Abstract:

PURPOSE: To establish the reference ranges of some biochemical parameters for adult Kenyan population. METHODS: In a prospective involving 1100 healthy blood donors (age: 18-55 yr) in Kenyatta National Hospital, Kenya reference ranges of some biochemical analytes were constructed by using the parametric methods to estimate 2.5 and 97.5 percentiles of distribution. RESULTS: The reference ranges of the analytes were: alanine aminotransferase (ALT) [males (0-39) U/L, females (0-34) U/L]; aspartate aminotransferase (AST) [males (6-40) U/L, females (3-37) U/L]; alkaline phosphatase (ALP) [males (13-201) U/L, females (3-227) U/L]; albumin (ALB) [males (29-52) g/L, females (28-50) g/L]; protein (PROT) [males (57-89) g/L, females (56-88) g/L]; creatinine (CREAT) [males (59-127) μmol/L, females (54-122) μmol/L]; glucose (GLU) [males (2.8-6.8) mmol/L, females (2.6-7) mmol/L]; phosphorus (PHOS) [males (0.5-2.0) mmol/L, females (0.2-2.4) mmol/L]; potassium (POT) [males (3-5.3), females (3.1-5.1) mmol/L]; sodium (SOD) [males (111-153) mmol/L, females (117-151) mmol/L]; Blood urea nitrogen BUN [males (1.5-5.9) mmol/L, females (1.2-6.0) mmol/L] and Uric acid (UA) [males (120-458) μmol/L, females (89-415) μmol/L]. Age differences in the established reference ranges were observed in ALT, ALB, CREAT, ALP and UA in males and in ALT, ALB, and CREAT in females. Gender differences were observed in ALT, AST, ALB, CREAT and UA in the 18-28 yr old, ALT, AST, ALB, SOD and UA in 29-39 yr old and AST, ALB, and UA in 40-50 yr old. CONCLUSION: Age and sex specific reference ranges of some biochemical parameters were established some of which were different from those reported in literature. There therefore the need for each clinical chemistry laboratory to establish its own ranges.