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Relationship between hyperuricemia and the metabolic syndrome in adults in Tiko subdivision-south west region, Cameroon

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Associations between hyperuricemia, metabolic syndrome, cardiovascular disease and diabetes have been reported. However, limited information is available concerning the prevalence and correlates hyperuricemia among adults in Tiko subdivision. This study sought to estimate the prevalence of hyperuricemia and to evaluate its relationship with metabolic syndrome (MetS). A total of 202 participants were enrolled in this study between the May and April 2010 from patients who came for health examination at the CDC Central Clinic Tiko and Regina Pacis Health Centre Mutengene. Hyperuricemia was defined as ≥ 7 mg/dl (in men) and ≥ 6 mg/dl (in women). Metabolic syndrome was defined according to World Health Organization, National Cholesterol Education Program-Adult Training Panel III and International Diabetes Federation. The overall prevalence of hyperuricemia was 45% and the condition was more prevalent in females than in males (47.7% vs. 41.9%) and more in the people between the ages of 20-40 years than in those above 40 years (47% vs. 38.9%). The metabolic syndrome had a general prevalence of 28.2%. The IDF definition recorded the highest prevalence of the metabolic syndrome (32.17%) while the WHO definition recorded the lowest (8.42%). Hyperuricemia was related to IDF metabolic syndrome ($r=0.22$, $p=0.001$), NCEP-ATPIII metabolic syndrome ($r=0.12$, $p=0.077$), WHO metabolic syndrome ($r=0.16$, $p=0.027$). Hyperuricemia was most co-related with cholesterol ($r=0.236$) and HDL ($r=-0.151$). Hence, hyperuricemia and metabolic syndrome are prevalent among the adult population of Tiko.

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A study on using photoplethymographic (PPG) signal as a non invasive screening device of type 2 diabetes mellitus

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Diabetes mellitus is a non communicable disease, increasing its prevalence day by day and becoming a heavy burden to the individual and to the country. It carries high morbidity and mortality mostly at later stages. Most patients are asymptomatic at early stage of the disease. Most clinicians ask for fasting blood sugar or random blood sugar levels as a screening method for diabetes. Taking blood samples carry risk of the procedure and it will cause pain to the patients which they hesitate to do. Study on variations of wave form in diagnosed patients with diabetic between age 50-65 years using non invasive PPG signal was taken at finger tip for 9 patients with isolated diabetes (i.e. non hypertensive, non dyslipidemia and no ischaemic heart disease) who were on regular anti-diabetic treatment and 11 non diabetic (with neither hypertension and dyslipidemia or nor ischaemic heart disease) between age 50-65 years females were selected from NHSL (National Hospital of Sri Lanka) and Sri Jayawardenapura Hospital. They were interviewed and their blood flow was recorded using PPG signal for 5 minute duration connecting the probe to the index finger. Standard indices of wave form were calculated during data analysis. Out of 9 diabetic patients, 8 were identified as diabetic by calculating the standard indices of the pulse wave form. Our conclusion was the calculated indices of PPG signal that has a sensitivity of over 88% in screening of type II diabetes in age 50-65 years females.

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