

MODERN METHODS AND POSSIBILITIES FOR DYNAMIC DIAGNOSTICS OF PULMONARY DISEASES

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The aim of this study is to assess the ability of pulmonary function tests to: 1. Assess and work out criteria for bronchial obstruction with regard to its early diagnosis; 2. Specify the mechanism of the observed ventilatory disturbances; 3. Detect the signs of specific and non-specific bronchial hyperreactivity.

Several groups of patients have been studied: 1. 1466 workers chronically exposed to various professional factors such as vinylchloride - 710 workers (48,43%), chlorine and fumes of sulfur acid - 197 (13,43%), textile fibres - 559 (38,14%). 2. 21 patients with heavy anaemic syndrome with different etiology without clinical, X-ray and functional signs of pulmonary or cardiac diseases. 3. 45 patients with hypoxemia and radiological signs of interstitial pulmonary fibrosis who have been found to have normal or slightly deviated parameters of pulmonary function. 4. 148 patients with anamnestic signs of "breathlessness".

The screening of workers exposed to various chronic professional factors showed higher bronchial obstruction among these workers in chemically noxious environment (20,98% and 18,78%) than among the textile workers (10,19%).

In part of the cases the functional tests confirmed the clinical signs for bronchial obstruction. In some of the workers pathology of the small bronchial airways was found which is discussed by other authors as criteria for "small bronchi disease"(2,6,9).

Most frequent is the obstruction of the small bronchial airways among the workers exposed to chlorine and sulfur acid (72,98%), while among the rest of contingents it is considerably less - 13,42% and 5,26%. This significantly matters when defining the mechanism of the professional noxis over the airways.

When studying patients with heavy anaemic syndrome, without lung pathology, decrease was found of the average value of total diffusion capacity (DC) in comparison with its reference value and this decrease was calculated to be 28,50% ($p < 0.001$). After the anaemic syndrome has been corrected DC increases and reaches the foreseen average norm for the group and the considerably increased P_{aO_2} is its concomitant.

The investigated DC of 45 patients with hypoxemia, normal breathing indexes and slightly expressed ventilatory defect and X-ray changes suspected to have pulmonary interstitial fibrosis showed values significantly decreased and below the reference ones in 3 of them (6,66%).

The observed decrease of total DC in both groups of patients is due to various mechanisms. The first group of patients have decreased DC due to impairment of its intracapillary component, whilst the second group showed decreased DC as a result of "alveolo-capillary block".

A total of 148 patients with anamnesis for "severe attacks of dyspnoea" were subject to inhalatory bronchoprovocatory test with methacholin. In 106 of them (71,62%) the test proved to be positive and confirmed the clinical diagnosis "bronchial asthma". These results acknowledge the significance of the methacholin test for proving the non-specific bronchial hyperreactivity.

The presence of a rather large number of negative inhalatory tests with specific allergen (in 27 patients - 57,45%) indicated lower informativeness of skin-allergic tests with regard to real sensibilization of the patients and the necessity of assessment of the specific bronchial hyperreactivity before starting a specific hyposensibilization.

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