Background Disregulation of blood pressure (BP) and lipid metabolism is the basis of metabolic syndrome (MS), but interrelation of these MS components is not well studied today.

Aim To investigate influence of BP upon regulation of lipid metabolism in obese children.

Patients and Method 40 obese patients aged 10–16 years (13.9±0.27 y.o.) with high BP (HBP; 143.6±1.1/82.4±2.9 mm) – 1st group. 40 obese patients with normal BP (118.2±1.0/69±0.8 mm, p<0.01) – comparison group (2nd group). Examination included BP measurement and analysis of lipid profile.

Results Dyslipidemia in 1st group was significantly more frequent than in 2nd group: 85% versus 67.5% (p<0.05). Comparison of lipid spectrum showed that different disorders of lipid metabolism were more frequent and more significant in 1st group in comparison with 2nd: hypertriglyceridemia – 57.5% versus 22.5% (p<0.05); increased LDL-C – 45% versus 45.7% and 3.72±0.11 mmol/l versus 3.32±0.14 mmol/l (p=0.06); increased index of atherogenicity – 75% versus 60% (p<0.05) and 3.93±0.1 versus 3.12±0.1 (p<0.01).

Conclusion Arterial hypertension in obese children was associated with more frequent and significant disorders of lipid metabolism. So, arterial hypertension in obese children should be estimated as an additional risk factor of atherogenicity.