ADIPONECTIN PROTECTS AGAINST METABOLIC SYNDROME BY ITS MODULATION OF BODY FAT DISTRIBUTION, LIPID AND GLUCOSE METABOLISM

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Body: Adiponectin, a hormone expressed in the adipose tissue, has insulin sensitizer properties.Objective: to cross-sectionally examine the relationship of adiponectin with metabolic syndrome (MS) in consecutive patients of the Endocrine Clinic of Hospital de Clínicas de Porto Alegre.Methods: Patients (n=117; age 53.3±11.5 years, mean±SD, women 75.2%, MS rates 77%) submitted to a protocol including a 2-h 75g glucose tolerance test were classified as having normal glucose tolerance (NGT), prediabetes or diabetes (DM). MS was defined by at least 3 of the following: hypertension, low HDL and/or high triglycerides levels, hyperglycemia and high waist circumference.Results: Adiponectin levels were lower in patients with MS than in those without MS (10.3 [7.1-13.0] vs 15.5 µg/mL [9.7-22.7], median [P25-P75], P=0.035) and in those with DM (8.6 [5.5-11.2]) than in those with NGT (10.7 [7.3-17.5]) or prediabetes (11.7 µg/mL [8.0-14.1], P=0.049). Adiponectin decreased with increasing number of MS criteria (P=0.005). When comparing by each MS criteria, adiponectin levels were significantly lower by the presence of the following: HDL (9.2 [5.9-11.7]) vs 12.5 µg/mL [8.8-19.8], P<0.001) and waist circumference (10.4 [7.1-13.7] vs 19.5 µg/mL [11.4-27.6], P=0.013). Adiponectin was positively related with HDL (r=0.491, P<0.001) and inversely related with triglycerides (r=-0.206, P=0.023), fasting (r=-0.182, P=0.043) and 2-h (r=-0.268, P=0.003) plasma glucoses. While adjusting for age and gender, increasing adiponectin was associated with reduced risk for MS (OR 0.894, 95%CI 0.831-0.961, P=0.002).Conclusion: The protection against MS associated with increasing adiponectin levels maybe possibly related with its positive modulation of body fat distribution, lipid and glucose metabolism.