

CLINICAL EFFECTIVENESS OF METHODS FOR ELIMINATING ATRIAL FIBRILLATION IN PATIENTS WITH BRONCHIAL ASTHMA**Rasuli Farida Orifovna**Assistant of the Department of Internal Diseases No. 4
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Abstract: The study conducted a comprehensive analysis of the effectiveness and safety profile of electrocardioversion in eliminating atrial fibrillation in clinical cases of bronchial asthma. Additionally, clinical, demographic, and instrumental factors influencing the stable restoration of sinus rhythm after treatment were evaluated.

Keywords: atrial fibrillation, bronchial asthma, sinus rhythm, electrocardioversion, antiarrhythmic treatment.

Аннотация: В исследовании проведен комплексный анализ эффективности и профиля безопасности метода электрокардиоверсии в устранении фибрилляции предсердий в клинических случаях бронхиальной астмы. Также были оценены клиничко-демографические и инструментальные факторы, влияющие на стабильное восстановление синусового ритма после лечения.

Ключевые слова: фибрилляция предсердий, бронхиальная астма, синусовый ритм, электрокардиоверсия, антиаритмическая терапия.

Аннотация: Тадқиқотда бронхиал астманинг клиник ҳолатларида бўлмачалар фибрилляциясини бартараф этишда электрокардиоверсия усулининг самарадорлиги ва хавфсизлик профилини комплекс таҳлил қилиш ўтказилди. Шунингдек, даволашдан сўнг синус ритмининг барқарор тикланишига таъсир кўрсатадиган клиник-демографик ва инструментал омиллар баҳоланди.

Калит сўзлар: бўлмачалар фибрилляцияси, бронхиал астма, синус ритми, электрокардиоверсия, антиаритмик даволаш.

Introduction. Atrial fibrillation against the background of bronchial asthma is one of the most common arrhythmogenic complications of the cardiorespiratory system. Over the past decades,

the prevalence of this pathology has significantly increased. While in previous years this condition was relatively rare among individuals over the age of 60, recent observations confirm its growing incidence.

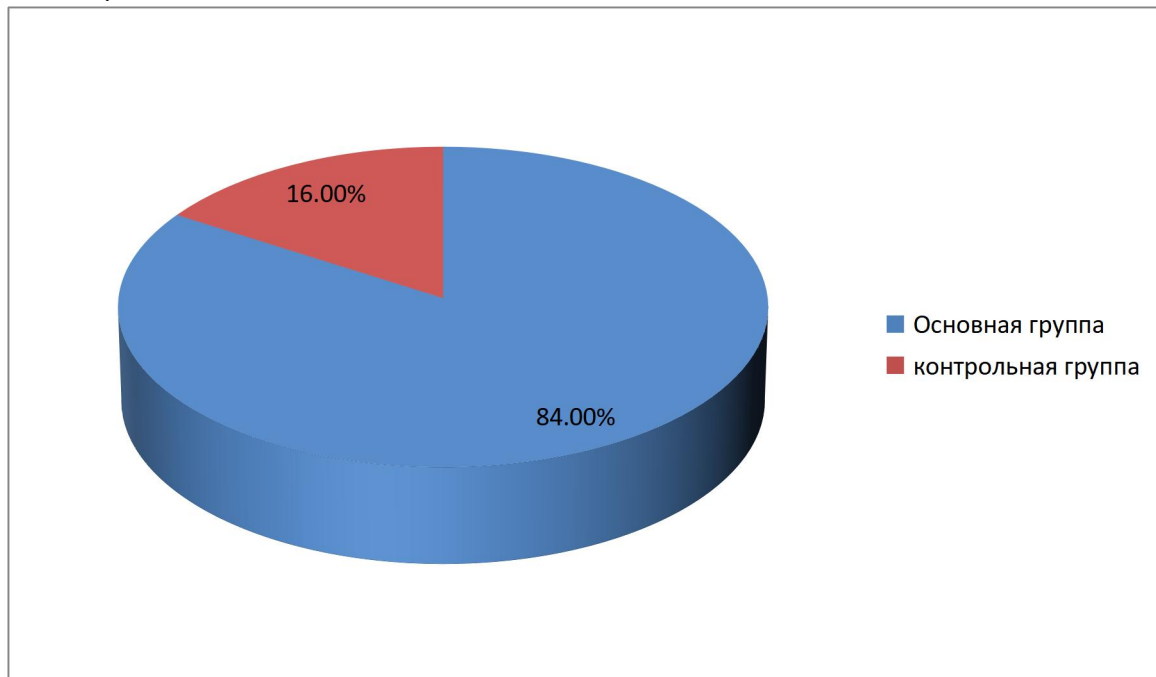
The increase in organic heart diseases with age creates favorable conditions for the development of atrial fibrillation. In addition, this arrhythmia may act as a factor aggravating the course of cardiomyopathies.

One of the main therapeutic goals in atrial fibrillation is the restoration of sinus rhythm to ensure effective hemodynamics. In clinical practice, electrocardioversion is considered one of the most effective methods for achieving this goal. A review of the literature shows that the effectiveness of this method increases even more when used in combination with antiarrhythmic drugs.

Aim of the study. To assess the clinical effectiveness of individual and combined use of electrocardioversion with antiarrhythmic drugs in patients with atrial fibrillation complicated by bronchial asthma.

Materials and methods. The study included 50 patients with bronchial asthma and atrial fibrillation who were hospitalized in the intensive care unit of the Samarkand Cardiology Center. The patients ranged in age from 38 to 78 years, with an average age of 55 years. By gender distribution, men predominated (65%), while women accounted for 35%.

For analytical purposes, the patients were divided into two groups depending on the presence of comorbidities. The main group consisted of 42 (84%) patients who had dilated cardiomyopathy or post-infarction cardiosclerosis in addition to asthma. The second group included 8 (16%) patients with atrial fibrillation of idiopathic origin.



We also interviewed patients regarding the duration of arrhythmia. For some, it lasted from several hours to a year, while in others it was asymptomatic. The inclusion criteria fully complied with the recommendations of the European Society of Cardiology.

The number of patients with newly diagnosed atrial fibrillation was 12% (6 patients), and it should be noted that they had not taken any antiarrhythmic drugs previously.

The remaining 20 patients with dilated cardiomyopathy and 24 patients with post-infarction cardiosclerosis received antiarrhythmic therapy at pre-hospital and hospital stages, but the therapy did not produce the expected effect, meaning that sinus rhythm was not restored. Therefore, a decision was made to perform electrocardioversion.

Upon hospital admission, each patient underwent a comprehensive examination including electrocardiography, echocardiography, 24-hour Holter monitoring, and laboratory tests. An important diagnostic step was transesophageal echocardiography (TEE) to detect possible thrombi in the left atrium. Patients without thrombi received anticoagulant therapy in accordance with clinical guidelines. Additionally, before electrical cardioversion, a polarizing mixture and etacizine (10 mg/kg) were administered intravenously. If a thrombus was detected in the left atrium, anticoagulant therapy was also initiated, and after its resorption, a course of etacizine was prescribed for one or two months.

Electrocardioversion was performed using the DI-S-04 defibrillator, which generates single current impulses in the form of damped oscillatory discharges. After cardioversion, continuous ECG monitoring was provided for all patients. The effectiveness of electrocardioversion was evaluated by the maintenance of sinus rhythm during the first 24 hours.

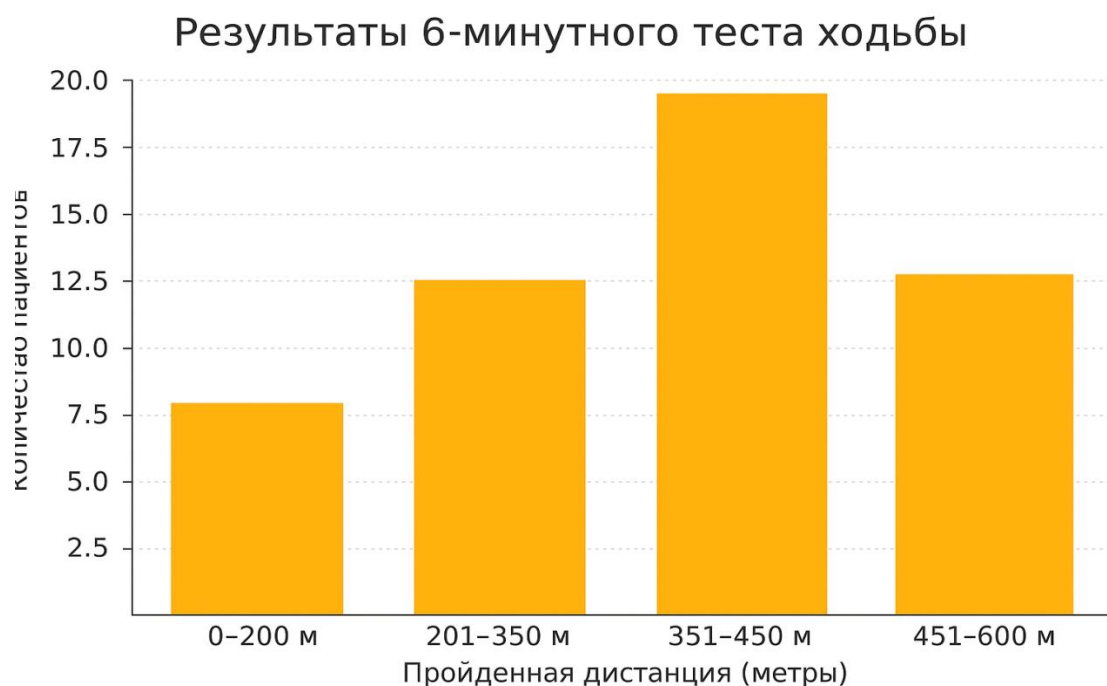
Results and discussion. The results of our study confirmed that electrocardioversion is an effective and safe treatment method. Normal sinus rhythm was restored in all examined patients. The simultaneous use of etacizine further increased treatment effectiveness. In most cases (76%), sinus rhythm was restored on the first attempt. Due to the unsuccessful first attempt in 8% of patients, a second discharge was required. Another 12% achieved restoration of rhythm after the third discharge. In rare cases, up to six discharges were applied, which allowed normalization of rhythm in one patient (4%).

During the study, we monitored the ventricular rate during cardioversion. In 18 patients (36%), the heart rate did not exceed 110 beats per minute. In the remaining 32 patients (64%), the rate exceeded 140 beats per minute.

Scientific studies present differing views on the influence of left atrial size and volume on the effectiveness of electrocardioversion. In our study, patients were divided into groups based on left atrial size — less than 4.0 cm and more than 4.0 cm. Notably, 10 patients had a left atrial size of 6.0 cm. Within our study, left atrial size did not affect the success of restoring sinus rhythm.

Analysis showed no correlation between the effectiveness of electrocardioversion and heart rate, blood pressure, presence of echocardiographic dyskinesia, or gender.

No serious complications were observed after treatment. Importantly, no recurrent cases of arrhythmia were recorded before hospital discharge. However, arrhythmia recurrence was observed in two patients one year after discharge and in six patients six months after full rhythm restoration.



Five patients were able to walk 0–200 meters, indicating very low physical capacity and the need for urgent medical care. Twelve patients covered 201–350 meters, indicating low functional activity and a high probability of respiratory failure. Patients who walked 351–450 meters accounted for 40% — reflecting moderate functional status and a positive effect of treatment. Those who walked 451–600 meters represented 26% — indicating good asthma and arrhythmia control.

Although most patients walked more than 350 meters, 17 patients walked less than this distance, suggesting the need to intensify rehabilitation and further evaluate respiratory and cardiovascular status.

Conclusion. The effectiveness of electrical cardioversion — the likelihood of successful restoration of normal sinus rhythm — significantly increases with qualified medical care and proper patient selection, especially when using etacizine. The duration of arrhythmia, left atrial size, blood pressure, patient age, gender, and ventricular rate did not significantly affect rhythm restoration.

If medication therapy is ineffective, electrical cardioversion should be considered given the high probability of restoring normal rhythm and its positive effects on circulation, provided there are no contraindications. It is also necessary to continue studying the factors determining successful sinus rhythm restoration using more advanced diagnostic methods.

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