Metabolic Aspects and Mechanisms

9.13 Metabolic Alterations in Patients with Primary Aldosteronism (PA):

Role of Adipokines

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Aim. To evaluate the prevalence of metabolic syndrome (MS), according to ATP/NCEP 2001 criteria in patients with PA comparing to the prevalence of MS in patients with essential hypertension (EH), moreover the circulating levels of adipokines (leptin, adiponectin, resistin) have been evaluated in both groups.

Methods. 75 patients with PA (37 Males, 38 Females; age 52.9 ± 11.4 years, range 20-76 years), 40 healthy patients (HS) (24 M, 16 F, age 55.7 ± 6.1 years), 152 patients with EH without MS (80 M, 72 F, age 55.6 ± 12.4 years), 40 patients with EH and MS (22 M, 18 F, age 56.8 ± 10.9 years).

Results. In 25.3% patients with PA was present MS, patients with PA and MS showed reduced levels of adiponectin (8.9 ± 0.8 $\mu\text{g/ml}$) compared to patients with PA without MS (12 ± 0.9 $\mu\text{g/ml}$; $p < 0.05$); in particular in the group of patients with idiopathic aldosteronism was found a correlation with the number of factors of MS and the levels of adiponectin (6.5 ± 1.2 $\mu\text{g/ml}$ 4 factors of MS vs 12.3 ± 1.5 $\mu\text{g/ml}$ with 1 factor, $p < 0.05$). In all the patients with PA and in the group of EH patients with MS have been found higher than those of HS (18.8 ± 1.9 ng/ml, 16.9 ± 2.4 ng/ml, respectively vs 8.6 ± 1.2 ng/ml; $p < 0.05$). Circulating levels of resistin were higher in the group of PA patients respect to all the other groups (5.8 ± 0.4 ng/ml vs 3.7 ± 0.3 ng/ml, 2.8 ± 0.4 ng/ml, 2.1 ± 0.5 ng/ml, respectively; $p < 0.05$). In PA patients, was found a positive linear correlation between adiponectin and HDL cholesterol ($r = 0.4$; $p < 0.001$). In the same group leptin was correlated with BMI ($r = 0.5$; $p < 0.001$) and with resistin ($r = 0.35$; $p < 0.001$).

Conclusions. In patients with PA was found an high prevalence of MS, furthermore were found a significant reduction of adiponectin and elevated circulating levels of leptin and resistin. These metabolic alterations suggest a role of adipose tissue in the pathogenesis of metabolic syndrome in patients with primary aldosteronism.