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Relationship between total PSA, free PSA, free PSA/ total PSA ratio and cardiometabolic risk among central Africans cardiac patients without prostate diseases

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Objective: To identify epidemiologic and cardiometabolic factors correlated with Total PSA, Free PSA and Free PSA/Total PSA ratio. Independent determinants of total PSA were also investigated.

Methods: A cross-sectional study conducted among 70 black hypertensives without prostate diseases at LOMO Medical center, Kinshasa, DRC.

Results: In bivariate analysis, age (r=0.290; P=0.47), waist circumference (r=-0.245; P=0.41), number of cigarettes smoked (r= 0.289; P=0.015) and serum creatinine (r=o.408; P‹0.001) were significantly correlated with Total PSA. Low socio-economic status (67.6% vs. 32.4%), ethnic groups from West (56.4%vs. 36%), excessive alcohol intake (75% vs. 43.3%), smoking (100% vs. 24.5%) and family history of prostate cancer (85.7% vs. 42.9%) were significantly (P<0.05) associated with elevated Total PSA≥ 4ng/mL. However, Free PSA was not correlated with any variable. There was a significant correlation between waist circumference (r=-0,114; P=0.004), number of cigarettes smoked(r=-0.215; P=0.021), HDL-cholesterol (r=-0.225; P=0.018); GGT(r=-0.318; P=0.007), fasting plasma glucose (r =-0.326; P= 0.008) and Free PSA/Total PSA ratio. In multiple linear regression analysis, 46.1% (Adjusted R2) of variations of total PSA were explained by Total cholesterol (TC), Ferritin (Fer),and GGT in this equation Y(Total PSA) = -24.3 + 0.306TC + 0.343Fer + 0.241 GGT.

Conclusion: Prevention of oxidative stress, dyslipidemia and life style changes might prevent both Cardiovascular Disease and prostate cancer in these Central Africans hypertensives.