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

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Body: Adiponectin, a hormone expressed in the adipose tissue, has insulin sensitizer properties. Objective: To examine the relationship of adiponectin with metabolic syndrome (MS) in patients of the Endocrine clinic of a university hospital. Methods: Patients (n=141; age 52.9±12.0 y, mean±SD, women 77.9%, MS rates 80.1%) were submitted to a 75g OGTT with estimation of insulin sensitivity by Matsuda index (ISI Matsuda), subclinical inflammation by US-CRP, liver damage by γGT. Lipid panel and plasma adiponectin (µg/mL) were measured. 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 (11.1 [7.8-13.9] vs 15.4 [9.9-22.7]; median [P25-P75], P= 0.007). Adiponectin decreased with increasing number of MS criteria (P=0.007). While comparing by each MS criteria, adiponectin were significantly lower only by the presence of the following: HDL (9.9 [7.1-13.4] vs 12.7 [10.0-20.2]; P<0.001), waist circumference (11.0 [7.9-14.4] vs 16.5 [12.3-26.2]; P=0.001) and triglycerides (10.7 [6.8-12.9] vs 12.1 [8.6-18.1]; P=0.026). Adiponectin was positively related with HDL (r=0.466, P<0.001) and inversely related with triglycerides (r=-0.225, P=0.008), fasting and 2-h plasma glucoses (r=-0.165, P=0.05 and r=-0.263, P=0.002). While adjusting for age, sex, CRP, γGT and ISI Matsuda, increasing adiponectin levels were associated with decreased risk for MS (OR 0.913, 95%CI 0.838-0.994, P=0.035). Conclusion: Protection against MS associated with increasing adiponectin levels is not affected by subclinical inflammation and liver damage, being possibly related to its positive modulation of lipid and glucose metabolism.