

ASTHMA AND DIABETES MELLITUS 2 TYPE — POLYMORBIDITY OF THE XXI CENTURY

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Abstract

Aim. To analyze metabolic disorders and glomerular filtration rate (GFR) in patients with asthma in combination with type 2 diabetes mellitus (DM2T).

Materials and methods. 105 patients with asthma in combination with DM2T have been investigated as main group, 62 persons with isolated asthma as comparison group. All examined patients had uncontrolled asthma of moderate severity. The control group consisted of 21 healthy individuals. The respiratory function, GFR, carbohydrate and lipid metabolism and insulin resistance were determined.

Results. The decrease of volumetric and high-speed indicators of external respiration function and GFR ($p < 0.001$) in all investigated patients was revealed. Correlational relationships between FEV₁ and GFR ($R = 0.41$; $p < 0.05$; $R = 0.39$; $p < 0.05$) were found in patients of the main and comparison group, respectively, and between FEF 75 % and GFR ($R = 0.55$; $p < 0.05$; $R = 0.37$; $p < 0.05$), respectively. The decrease in GFR in patients of the main group was accompanied by microalbuminuria ($p < 0.001$). In the comparison group microalbuminuria was absent. HOMA-IR was maximally raised in patients with FEV₁ < 50 % in both groups ($p < 0.001$), which coincided with atherogenic dyslipidemia.

Conclusions. Uncontrolled asthma of moderate severity, both isolated and in combination with type 2 diabetes, is accompanied by a cascade of metabolic disorders, which manifest by significant differences in carbohydrate and lipid metabolism indices, decline in glomerular filtration rate and progression of the bronchial obstruction syndrome between themselves and with the control group.

Key words: asthma, type 2 diabetes mellitus, bronchial obstruction, glomerular filtration rate.

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