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METABOLICALLY HEALTHY OBESITY: CIRCULATING ADIPOCYTOKINES PROFILES AND THE EFFECTS OF WEIGHT LOSS

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Obesity is a risk factor for the development of cardiovascular disease and type 2 diabetes, but subpopulation of obese patients does not present cardiometabolic complications. For this group of patients the term “metabolically healthy obesity” (MHO) is used. Our goal was to assess the significance of weight loss in MHO individuals. Our study included 77 women aged 19 to 59 years with obesity (BMI ≥ 30 kg/m²). We conducted a comparative analysis of metabolic indices, adipokines levels in 44 MHO subjects (<2 cardio-metabolic abnormalities, IDF-criteria of metabolic syndrome) and 33 metabolically unhealthy obese (MUHO) women and assessed their dynamics in patients, who have reduced their body weight to $\geq 5\%$ in 6 months. At baseline the levels of BMI, basal insulin, C-reactive protein, TNF-alpha, adiponectin and retinol-binding protein-4 (RBP-4) were comparable in MHO and MUHO. A significant difference between these groups was observed in terms of the index HOMA – 3,0 and 4,4 ($p < 0,05$), alanine aminotransferase - 23,49 and 37,39 U/l ($p = 0,001$), interleukin-6 – 0,76 and 1,85 pg/ml ($p < 0,05$), chemerin – 322,4 and 369,2 ng/ml ($p < 0,05$) respectively. After 6 months in the group of MHO, who reduced body weight by $\geq 5\%$ of the initial (66%) there was a significant increase of adiponectin by 4,54+0,83 μ g/ml ($p < 0,05$), and a reduction of waist circumference -8,6+1 cm ($p > 0,05$), CRP -1,7+0,4 mg/l ($p < 0,05$), RBP-4 -2,9+1,0 ng/ml ($p < 0,05$) and chemerin 46,6+17,0 ng/ml ($p < 0,05$). Bening metabolic status was associated with a lower level of interleukin-6, chemerin, insulin resistance and significant reduction of several proinflammatory adipokines after weight loss.

Biography

Tatiana Romantsova is a professor at department of endocrinology in Sechenov University, Moscow (2002 – present). Previous professional experience includes research associate, associate professor; Moscow Medical Academy named after I.M. Sechenov. Education: Medical Institute, Vinnitsa, Ukraine, USSR (the degree of medical doctor); postgraduate education: Moscow Medical Academy named after I.M. Sechenov. Main scientific areas: obesity, metabolic syndrome, type 2 diabetes, neuroendocrinology. The author of 210 scientific articles in this field. Membership in professional organizations: Russian Association of Endocrinologists, Head of section “Metabolic syndrome. Obesity”; (Obesity and Metabolism), Quarterly Peer-Reviewed Medical Journal; - Scientific Editor.

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