

EFFECT OF MAINTANCE TREATMENT OF STAGE III CHRONIC OBSTRUCTIVE PULMONARY DISEASE PATIENTS ON MORPHOLOGICAL REMODELING IN MUCOUS MEMBRANE OF BRONCHI

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Abstract

Objective: to study the morphological peculiarities of bronchial tree in COPD stage III patients during the course of complex treatment, which includes roflumilast.

Object and methods. Fiberoptic bronchoscopy with biopsy followed by histopathological and electronic microscopy examination of samples was performed in 9 stage III COPD patients, receiving study therapy for 30, 90 and 180 days. All diagnostic tests were performed prior to and at the end of treatment with roflumilast 500 mcg once daily in addition to conventional regimen (according to the standards of care, outlined by order of the Ministry of Health of Ukraine № 128 from 19.03.2007).

Results. In stage III of COPD a damage of bronchial mucosa with a significant growth of connective tissue in lamina propria and degenerative lesions of the bronchial epithelium are observed. Treatment with roflumilast for 30 days was associated with only partial morphological improvement both in of bronchial epithelial cells and lamina propria connective tissue. After 90-day treatment with roflumilast the following improvements of pathohistological pattern of the bronchial mucosa were observed: normalization of lamina propria fibroblasts, recovery of ciliary apparatus of epithelial cells and moderate macrophages phagocytic activity. After 180-day roflumilast treatment the number of ciliary epithelial cells have increased and normalization of the structure of fibroblasts in the lamina propria of bronchial mucosa, as well as a strengthening of cell-to-cell contacts in comparison with shorter therapy duration groups, have been observed.

Key words: chronic obstructive pulmonary disease, airway remodeling, mucosal protective factors, roflumilast.

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