

RANTES as a Novel Biomarker for Atherogenic Dyslipidemia and Metabolic Disturbances in Patients with Type-2 Diabetes

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Abstract:

RANTES (Regulated upon Activation, Normal T cell Expressed and presumably Secreted) is a chemokine engaged in the pathophysiology of diabetes type 2 (T2DM), related cardiovascular complications, dyslipidemia and hypertension that are major modifiable risk factors of T2DM. VEGF (Vascular endothelial growth factor) plays a role in diabetic vascular complications.

Atherogenic dyslipidemia (AD) is a lipid aberration defined as the incidence of raised triglycerides (TG) and diminished high-density lipoprotein cholesterol (HDL-C) and associated with residual cardiovascular risk. However, the association between chemokine and type 2 diabetes (T2DM) and metabolic disturbances is still unclear, and few data are available. The aim of this study was to estimate serum RANTES, serum lipid composition, VEGF, and metabolic syndrome (MS) in patients with T2DM and elucidate their relationship in a sample of Egyptian premenopausal women.

Serum level of RANTES, VEGF, lipids and body composition were assessed in 100 premenopausal women with T2DM (mean age 35 years old) and 100 healthy controls. Significant increase in serum RANTES level and VEGF was observed in T2DM compared to the control group. Positive correlations between elevated RANTES and increased values of VEGF, body mass index (BMI), waist circumference (WC), fat mass, LDL-C, TG, total cholesterol and presence of MS were observed in T2DM patients. Elevated RANTES concentration is associated with AD risk, abnormal metabolic components and VEGF levels.

This study pinpoints the importance of RANTES as a novel biomarker for dyslipidemia and metabolic disturbance in T2DM patients.

Keywords:

RANTES, VEGF, type 2 diabetes, Atherogenic dyslipidemia, BMI