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FUNCTIONAL DISORDERS IN PATIENTS WITH UNCONTROLLED BRONCHIAL ASTHMA

SHODIYEVA GULZODA RABIMKULOVNA
The assistant of the Department of internal diseases of pediatric faculty

IBRAGIMOVA ELNARA FARMANOVNA,
Assistants of the Department of Pharmacology
Samarkand State Medical Institute

ARSLONOVA RAYKHON RAJABBOYEVNA
Assistants of the Department of Pharmacology
Samarkand State Medical Institute

ABSTARCT:

Bronchial asthma (BA) is characterized by chronic inflammation of the respiratory tract, the presence of respiratory symptoms such as wheezing, shortness of breath, chest congestion and cough, which vary in time and intensity, along with variable airway obstruction [1]. AD is one of the most common diseases of the respiratory tract.

KEYWORDS: bronchial asthma, respiratory function, obstructive type, restrictive component.

INTRODUCTION:

The aim of the study was to assess the severity of functional lung disorders in patients with AD. 80 patients with AD were examined, the age of the patients ranged from 28 to 60 years. Of the total number of patients, 37 had severe BA, 26 had moderate BA, and 17 had mild BA. The analysis of indicators of external respiration function (ERF) showed that patients with mild and moderate AD have obstructive pulmonary ventilation disorders, and patients with severe AD have mixed disorders with the addition of a restrictive component.

RELEVANCE:

AD remains an urgent problem of modern medicine with a social aspect, since the incidence and prevalence of this disease continues to grow among all population groups, which, according to various data, varies in the range of 5-10 %, but there are data on the prevalence of up to 18 % [2]. All over the world, including in Uzbekistan, there is a tendency to increase the incidence of AD and its more severe course [3]. The World Health Organization estimates that 235 million people suffer from AD. AD is not only a public health problem for high-income countries; it affects all countries, regardless of their level of development. More than 80 % of asthma deaths occur in low-and middle-low-income countries [4, 5]. Diagnosis of bronchial asthma is to identify reversible bronchial obstruction and signs of hyper reactivity of the bronchi. In AD, a transient labile change in the speed parameters of spirometry is recorded, especially the volume of forced exhalation for 1 second, the peak expiratory speed, due to bronchial hyper reactivity. During the period of exacerbation, an increase in the residual volume of the lungs is also recorded [6,7,8].

OBJECTIVE:

To study the features of changes in the functional parameters of the bronchopulmonary system in patients with AD.

MATERIALS AND METHODS:

80 patients with AD and 20 healthy individuals included in the control group were examined. The study was conducted in the conditions of the therapeutic department of the Samarkand branch of the Republican Scientific Center for Emergency Medical Care. The age of the patients ranged from 28 to 60 years and averaged 44 years. Among all the surveyed men were 49 (62%), women - 31 (38%). The duration of the disease in 43 patients was more than 15 years, in 27 patients-10-15 years, and in 10 patients-less than 10 years. Of the total number of patients, 41 had severe AD, 27 had moderate AD, and 12 had mild AD. The diagnosis of AD was verified according to the WHO international classification (X revision, ICD-10) and in accordance with the diagnostic criteria of GINA (The Global Initiative for Asthma–Global Initiative for AD).Along with general clinical and laboratory methods of research, the parameters of the external respiratory function (ERF) were studied using the SpirosiftSP-5000 device. Chirography was used to verify obstructive and restrictive changes in the bronchi. The study was conducted under conditions of relative rest in a sitting position. The following parameters were measured: vital capacity of the lungs (VEL, L), Tiff no index (FEV 1/FVC ratio, expressed as a percentage), peak volume expiratory velocity (PIC) and maximum volume velocities after exhalation of 25, 50 and 75 % FVC (MOS50, MOS75). The analysis of indicators for determining the vital capacity of the lungs, maximum lung ventilation (MVL), respiratory rate (BH), forced expiratory volume in 1 second (FEV1), revealed the presence and severity of bronchial patency disorders, as well as restrictive disorders.

Clinical and instrumental examination revealed expiratory dyspnea, dry wheezing, amplified on exhalation, heard both during auscultation and at a distance, box percussion sound in all patients. Also, dry cough, acrocyanosis, and tachycardia were detected in the main number of patients. During the attack, all patients had participation in the act of breathing of the auxiliary respiratory muscles and a forced position-sitting, resting their hands on their knees. The analysis of indicators of respiratory function showed that in patients with asthma, severe treatment, compared with healthy persons and in patients with moderate form BA observed a significant decrease in vital capacity (VC, 1.8 and 1.9 times, respectively), forced expiratory volume in 1 second (FEV1, 1.7 and 1.8 times, respectively), the tiffeneau index (it, 1.2 and 1.3 times, respectively), peak expiratory flow (PSV, 2.1, and 2.2 times, respectively), the maximum amount of speed (MOC25 =1.3-1.8 times, respectively), the amount of speed in the secondary bronchi (MOC50-1,1-1.7 times, respectively), the volume of the velocity in the large bronchi (OS75=2.4-2.6 times). The duration of the disease has a weak correlation with a decrease in the Tiffno index, and a pronounced correlation with a decrease in the peak expiratory rate. The maximum amount of speed in patients depended on the duration of the disease. The course of the disease in patients with AD with changes in the cardiovascular system contributed to the deterioration of the indicators of external respiratory functions. Thus, in patients with AD, with an increase in the duration of the disease, there was a decrease in the indicators of VEL, FEV1, which indicated an increase in the degree of bronchial obstruction.

CONCLUSIONS:

The analysis of FVD indicators showed that patients with mild and moderate AD have obstructive pulmonary ventilation disorders, and patients with severe AD have mixed disorders with the addition of a restrictive component. In patients with disease duration of more than 10 years, the BA clinic becomes more severe, which contributes to the development of complications: emphysema, pneumosclerosis, respiratory and pulmonary-heart failure.

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