PULMONARY HYPERTENSION IN PATIENTS WITH SEVERE BRONCHIAL ASTHMA

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ANNOTATION

All over the world, there is a steady increase in respiratory diseases, among which bronchial asthma (BA) occupies a special place and the number of patients reaches 300 million [8]. In Republic of Uzbekistan prevalence (BA) among adults is 7 % [4], and among children and adolescents - about 10% [3]. Despite the great progress in the study of AD, which has been achieved in recent years, this disease remains one of the most serious problems that scientists around the world are working on . Pulmonary hypertension (PH) is a formidable complication of bronchial asthma, which complements the severity of the clinical course of the disease and largely determines the outcome of the disease [6, 9]. In this regard, the ability to promptly suspect and diagnose PH in patients with BA , taking into account its main etiological factors, acquires great practical importance.

Keywords: bronchial asthma, pulmonary hypertension, calculated systolic pressure in the pulmonary artery.

Purpose : to identify signs of pulmonary hypertension in patients with severe bronchial asthma.

Materials and methods. The analysis of official medical documentation (medical record of an inpatient) was carried out in 42 patients with a diagnosis of Bronchial asthma, mixed genesis, severe persistent course, exacerbation phase, hospitalized in the pulmonology department of the ASMI for 2022. The diagnosis was made on the basis of GINA criteria (GlobalIniciativeforAsthma) in accordance with the federal clinical guidelines of the Russian Respiratory Society for Bronchial Asthma 2019 [5,8]. Data processing was carried out using the Excel program using statistical formulas. Descriptive statistics of the study results are presented for qualitative characteristics as percentages, quantitative values are presented as a median (Me) and standard deviations.

Results and discussions: 13 men (32.2%) participated in our study , there were 29 women (67.8%); the average age of patients was 38.5±16.9 years, the average duration of the disease was 37.5±15.8 years (from 6 months to 55 years), 19.35% of patients had disease manifestation in childhood. Despite the ongoing therapy, 42.8% (18 people) had asthma attacks, 71% (30 people) had shortness of breath with little physical exertion.

Indicators of respiratory function according to spirometry in patients of the study group revealed an obstructive type of disorder (Table 1): background FEV 1 - 1.31 ± 0.8 l, % of due FEV1 - 52.5 ± 21.6% (normal ≥ 80%); FEV1 before exposure to a bronchodilator was 52.5±21.6%, FEV1 after exposure to a bronchodilator was 62±30.72%, which does not reveal a statistical relationship between FEV1 after exposure to a bronchodilator and the presence of airway obstruction (p=0.057). The increase in FEV 1 after a bronchodilator test was 220±240 ml (7±7.74%); Tiffno index - 59.95±16.92% (normal ≥70%). According to peak flowmetry , the peak expiratory flow rate in the morning was 70±139.34 ml, the peak expiratory flow rate in the evening was 220±140.3 ml, an increase in the average daily variability of the peak expiratory flow rate was 63.5±35.9% (normal <10%).

Table 1.

Options	**Values**
Background FEV 1 , l	**1.31 ± 0.8**
FEV 1 after exposure to a bronchodilator , l	1.6± 1.05
Percentage due FEV 1	**52.5±21.6** **p1=0.057**
Percent due FEV 1 after bronchodilator exposure	**62±30.72**
increase in FEV 1 , %	**7±7.74**
increase in FEV 1 , l	**0.22±0.25**
Tiffno index , %	**59.95±16.92**
Peak expiratory flow in the morning, ml	**70±139.34**
Peak expiratory flow in the evening, ml	**220±140.3**
Average daily fluctuation of peak expiratory flow, %	**63.5±35.7**

Respiratory function indicators

***Note** : p 1 - the level of statistical significance of differences in FEV1 before and after exposure to a bronchodilator compared with background FEV1;*

Airway obstruction leads to the development of pulmonary hypertension. One of the objective signs is the emphasis of the second tone over the pulmonary artery, which was detected during auscultatory examination of the heart; in our study, it was observed in 8 (19.4%) patients. All 42 patients (100%) underwent an echocardiographic examination of the heart. Estimated systolic pressure in the pulmonary artery (RSPA) is normally less than 25 mm .r t.st. [7]. Among our patients, 18 people (43.3%) have elevated RSDPA, the average value of which is

33.38±4.33 mm Hg , which corresponds to the first degree of pulmonary hypertension [7].

Conclusions: Thus, in our study, it was found that a severe form of bronchial asthma suffers mainly from young women with a long history of the disease. Pulmonary hypertension was detected in 43.3% of patients with severe bronchial asthma, its development is associated with persistent and prolonged obstruction of the bronchi and spasm of small arteries of the lungs caused by hypoxia.

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