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WNT1-INDUCIBLE SIGNALING PATHWAY PROTEIN-1 IN WOMEN WITH TYPE 2 DIABETES, ITS RELATIONSHIP TO PARAMETERS OF CHRONIC INFLAMMATION AND ENDOTHELIAL DYSFUNCTION

Introduction: WISP-1 (Wnt1 inducible signaling pathway protein-1) is a relatively new adipokine, associated with insulin resistance. The aim of the study was to compare the levels of WISP-1 in women with type 2 diabetes and healthy controls and determine its association with metabolic parameters and with markers of endothelial dysfunction.

Methods: 50 women with type 2 diabetes and 35 healthy women were included in the study. In addition to the WISP-1, levels of adiponectin, adipocyte-fatty acid binding protein (A-FABP), anthropometric and lipid parameters, markers of inflammation, insulin resistance and glucose control were assessed in all participants. Von Willebrand factor (vWF) and tissue plasminogen activator (t-PA) served as the indicators of endothelial damage.

Results: Compared to healthy controls women with type 2 diabetes had higher levels of WISP-1 [54(33-84) pg/ml versus 35(29-61) pg/ml; $p < 0.05$], which significantly correlated positively with hs-C-reactive protein (hs-CRP) ($\rho = 0.22$), C-peptide ($\rho = 0.23$), t-PA ($\rho = 0.24$), A-FABP ($\rho = 0.30$) and negatively with adiponectin ($\rho = -0.27$). In multivariate regression analysis hs-CRP was only independent predictor for WISP-1 levels.

Conclusion: Women with type 2 diabetes had significantly higher levels of WISP-1 that were associated with inflammation, insulin resistance and other adipokines. WISP-1 correlation with t-PA showed that, this adipokine could play a role in the vascular damage, maybe through its proinflammatory effect.

Biography

David Karasek has completed his MD and PhD from Medical Faculty of Palacky University Olomouc (Czech Republic). He is the Deputy Head of the 3rd Department of Internal Medicine–nephrology, rheumatology and endocrinology and the Head of Center for Diabetes of University Hospital Olomouc. He has published more than 120 papers in reputed journals (as the first author of 44 papers) and has been serving as an Editorial Board Member of four scientific journals (*Interní medicína pro praxi*, *Farmakoterapeutická revue*, *Hypertenze a kardiovaskulární prevence*, *Journal of Disease Markers*).

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