

CLINICAL AND PROGNOSTIC SIGNIFICANCE OF ATRIAL FIBRILLATION IN PATIENTS WITH HYPERTENSION

Do'stov Sardor Qaxramonovich

Cardiologist cardiac politician of the Central Polyclinic of Samarkand region, Bulung'ur district central polyclinic

<https://doi.org/10.5281/zenodo.17167315>

Introduction: Atrial fibrillation is the most common sustained arrhythmia worldwide, and hypertension is the most prevalent modifiable cardiovascular risk factor. When these two conditions coexist, they create a synergistic effect that significantly increases the risk of ischemic stroke, systemic embolism, heart failure, and mortality. Hypertension induces atrial remodeling, structural changes, and fibrosis that predispose patients to atrial fibrillation, while atrial fibrillation worsens the hemodynamic burden of hypertension and accelerates cardiovascular complications. Despite the global recognition of this comorbidity, there remains insufficient region-specific data on its prognostic implications, particularly in developing healthcare systems where diagnostic and therapeutic resources may be limited. Therefore, a comprehensive evaluation of the clinical and prognostic role of atrial fibrillation in hypertensive patients is critical for improving outcomes.

Objective: The aim of this study was to evaluate the clinical features and prognostic impact of atrial fibrillation in patients with arterial hypertension, focusing on prevalence, cardiovascular complications, hospitalizations, and mortality, and to identify the importance of early detection and management strategies.

Materials and Methods: A retrospective study was conducted on 210 patients diagnosed with arterial hypertension admitted to a tertiary care hospital between 2021 and 2023. Patients were divided into two groups: Group I (84 patients with concomitant atrial fibrillation) and Group II (126 patients without atrial fibrillation). Diagnosis of atrial fibrillation was confirmed by electrocardiography and Holter monitoring. Demographic data, comorbidities, electrocardiographic findings, echocardiographic parameters, treatment strategies, and outcomes were collected and analyzed. The primary endpoints were ischemic stroke incidence, cardiovascular mortality, and hospitalization rates. Secondary endpoints included recurrent cardiovascular events and functional outcomes. Statistical analysis was performed using SPSS with significance set at $p < 0.05$.

Results: Patients with atrial fibrillation were older, had longer duration of hypertension, and showed higher prevalence of left atrial enlargement and left ventricular hypertrophy compared with those without atrial fibrillation. The incidence of ischemic stroke was significantly higher in the atrial fibrillation group, with nearly one in five patients developing stroke during follow-up. Mortality was almost threefold higher in hypertensive patients with atrial fibrillation, and recurrent cardiovascular events and hospitalizations were also markedly increased. Echocardiographic analysis demonstrated impaired systolic and diastolic function in the atrial fibrillation group, correlating with poorer outcomes.

Discussion: The coexistence of atrial fibrillation and hypertension has a profound negative impact on patient prognosis, as shown by higher rates of stroke, heart failure, and mortality. Structural and electrical remodeling of the atria caused by hypertension provides the substrate for atrial fibrillation, and once established, atrial fibrillation worsens hemodynamic status and

thromboembolic risk. Early identification and aggressive management of atrial fibrillation in hypertensive patients is essential. Anticoagulation therapy, strict blood pressure control, and comprehensive cardiovascular risk factor management should be prioritized. However, limited access to guideline-directed therapies remains a significant barrier in many settings.

Conclusion: Atrial fibrillation in hypertensive patients is associated with worse clinical and prognostic outcomes, including significantly higher risk of ischemic stroke, mortality, and recurrent hospitalizations. Timely detection, proper anticoagulation, optimized antihypertensive treatment, and regular cardiac monitoring are crucial in improving outcomes. Strengthening diagnostic and therapeutic resources, along with public and physician awareness, is urgently needed to reduce the burden of atrial fibrillation in hypertensive populations.

References:

1. Uskov A. et al. Modern methods of therapeutic fasting as a way to overcome the pharmacoresistance of mental pathology //Science and innovation. – 2023. – T. 2. – №. D12. – C. 179-185.
2. Abdukodirova S., . SPECIFIC CHARACTERISTICS AND TREATMENT OF ACUTE OBSTRUCTIVE BRONCHITIS IN CHILDREN OF EARLY AGE //Science and innovation. – 2023. – T. 2. – №. D11. – C. 5-8.
3. Tahirova J. et al. Insomnia problem causes of sleep disorder, help measures at home //Science and innovation. – 2022. – T. 1. – №. D8. – C. 521-525.
4. Sultanov S. et al. Long-term salbi effects of the covid-19 pandemic on the health of existing residents of alcohol addiction //Science and innovation. – 2023. – T. 2. – №. D11. – C. 430-438.
5. Madaminov M., . Breast cancer detection methods, symptoms, causes, treatment //Science and innovation. – 2022. – T. 1. – №. D8. – C. 530-535.
6. Шерназаров Самандар, Курбаниязова БЕ, Виктория Саркисова Владимировна.(2023). Клиническое значение микробиоты кишечника у новорожденных с геморрагической болезнью. IQRO JURNALI, 2 (2), 867-877 [Электронный ресурс].
7. Tahirova J., . Symptoms of hymoritis, treatment, methods of folk medicine, prevention //Science and innovation. – 2022. – T. 1. – №. D8. – C. 983-990.
8. Jalalova D. et al. СОЧЕТАННАЯ СТОМАТОЛОГИЧЕСКАЯ И ГЛАЗНАЯ ПАТОЛОГИЯ //Science and innovation. – 2022. – T. 1. – №. D8. – C. 91-100.
9. Tohirova J. D. Jalalova TYPES OF HEMORRHAGIC DISEASES //CHANGES IN NEWBOENS, THEIR EARLY DIAGNOSIS.-2022.
10. Tahirova J. et al. Neurose causes and mechanisms of development, symptoms, treatment, prevention //Science and innovation. – 2022. – T. 1. – №. D8. – C. 515-520.
11. Kiyomov I., . IMPROVING SURGICAL TREATMENT METHODS FOR PATIENTS WITH NASAL PATHOLOGY //Science and innovation. – 2023. – T. 2. – №. D11. – C. 226-231.

12. Sarkisova V. et al. CYTOKINE PROFILE IN PATIENTS WITH GRANULOMATOSIS WITH POLYANGIITIS (WEGENER'S) //Science and innovation. – 2023. – Т. 2. – №. D11. – С. 336-343.
13. Sarkisova V., Lapasova Z., O. Rakhmanov INFLAMMATORY DISEASES OF THE PELVIC WOMEN ORGANS. – 2023.
14. Jalalova D., Raxmonov X., . РОЛЬ С-РЕАКТИВНОГО БЕЛКА В ПАТОГЕНЕЗЕ СОСУДИСТЫХ ЗАБОЛЕВАНИЙ ОРГАНА ЗРЕНИЯ У БОЛЬНЫХ АРТЕРИАЛЬНОЙ ГИПЕРТЕНЗИЕЙ //Science and innovation. – 2022. – Т. 1. – №. D8. – С. 114-121.
15. Malakhov A. et al. Modern views on the treatment and rehabilitation of patients with dementia //Science and innovation. – 2023. – Т. 2. – №. D12. – С. 322-329.
16. Jalalova D., Raxmonov X., . ЗНАЧЕНИЕ ДИСФУНКЦИИ ЭНДОТЕЛИЯ В РАЗВИТИЕ РЕТИНОПАТИИ У БОЛЬНЫХ АГ И ПУТИ ЕГО КОРРЕКЦИИ //Science and innovation. – 2022. – Т. 1. – №. D8. – С. 101-113.
17. Madaminov M., .Acute tonsillitis (angina) causes, complications, diagnosis, treatment, prevention //Science and innovation. – 2022. – Т. 1. – №. D8. – С. 771-779.
18. F. The problem of insomnia causes of sleep disorder, remedies at home //Science and innovation. – 2023. – Т. 2. – №. D1. – С. 79-84.
19. Sattarova S., FEATURES OF ELECTROPHYSIOLOGICAL METHODS FOR GUILLAIN-BARRÉ SYNDROME //Science and innovation. – 2023. – Т. 2. – №. D10. – С. 199-204.
20. F. Hymoritis symptoms, treatment, methods of folk medicine, prevention //Science and innovation. – 2023. – Т. 2. – №. D1. – С. 72-78.
21. Zhalalova D. et al. INFORMATION POINT OF PERIPHERAL BLOOD INDEXES IN THE DIAGNOSIS OF THE ETIOLOGY OF OPTIC NERVE DAMAGE //Science and innovation. – 2023. – Т. 2. – №. D11. – С. 124-130.
22. Madaminov M., . Causes, symptoms, diagnosis and treatment of kidney stones (urolithiasis). Science and Innovation. 2022; 1.8: 760-765 [Электронный ресурс].
23. Jalalova D., Raxmonov X., . ЗНАЧЕНИЕ ДИСФУНКЦИИ ЭНДОТЕЛИЯ В РАЗВИТИЕ РЕТИНОПАТИИ У БОЛЬНЫХ АГ И ПУТИ ЕГО КОРРЕКЦИИ //Science and innovation. – 2022. – Т. 1. – №. D8. – С. 101-113.
24. Rotanov, A., . (2023). Elderly epilepsy: neurophysiological aspects of non-psychotic mental disorders. Science and innovation, 2(D12), 192-197.
25. Konstantinova, O., . (2023). Clinical and psychological characteristics of patients with alcoholism with suicidal behavior. Science and innovation, 2(D11), 399-404.
26. Qizi, T. J. I., . (2022). Treatment of myocardial infarction and first aid. Science and innovation, 1(D3), 317-320.
27. Xushvaktova D., . Clinical features of mental disorders in synthetic drug users //Science and innovation. – 2023. – Т. 2. – №. D10. – С. 242-247.
28. Solovyova Y. et al. The relevance of psychotic disorders in the acute period of a stroke //Science and innovation. – 2023. – Т. 2. – №. D12. – С. 212-217.

29. Solovyova Y. et al. Suicide prevention in adolescents with mental disorders //Science and innovation. – 2023. – T. 2. – №. D11. – C. 303-308.
30. Sultanov S. et al. Changes in alcohol behavior during the covid-19 pandemic and beyond //Science and innovation. – 2023. – T. 2. – №. D12. – C. 302-309.
31. Sultanov S. et al. The impact of the covid-19 pandemic on the mental state of people with alcohol addiction syndrome //Science and innovation. – 2023. – T. 2. – №. D12. – C. 296-301.
32. Hamidullayevna X. D., Temirpulatovich T. B. Factors of pathomorphosis of alcoholic delirium //Iqro journali. – 2023. – T. 1. – №. 2. – C. 721-729.
33. Sharapova D. et al. Clinical and socio-economic effectiveness of injectable long-term forms of atypical antipsychotics in schizophrenia //Science and innovation. – 2023. – T. 2. – №. D12. – C. 290-295.
34. Sharapova D., . Psychological factors for the formation of aggressive behavior in the youth environment //Science and innovation. – 2023. – T. 2. – №. D12. – C. 404-408.
35. Ochilov U. et al. The question of the features of clinical and immunological parameters in the diagnosis of juvenile depression with" subpsychotic" symptoms //Science and innovation. – 2023. – T. 2. – №. D12. – C. 218-222.
36. Sharapova D., ., Turayev B. Prevalence of mental disorders in children and adolescents with cancer and methods of their treatment //Science and innovation. – 2023. – T. 2. – №. D12. – C. 373-378.