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Screening obese women with pre-diabetes from classes of serum 25- hydroxyl vitamin D and serum parathormone levels among African migrants living in Paris

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Background: It has been postulated that vitamin D may affect glucose homeostasis. We hypothesised that taking in account Fast Plasma Glucose concentrations in estimation of a serum 25- hydroxyl vitamin D threshold below which PTH concentrations increases could be useful to identified part of our sample usually called outliers.

Methods: Measurements of serum 25-hydroxy vitamin D and serum parathormone were done, between February and June 2008, among 165 adult African migrants women living in Paris. All were calcium-sufficient. We used ROC analysis to identify serum 25- hydroxyvitamin D/parathormone threshold. Analysis of variance was done with Wilcoxon test. We used machine learning model.

Results: A threshold of serum 25- hydroxyvitamin D - of 65 nmol/L and serum parathormone of 44 ng/L level was found with a sensitivity of 86%, a specificity of 83% and a TPV of 98%. We identified 34% of the sample as a particular class of obese and pre-diabetic women with high levels of serum 25-hydroxy vitamin D and serum parathormone. Estimation with Capillary Glucose measurement instead of Fast Plasma Glucose could be a less costly method to screen glucose and vitamin D status among African migrant women. Estimating vitamin status and glucose status in others samples of population might be of interest.

Biography

Ernest Emilion is graduated in prevention in aging medicine. He obtained medical doctor's degree of Pierre et Marie Curie University Paris 6 in 1997 and aging medicine degree of Bobigny University Paris 13 in 2005. He worked in community clinic on health prevention programs in Paris. As an independent researcher, he created a private office of development of learning-machine model and decision-making algorithm in the field of chronic diseases. His research interests include application of statistics methods in mainstream medicine, estimation of biological norms, vitamins metabolism and nutrition.

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