

CORRELATION BETWEEN THE STAGE OF A DISEASE AND THE INTENSITY OF MORPHOLOGICAL CHANGES IN ADULT CYSTIC FIBROSIS PATIENTS

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Objectives: The aim of this study was to evaluate the correlation between the stage of a disease and the intensity of morphological changes –including transmission electron microscopy – within bronchial mucosa. **Subjects:** We studied 14 (8 female, and 6 male) adult patients with cystic fibrosis, aged 18-38 years, mean 23.6 years. **Methods:** Stages of the disease was assessed on the base of clinical status, radiological, and endoscopic examination. We focused on morphological changes within epithelial cells, the presence of metaplasia and/or dysplasia, the type of inflammatory infiltrate, the presence of epithelial ulcerations, thickening of epithelial basement membrane and collagenization of lamina propria. We used an analysis of similarities according to the selected clinical and morphological data. Ward's agglomeration method was used. As the discriminating factor we used morphological changes in the bronchial mucosa and submucosa. All statistical analyses were done using Statistica 6.0. **Results:** In present study we found two clinically different patients groups. The first one (8 patients) with poor clinical condition, advanced inflammatory bronchiofiberscopic and radiological changes and multiple exacerbations. In bronchial mucosa biopsies, evidence of chronic inflammation and only focal appearance of ciliated epithelium was found. The basement membrane was markedly thickened and the lamina propria was collagenized. In 2 patients, the lack of inner dynein arms was found. Moreover, squamous cell metaplasia and dysplasia was diagnosed and 3 and 4 cases respectively. In the other group (6 patients) with good clinical condition, normal BMI and small changes on chest x-ray, the cystic fibrosis diagnosis was made at older age. In such patients, we predominantly found neutrophils in BAL. In bronchial biopsies, ciliated epithelium covered the whole specimen. Histologically, there were features of chronic inflammation and in 2 cases with acute phase. **Conclusions:** In cystic fibrosis patients there is a correlation between the clinical course and morphological changes in bronchial mucosa. Bronchial ulcerations, squamous cell metaplasia and dysplasia were found in the group with more severe clinical course.