure of right and left lung; presence of accessory fissures; hilar structures and variation.

RESULTS

Among the 40 right lungs, 2 lungs (3.07%) showed absence and 18 (35.38%) showed incomplete horizontal fissure. Three right lungs (7%) showed 3 fissures and 4 lobes. One lung (3.07%) had 3 arteries, 27 (67.69%) had 2 arteries and 12 (29.23%) had 1 artery in the hilum. 25 lungs (63.07%) had 2 vein in the hilum. 13 (32.30%) had 3 veins in the hilum and 2 (4.61%) had more than 3 veins in the hilum. 39 of them (97%) showed 2 bronchi in the hilum, 2 of the lungs (5%) had an artery passing across the oblique fissure. Among the 40 left lungs, 6 (15.06%) showed incomplete oblique fissure. One of them (2.73%) showed 2 fissures and 3 lobes. 2 of them (5.47%) showed 2 arteries and 38 of them (94.52%) had only 1 artery in the hilum. 32 (80.82%) of the lungs had 2 veins in the hilum and 8(19.17%) had three veins in the hilum. 9 of them (21.9%) 2 bronchi and 31(76.71%) only one bronchus in the hilum.

CONCLUSION

Knowledge of the fissures and lobes of the lungs are important to plan surgical procedure to avoid postoperative complication. A variety of variations can occur at hilar structure as well as shape, fissures and lobes of the lungs in