

FIBROBLAST GROWTH FACTOR 21 IN PREDICTION OF CORONARY ANGIOGRAPHY RESULT IN STABLE CORONARY ARTERY DISEASE PATIENTS

Matej Stančík

Comenius University, Slovakia

Background: FGF21 is adipokine affecting both glucose and lipid metabolism. Anti-apoptotic effect of FGF21 on the endothelium was previously proved.

Methods and Results: Transversal design performed on 203 subjects divided into subgroups based on the presence of hemodynamically significant coronary artery stenosis and stable coronary artery disease. Mean FGF21 concentration in stable coronary artery disease patients ($323,16 \pm 434,66$ pg/ml) was significantly higher ($t(201) = 2,082$; $p = 0,039$; $n = 203$), than in healthy controls ($266,46 \pm 417,13$ pg/ml). Multiple regression analysis proved, that the FGF21 measurement can't be utilized as a surrogate marker for the stable coronary artery disease. Contribution of the FGF21 measurement to the prediction of significant coronary stenosis was quantified using the hierarchical regression. Interaction analysis was used to detect between – variable interactions. The contribution of FGF21 added into the model based on known risk factors of significant coronary stenosis was small, yet statistically significant ($2(4) = 25,606$; $p = 0,001$; $n = 123$; Nagelkerke $R^2 = 0,041$; OR FGF21 = 2,366). Smoking was identified as the moderator of the direct effect between FGF21 and hemodynamically significant coronary artery stenosis. Adjusting for the moderator variable allowed us to build a regression model, in which the contribution of the FGF21 to the prediction of significant coronary stenosis was clinically relevant ($2(3) = 30,778$; $n = 81$; $p = 0,001$; Nagelkerke $R^2 = 0,425$; OR FGF21 = 7,013).

Conclusions: FGF21 can't be utilized as a screening marker for the stable coronary artery disease in general population. FGF21 measurement has a potential to be utilized as a predictor of diagnostic coronary angiography result in non – smoking stable coronary artery disease patients. This work was supported by the SRDA (Slovak Research and Development Agency) grant: APVV – 14 – 0153, ARACS - Adipokine Regulation and Acute Coronary Syndrome in young adults." This work was supported by the VEGA (The Scientific Grant Agency of the Ministry of Education of the Slovak Republic) grant: VEGA 1/0160/16 „Diagnostic - prognostic relevance of adipocytokine network and glucose homeostasis assessment in cachexia.