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Reference interval for serum Neutrophil Gelatinase-Associated Lipocalin (NGAL) biomarker for diagnosing acute kidney injury

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Neutrophil Gelatinase-Associated Lipocalin (NGAL) is emerging as a promising biomarker for diagnosing acute kidney injury, yet its reference interval is not established in many populations. This report documents serum NGAL reference intervals in apparently healthy population in the Caribbean. The blood pressure (BP), height and weight of 90 (37 males, 53 females) apparently healthy subjects aged between 17 and 83 years were measured. Fasting blood samples were collected and serum NGAL levels were measured with manual Enzyme Linked Immunosorbant Assay (ELISA) method. The Statistical Package for the Social Sciences (SPSS) was used for statistical analysis. The results showed that the age, BP and Body Mass Index (BMI) were similar in male and female subjects studied ($p>0.05$). NGAL levels showed a normal Gaussian frequency distribution and were similar in male and female subjects, and did not also differ between two age categories (<60 yr. and >60 yr; $p>0.05$). We report that the overall unisex reference interval for the population is 47-55 ng/ml while the gender- and age-specific reference intervals for serum NGAL are (male: 98.9-115 ng/ml, female: 108.4-121.9 ng/ml) and <60 yr (47-54 ng/ml) and >60 yr (35.7-71.6 ng/ml) respectively. The present study reports reference intervals specific for two age categories and gender in a Caribbean population and recommends further investigations on serum NGAL reference intervals in different populations.

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End-stage renal disease in the Gaza Strip and its relationship to risk factors

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End Stage Renal Disease (ESRD) is an important cause of morbidity and mortality globally. Understanding the risk factors of ESRD can help identify preventive strategies. This study aimed to determine the risk factors of ESRD among patients undergoing hemodialysis in the governmental hospitals in Gaza Strip. Retrospective-hospital based case control study was conducted on patients with ESRD, at Ministry of Health Hospitals at the time of study in 2014 (N=264), proportional stratified random sample used for sample selection (n=132) cases matched with sex, age, and locality to 132 control were chosen. Data was collected using a questionnaire including socio-demographic, medical history, and life style and additional data were obtained from medical record. The results showed that the most common risk factors associated with ESRD were hypertension (42.4% versus 20.5%) and diabetes mellitus (28% versus 16.7%). Kidney stone (21.2% versus 4.5%), urinary tract infection (65.9% versus 27.3%) and glomerulonephritis (19.7% versus 6.1%) follow it. For medications analgesic drug formed among cases and controls (22% versus 9.1%). For smoking it was (47.7% versus 23.5%), obesity (41.7% versus 34.1%), anxiety (17.4% versus 6.1%). For low activity (48.5% versus 28%), primary educational level (95.1% versus 39.4%), low household income (76.5% versus 59.1%), family history (70.5% versus 47.7%). A multiple logistic regression controlling for age, gender, and location showed that significant predictors of ESRD were hypertension, glomerulonephritis, and obesity. In conclusion, the study suggests that most of the identified risk factors are preventable by easy ways as screening of highly risk people and encourage health life style.

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