

CLINICAL FUNCTIONAL CHANGES AND QUALITY OF LIFE IN BRONCHIAL ASTHMA

*Salayeva Muborak Saidobdullayevna
Po'latova Niginabonu O'tkir qizi
Po'latov O'ktamjon O'tkir o'g'li
Tashkent Medical Academy, Uzbekistan*

Annotatsiya: Klinik funksional tekshiruvlar bronxial astma bilan og'rigan 46ta bemor o'rtasida TMA ko'p tarmoqli klinikasida o'tkazildi. Kasallik davomiyligi o'rtacha 24,2 yilni tashkil etadi. Bronxial astmaning kechishini tahlil qilganimizda kasallik darajasi og'irlashishi bilan bemorlarda klinik funksional o'zgarishlar darajasi ham ortib bordi. Bronxial astma bemorlarda kasallik bosqichi og'irlashishi bilan obstruktiv buzilishlar ko'rsatkichlari JCHNH $55,6 \pm 6,9\%$ gacha va O'TS $69,7 \pm 6,4\%$ gacha sezilarli darajada pasayishi klinik belgilar va obstruktiv buzilishlar xarakterini tasdiqladi. BA bemorlarda kasallik bosqichining og'irlashishi bilan NCHAT 78% dan 35% ga sezilarli darajada pasayishi klinik belgilarning kasallik darajasiga bog'liq holda ortib borishini ko'rsatdi.

Kalit so'zlar: bronxial astma, klinik funksional o'zgarishlar, obstruktiv, restriktiv, Tiffno indeksi, xurujsimon yo'tal, nafas yetishmovchiligi, bronxospazm.

Abstract: Our research was conducted at the multidisciplinary clinic of the Tashkent Medical Academy. Clinical functional changes were conducted among 46 patients with bronchial asthma. The average duration of the disease is 24,2 years. When we analyzed the patients with bronchial asthma, the degree of clinical functional changes in patients increased with the increase of disease. Indicators of obstructive disorders a significant decrease in peak expiratory flow rate (PEFR) up to $55,6 \pm 6.9\%$ and Lung capacities up to $69.7 \pm 6.4\%$ confirms the nature of clinical signs and obstructive disorders. PEFR showed a significant decrease from 78% to 35% with the severity of the disease stage in BA patients and an increase in clinical symptoms depending on the level of the disease.

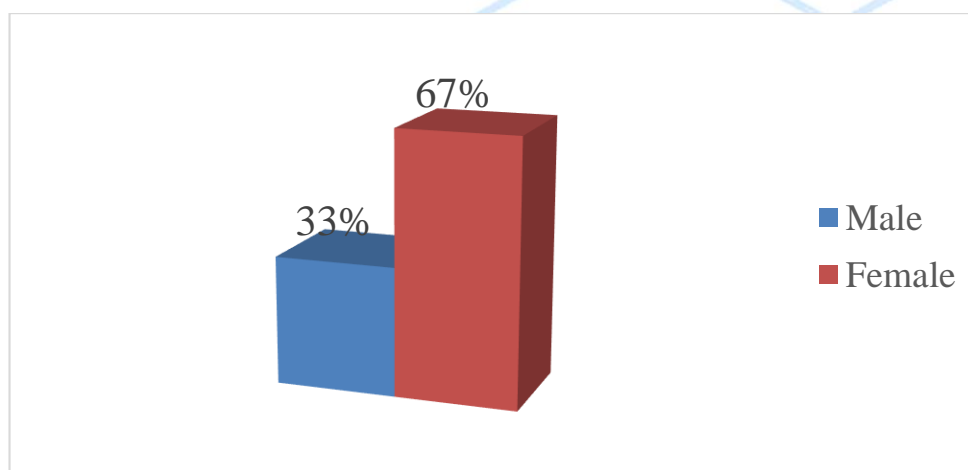
Key words: bronchial asthma, clinical functional changes, obstructive, restrictive, Tiffeneau index, paroxysmal cough, shortness of breath, bronchospasm

Introduction. Bronchial asthma is a serious global health problem. 5% to 10% of persons of all ages suffer from this chronic airway disorder[1]. It affects people of all ages and often starts in childhood, although it can also develop for the first time in adults. The pathophysiology of asthma is complex and involves airway inflammation, intermittent airflow obstruction and bronchial hyperresponsiveness[3]. The mechanism of inflammation in asthma may be acute, subacute or chronic and the presence of

airway edema and mucus secretion also contributes to airflow obstruction and bronchial reactivity[2]. Varying degrees of mononuclear cell and eosinophil infiltration, mucus hypersecretion, desquamation of the epithelium, smooth muscle hyperplasia and airway remodeling are present. Airway hyperresponsiveness or bronchial hyperreactivity in asthma is an exaggerated response to numerous exogenous and endogenous stimuli. The mechanisms involved include direct stimulation of airway smooth muscle and indirect stimulation by pharmacologically active substances from mediator-secreting cells such as mast cells or nonmyelinated sensory neurons[4]. The degree of airway hyperresponsiveness generally correlates with the clinical severity of asthma[5].

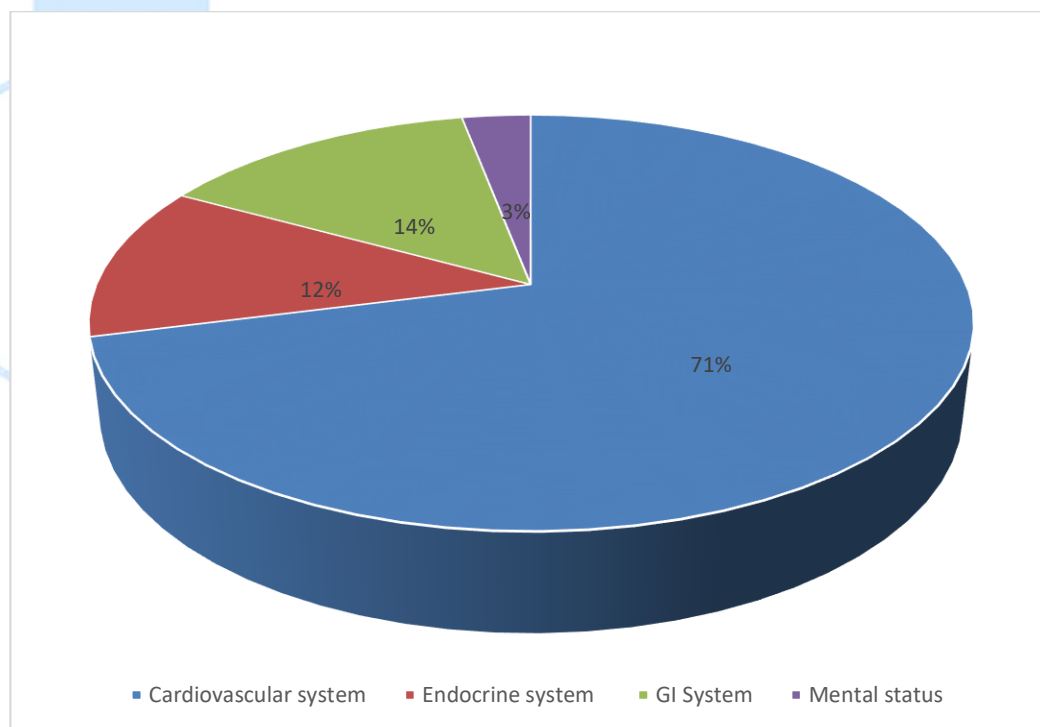
Purpose of the research: : Assessment of clinical functional changes and quality of life in bronchial asthma patients. Assessment of the clinical course of the disease in patients with bronchial asthma.

Materials and methods: Our research was conducted at the multidisciplinary clinic of the Tashkent Medical Academy. Clinical functional changes were conducted among 46 patients with bronchial asthma. The average duration of the disease is 24,2 years. When we analyzed the patients with bronchial asthma, the degree of clinical functional changes in patients increased with the increase of disease. Patients enrolled in the study between 30 and 70 years. diagnosed by a physician to have asthma according to GINA criteria (Global Strategy For Asthma Management And Prevention). Out of 46 patients, 2 patients were mild intermittent, 9 patients were mild persistent, 10 patients were moderate persistent, 25 patients were severe persistent level.



1-picture; Gender affect the prevalence of asthma

Of the 46 patients with bronchial asthma, 67% were women and 33% were men, so it is known that the disease is more common among women.



2-picture. Monitoring of comorbidities in BA patients (%)

The investigations show that the frequency of comorbidities in patients with bronchial asthma is 71% of cardiovascular diseases, 12% of endocrine diseases, 3% of changes in mental status, and 14% of gastrointestinal system diseases.

We used various questionnaires and instrumental examination methods to assess the quality of life of patients and determine the severity of the disease. We performed electrocardiography of patients to evaluate changes in the heart. We used to peakflowmetry and spirometry to determine the degree of respiratory failure and external respiratory activity. Bronchial asthma patients have a high frequency of concomitant diseases, especially cardiovascular diseases.

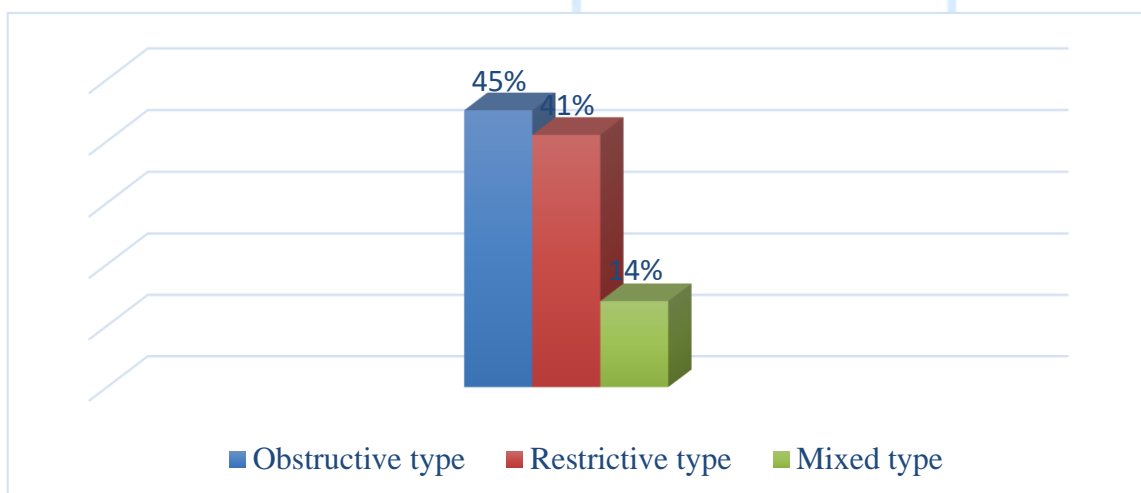
Results: According to the results out of 46 patients, 2 patients were mild intermittent, 9 patients were mild persistent, 10 patients were moderate persistent, 25 patients were severe persistent level (1-table).

1-table

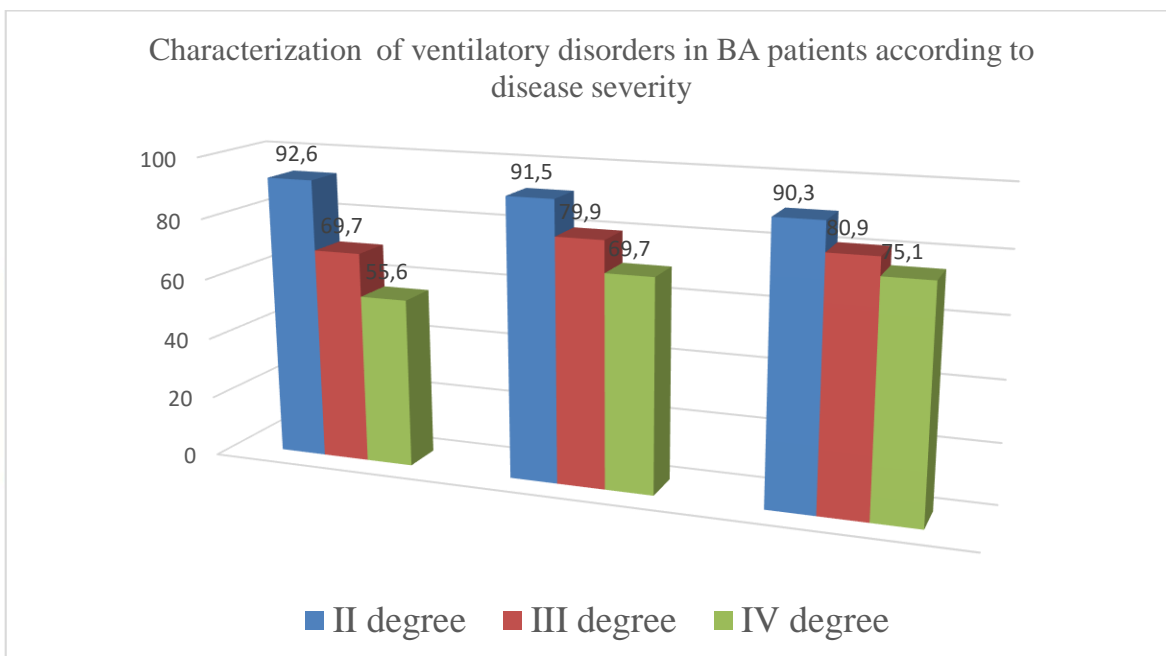
Clinical changes in patients BA

Severity degree (n)	Shortness of breath	Cough	Sputum	Panting	Weakness	Sweating
I degree (2)	2=100%	2=100%	1=50%	2=100%	2=100%	2=100%
II degree (7)	7=77,7%	5=55,5%	5=55,5%	9=100%	9=100%	6=66,6%
III degree (10)	10=100%	10=100%	9=90%	10=100%	10=100%	10=100%
IV degree (25)	25=100%	25=100%	25=100%	25=100%	25=100%	25=100%

According to the clinical examinations BA causes cough, shortness of breath, sputum, panting weakness, sweating at different levels. When we compared the severe persistent degree of BA disease with the mild persistent degree, it was found that shortness of breath- 1,3 times, paroxysmal cough – 1,8 times, sputum difficult to separate with cough – 1,8 times higher. As the clinical level of the disease increases the frequency of symptoms increases (1-table).

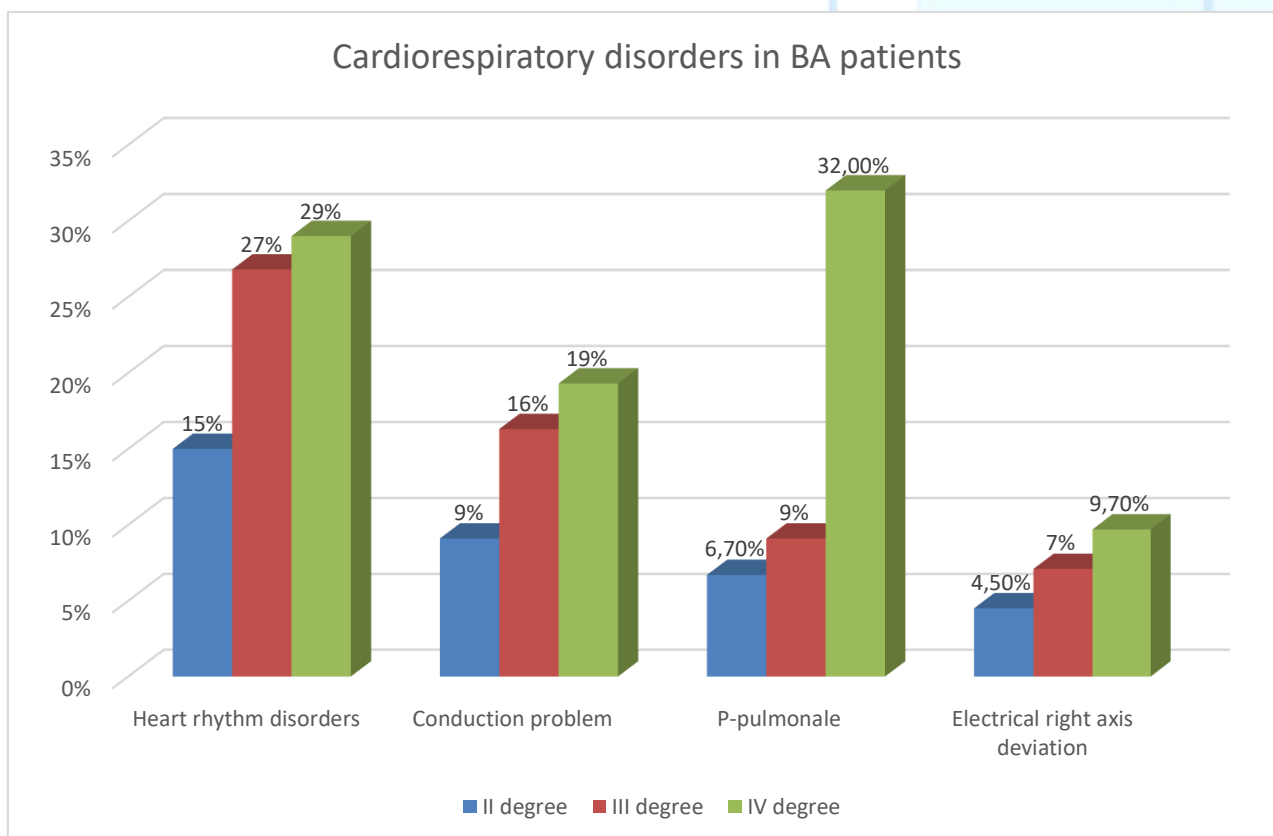


3-picture. Types of respiratory failure in BA patients(%)



4-picture: Peak expiratory flow result (PEF)

Indicators of obstructive disorders a significant decrease in peak expiratory flow rate (PEFR) up to $55,6 \pm 6,9\%$ and Lung capacities up to $69,7 \pm 6,4\%$ confirms the nature of clinical signs and obstructive disorders (4-picture).



5-picture: Cardiorespiratory disorders in BA patients

According to the electrocardiography results changes in the cardiovascular system were also observed with the depending of the degree of the disease in patients with BA. In the severe persistent degree of the disease compared to the mild persistent degree the excitability disorder is 2 times higher ($15\% \pm 29$), the conduction disorder is 1,1 times higher ($9\% \pm 19\%$), shift of the electric axis to the right was 2,2 times ($4.5 \pm 9.7\%$), P-pulmonale was found to be 4,7 times ($6.7 \pm 32\%$) (5-picture).

Conclusion: It can be concluded that the intensity of clinical symptoms increased with the progression of the disease in BA patients. The severe persistent course of BA is characterized by obvious clinical signs, a significant violation of bronchial permeability, and a violation of heart muscle excitability. Obstructive, restrictive, and mixed type of breathlessness was detected in BA patients, and it was found that most of them are obstructive type disorders. When we studied the relationship between quality of life indicators and the level of ventilation disorders in BA patients, it was observed that all indicators of the quality of life reliably decreased with the obvious manifestation of obstructive disorders. In patients with BA, changes in the cardiovascular system are also observed as the course of the disease worsens.

References:

1. Ukena D USA 2008. Bronchial asthma diagnosis <https://pubmed.ncbi.nlm.nih.gov/19626179/>
2. World health organization <https://www.who.int/news-room/fact-sheets/detail/asthma>
3. Gadayev A.G. Ichki kasalliklar Tashkent 2021; chap 54
4. American lung association <https://www.lung.org/lung-health-diseases/lung-disease-lookup/asthma>
5. M.Eric Gershvin , Timothy E.Albertson Bronchial asthma:A guide for practical understanding and treatment California,USA 2012; chap 33 <https://link.springer.com/book/10.1007/978-1-4419-6836-4>