

## FASTING AND POSTPRANDIAL HYPERINSULINEMIA IN PATIENTS WITH ESSENTIAL ARTERIAL HYPERTENSION

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**Objective.** The aim of study was to investigate the relationship between hyperinsulinemia and some metabolic characteristics in patients of arterial hypertension.

**Design and method.** 81 patients with arterial hypertension (49 females and 32 males) were enrolled in the study. The cortisol plasma concentration was determined by immunoenzyme assay and insulin plasma concentration - by radioimmune assay. Insulin level  $> 12.2$  mU/l detected in both fasting and postprandial conditions was chosen as criterion of hyperinsulinemia (McAuley K.A., Williams S.M., Mann J.I. et al. Diagnosing insulin resistance in the general population. // Diabetes Care. – 2001. – Vol. 24. – P. 460-464.). Data are presented as mean $\pm$ standard deviation and coefficient of correlation (r).

**Results.** There were 22 (27%) hyperinsulinemic and 59 (73%) normoinsulinemic patients (fasting insulin concentration:  $10.7\pm 11.4$  vs.  $33.3\pm 18.9$  mU/l,  $p < 0.001$  and postprandial:  $39.3\pm 30.9$  vs.  $79.0\pm 39.8$  mU/l). In hyperinsulinemic patients some measures were higher than in normoinsulinemic: cortisol plasma level ( $527.9\pm 272.0$  vs.  $351.5\pm 186.1$  nmol/l), body mass index ( $32.5\pm 2.8$  vs.  $29.2\pm 5.3$  kg/m<sup>2</sup>). Glucose level and lipid profile were not significantly different between hyperinsulinemic and normoinsulinemic patients. In the total group of examined patients fasting insulin correlated with postprandial insulin ( $r=0.38$ ,  $p=0.001$ ) and body mass index ( $r=0.39$ ,  $p=0.001$ ).

**Conclusions.** Persistent (both fasting and postprandial) hyperinsulinemia in hypertensive patients is associated with significantly higher cortisolemia and obesity. This may demonstrate impaired humoral regulation of metabolic processes related to the essential arterial hypertension.