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CLINICAL, LABORATORY, AND INSTRUMENTAL CHARACTERISTICS OF PATIENTS ADMITTED WITH ATRIAL FIBRILLATION

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Relevance. Atrial fibrillation (AF) is the most common sustained arrhythmia in clinical practice and shares a close, bidirectional relationship with heart failure (HF). AF can either precede and directly contribute to the development of HF or occur because of it, with each condition exacerbating the other. Thus, profiling these patients at admission is crucial for risk stratification and management.

Aim: to assess clinical presentation, comorbidities, labs, echocardiography and treatment strategy of patients admitted with AF.

Materials and methods. The study involved 30 patients with AF who were admitted to the Minsk City Clinical Emergency Hospital over the period from October 2025 to March 2026. A retrospective review of medical records was carried out to collect the required information. All data was entered into Microsoft Excel, carefully checked, and then summarized using descriptive statistical methods.

Results and their discussion. Males predominated (68%) in our cohort and 92% of patients were older than 50 years. Common symptoms were dyspnea in 48.2%, chest pain in 46.4%, and ankle swelling in 35.7%. Diagnosed Arterial Hypertension (AH) was present in 96.4% but only 22.2% (n=6) of patients with AH were normotensive on admission and hypertensive crisis was present in 3.6% (n=1). Most prevalent degree of AH was the 2nd degree (n=18). Ischemic heart disease occurred in 46.4%; previous myocardial infarction was in 32.1% of patients and diabetes mellitus in 35.7%. Chronic kidney disease (CKD) was detected in 92.86% of cases. CKD stages 3-5 according to Estimated Glomerular Filtration Rate (eGFR) were presented in 50% of patients. The B-Type Natriuretic Peptide (BNP) level was elevated by 92%. The BNP level elevation >400 pg/mL was revealed in 34.8%. Heart rate on admission was bradycardia 3.6%, normocardia 39.3%, and tachycardia 57.1%. Echocardiography showed reduced left ventricular ejection fraction (LVEF) in 19.2%, moderate reduced LVEF in 19.2%, and preserved LVEF in 61.6% of cases. Increased end-systolic and end-diastolic volume of LV was revealed in 28% and in 32% of patients respectively; left atrial volume index was increased in 75% of cases. Thyroid function was normal in all patients. AF types were permanent (25%), persistent (25%), paroxysmal (17.9%), and new onset (32.1%). All patients with permanent AF were given beta blockers for rate control. Rhythm control strategy was chosen in 40% patients. Among them, electrical cardioversion was performed in 55.6% patients (in 1 patient it was unsuccessful), pharmacological in 44.4%, and was performed using amiodarone which is a class III antiarrhythmic drug. Moreover, HF pharmacological treatment and anticoagulant use were analyzed.

Conclusions. Patients admitted with AF showed clinical signs of HF, including dyspnea (48.2%) and ankle swelling (35.7%). Most patients with AF had a history of hypertension (96.4%). Poorly controlled hypertension because only 22.2% of patients with previous HT were normotensive on admission likely contributed to AF and HF risk. Biochemically, BNP elevation in 92% of patients may indicate the presence of concomitant HF. In 34.8% of cases the degree of BNP increase exceeded 400 pg/ml. This may indicate acute decompensation of HF due to AF. Collectively, these findings underscore that HF is highly prevalent among patients hospitalized with AF, with a substantial proportion presenting with acute decompensation, highlighting the need for integrated rhythm and heart failure management in this population.