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#356 - Features of the endothelium in patients with asthma and type 2 diabetes mallitus.

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Background
To study the severity of bronchial obstruction syndrome in patients who have asthma (As) combined with type 2 diabetes mellitus (DM2T), and the state of their endothelium.

Method
The study involved 63 cases of As with DM2T. The patients` age averaged 53.00 [48.50; 60.00] years, the duration of their As was 17.00 [14.45; 19.50] years. Concomitant DM2T was diagnosed and treated by an experienced specialist in endocrinology. The respiratory function, endothelin 1 (ET-1), von Willebrand factor (VWF) and S-nitrosothiol (S-NO) were assessed.

Results
The examined patients revealed reduction of FEV_1<60%. Two groups were isolated depending upon their FEV_1. Group I with FEV1<50% consisted of 45 (71.42%) cases; group II with 50%<FEV_1<60% included 18 (28.58%) patients. The obtained obstructive changes were accompanied with a relible (p<0.05) damage of vasoregulatory endothelial mediators both between the examined groups and versus the control group. In patients from group I: ET-I = 10.32 [9.40; 11.00] fmol/l, VWF = 160.00 [155.00;170.00]%, S-NO = 0.24 [0.17; 0.29]mmol/l; the above indices in patients from group ii were, respectively, 7.99 [6.92;8.35] fmol/l, 155.00 [150.00;160.00]% and 0.18 [0.14;0.21] mmol/l. A correlation analysis was made; it revealed a positive relationship between ET-1 and VWF (R=0.78, p=0.001) and a negative one between ET-1 ans S-NO (R=-0.63, p=0.002) as well as with all rate indices studied (FEV_1, FEF_{25}, FEF_{50}), these facts demonstrating presence of obstruction along the whole respiratory tract.

Conclusion
The findings demonstrate that an endothelial damage is an unfaurable pathogenetic factor in pulmonary vessel dystonia with resultant progression of bronchial obstruction and development of hypoxia, especially in patients with a comorbid course.