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Influence of total PSA, BNP, GAMMA-GT, haemoglobin, blood urea nitrogen, glucose, triglycerides and renal failure on D-DIMER levels among central Africans with congestive heart failure

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Objectives: To investigate the independent determinants of D-dimer variations in congestive heart failure (CHF)

Methods: A cross-sectional study among 102 black Congolese patients managed for CHF at LOMO medical centre, Kingshasa, DRC.

Results: In not considering biomarkers in all bivariate analysis, renal failures, pulmonary tuberculosis, age($r=-0.291$), Heart rate($r= 0.0224$), AST($r= 0.176$), haemoglobin ($= -0.222$), neutrophils ($r = 0.304$), and Lymphocytes($r= -.0288$), showed significant correlation with D-dimer levels. After considering biomarkers in all, 68% of all the variations (adjusted R2) of D-dimer levels were explained significantly and independently by Gamma GT, total PSA, Haemoglobin(HB), BUN, BNP,Glucose (FPG) and Triglycerides (TG) in the equation Y(D-Dimer)= 4314.4 + 0.216 Gamma GT + 0.186PSA- 0.199HB + 0.167 BUN + 0.232 BNP + 0.157FPG-0.141TG In patients with renal failures, 66.1% of variations (adjusted R^2) of D-dimer levels were explained by Gamma GT and thyroxin(T4) as follows: Y(D-dimer)=4349.7 + 0.786 Gamma GT-0.303 T4. However, in patients without renal failures, only 7% of variations (adjusted R2) of D-dimer levels were explained Hb as follows:

Y (D-dimer) = 3884.7-0.288Hb.

Conclusion: Biomarkers related to oxidative stress, inflammation, hypothyroidism, anaemia, renal function and diabetes mellitus may add significant value in the interpretation of D-dimer levels in Central Africans with CHF.

Biography

Benjamin B. Benjamin has received his MD, PhD in pathophysiology and MMed in Internal Medicine from the Bukarest Medical Institute (Romania), MSc in Cardiology and PhD in Cardiology at the Free University of Brussels (Belgium). He is a former Fulbright Scholar and visiting Professor in Clinical Pharmacology/Hypertension at the Institute of Lipid research, Baylor College of medicine, Houston (USA). He served for 30 years as chief of cardiology, Executive Dean of Faculty of Medicine and Deputy Vice-Chancellor at the University of Kinshasa, Democratic Republic of Congo. He is a member of 30 scientific societies, including: American Heart Association, American Diabetes Association, and American College of Cardiology, European Society of Cardiology and Pan-African society of Cardiology. He obtained a certificate in cardiovascular Epidemiology (Netherlands), Ethics (NIH), Bioethics (Oklahoma University) and Molecular genetics (Belgium, Italy). His original research was focused on elucidating the pathophysiological mechanisms of toxic myocarditis and immune-allergic cardiomyopathies. From 1980s until present, most of his research works are related to inflammatory states, oxidative stress, molecular biology, genetics, biomarkers and environmental impacts in Atherosclerosis, HIV/AIDS-related cardiac lesions, deafness (discovery of genes) and co-expression of genes in Pancreas. In addition to his role as clinician, lecturer, academic leader mentor, WHO expert and UN/Climate change Expert, he has been a very productive scientist: Supervisor of more than 10 PhD theses, 25 MSc theses, and 100 mini-dissertations, and over 300 papers published under his supervision. He is currently Research Champion professor at the Faculty of Health sciences, Walter Sisulu University, Mthatha, South Africa.