Hypertriglyceridemic waist phenotype in patients with arterial hypertension

Saed MA, Ashcheulova T., Kovalyova O.

We assessed association between hypertriglyceridemic waist phenotype (HTGW) and cardiometabolic risk factors: hypertension, obesity, carbohydrates metabolism disorders, and biomarkers of immune inflammatory activity.

101 patients with arterial hypertension were examined. HTGW was defined as a waist circumference (WC) of 90 cm and more in male, and 85 cm and more in female, and a triglyceride level of 1.7 mmol/L or more. Patients were divided into 3 groups: 1st group (n=10) with hypertriglyceridemia and normal WC, 2nd group (n=25) with normal triglyceride level and increased WC, 3rd group (n=66) with HTGW.

The patients of 3rd group characterized by maximum blood pressure levels (SBP-166.50±1.83 mmHg, DBP-102.89±0.94 mmHg) as compared with 1st group (SBP-142.91±0.99 mmHg, DBP-91.64±0.93 mmHg, p<0.05) and 2nd group (SBP-159.44±3.23 mmHg, DBP-100.32±1.48 mmHg, p<0.05). Body mass index (BMI) in 3rd group was also highest (31.05±0.61 kg/m2) vs 1st (23.95±0.91 kg/m2) and 2nd one (30.21±1.00 kg/m2). Fasting insulin levels were elevated in patients of 3rd group with HTGW (14.66±0.95 mkU/ml), and same in 1st (12.52±2.79 mkU/ml) and 2nd (12.31±1.41 mkU/ml) groups. Plasma interleukin-18 (IL-18) – pro-inflammatory cytokine levels in 3rd group were 176.97±2.38 pg/ml, that was statistically higher in comparison with 1st (167.73±7.21 pg/ml), 2nd (172.40±5.61 pg/ml).

Our results suggest that hypertriglyceridemic waist phenotype is a simple and inexpensive marker to help identify patients with high cardiometabolic risk profile.