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Nesfatin-1 is an early predictor for prediabetes in Egyptian population

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Background and objectives: Nesfatin-1 was identified as a potent anorexogenic peptide that involved in energy homeostasis and secreted by pancreatic β cells. Conflicting data are available about its level among diabetic patients.

Aim of study: This study aimed to assess nestafin-1levels in newly diagnosed drug-naïve diabetic and prediabetic patients and its association with cardio-metabolic risk and insulin resistance.

Subjects and Methods: This case-control study included prediabetic (Group1,n=30), DMT2 (Group2,n=30) and healthy subjects (Group3, n=30). Anthropometric and routine biochemical assessments were performed. Serum nestafin-1and plasma insulin levels were assessed by ELISA methods. Homeostatic model for assessment of insulin resistance (HOMA-IR) was calculated

Results: Serum nestafin-1 was significantly lower in diabetic and pre-diabetic compared to healthy subjects (3.89±1.1ng/dl and 7.47±1.22ng/dl versus15.39±3.53 respectively with p<0.001). Also diabetic patients had statistically significant lower nestafin-1 levels than pre-diabetic patients (p <0.001). Roc curve analysis identified cut-off values of ≤9 ng/dl and ≤ 5.5 ng/dl with an AUC of 0.942 and 0.970, sensitivity of 96.67and 100%, and specificity of 93..33 % and 96.7% for diagnosis of pre-diabetes and diabetes respectively. Using Univariate analysis , nestafin-1 was negatively correlated with glycemic parameters(fasting and sugar, 2h postprandial blood sugar, HBA1c), IR parameters (fasting insulin and HOMA-IR) and atherogenic lipid profile(triglyceride, cholesterol and LDL-c); and positively correlated to HDL-c in both diabetic and pre-diabetic but not in healthy.

Conclusion: Nestafin-1 is an excellent predictor for Prediabetes and DMT2. It is associated with favorable glucose and lipid metabolism probably via insulin signaling pathway.

Biography

Matta RA had completed MD internal medicine 2011at the age of 32 years from Minia Univeristy, Egypt. She is Assistant professor of endocrinology and diabetes Unit in Internal Medicine department, Minia University, Egypt. She is a membership of Endocrine Society. She has over 10 publications.

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