

The endothelium functional state in patients with chronic obstructive pulmonary disease and concomitant chronic pancreatitis

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Introduction

The specificity of pathogenesis of endothelial dysfunction in a large circle of blood circulation in patients with chronic obstructive pulmonary disease (COPD) is the development of chronic inflammatory reaction that leads to the emergence and progression of both COPD and chronic pancreatitis (CP).

Aim

To study the effect of concomitant CP on the functional state of endothelium in patients with COPD

Materials and methods

32 patients with COPD, including 16 COPD patients with concomitant CP and 7 healthy subjects (HS) were examined. Functional state of endothelium was assessed by endothelial content in plasma of stable metabolites of nitrogen monoxide - NO (nitrites, nitrates) and endothelin-1 using a set to determine endothelin (1-21) produced Biomedica (Austria).

Results

The content of nitrogen monoxide metabolite (NO) in patients with COPD decreased in 1.4 times, in patients with concomitant pathology similar index decreased in 1.8 times ($p < 0.05$) compared to the HS. Analysis of the results showed excessed levels of endothelin-1 in patients with COPD in 2.02 times ($p < 0.05$) and in 4.5 times ($p < 0.05$) in patients with a concomitant CP.

Conclusions

Thus, in patients with COPD with concomitant CP there are signs of more extensive endothelial dysfunction due to increased synthesis of ET-1 and reduced synthesis of NO, which may cause the development of fibrous changes in pancreas and lungs.