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## ADIPONECTIN PROTECTS AGAINST METABOLIC SYNDROME BY ITS MODULATION OF LIPID AND GLUCOSE METABOLISM

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Adiponectin is a hormone expressed in the adipose tissue and it has insulin sensitizer properties. As a result, hypoadiponectinemia may be related to the development of metabolic syndrome (MS). Therefore, we designed a cross-sectional study in order to analyze the relationship of adiponectin with MS from cardiovascular and metabolism units of two university hospitals. Patients (n=588; age 58.0±11.0 y, mean±SD, women 53.1%, MS rates 87.4%) who underwent coronary angiography for diagnostic evaluation of coronary artery disease (University Hospital of UNIFESP) or were referred for determination of glucose tolerance status and its management (Hospital de Clínicas de Porto Alegre) were included. Glucose tolerance status was determined by an oral glucose tolerance test and/or Hba1c. Lipid panel and plasma adiponectin (µg/mL) were measured. MS was defined by at least three of the following: high blood pressure, low HDL and/or high triglycerides levels, hyperglycemia and high waist circumference according to International Diabetes Federation criteria. Adiponectin levels were lower in patients with MS than in those without MS (8.79 µg/mL [5.8-13.7] vs 14.1 µg/mL [9.8-21.3]; median [P25-P75], P<0.001). Adiponectin decreased with increasing number of MS criteria (P<0.001). While comparing by each MS criteria, adiponectin levels were significantly lower by the presence of the following: HDL (8.7 µg/mL [5.7-13.54] vs 12.6 µg/mL [8.7-19.2]; P<0.001), triglycerides (7.6 µg/mL [5.1-11.8] vs 11.0 µg/mL [7.4-16.5], P<0.001), waist circumference (9.1 µg/mL [6.0-13.9] vs 12.4 µg/mL [7.6-18.6], P<0.001), glucose (9.07 µg/mL [6.0-13.9] vs 11.0 µg/mL [7.0-18.6]), P=0.002, and blood pressure (9.1 µg/mL [6.0-14.1] vs 11.0 µg/mL [8.1-18.5], P=0.013). Adiponectin was positively related with HDL (r=0.419, P<0.001) and inversely related with triglycerides (r=-0.326, P<0.001), fasting plasma glucose (r=-0.150, P=0.001) and waist circumference (r=-0.257, P<0.001). While adjusting for age and sex high adiponectin levels were inversely related to MS [OR = 0.923 (95%CI = 0.898-0.950)]. Protection against MS associated with increasing adiponectin levels is not affected by sex and age, being possibly related to its positive modulation of lipid and glucose metabolism. Número de Aprovação do Projeto: 11-226. Comitê de Ética Responsável: Comitê de Ética em Pesquisa (CEP) - Hospital de Clínicas de Porto Alegre (HCPA)