ANALYSIS OF THE QUALITY OF PHARMACOLOGY AND ITS COMPLIANCE WITH CURRENT CLINICAL GUIDELINES IN PATIENTS WITH STABLE ISCHEMIC HEART DISEASE

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Abstract

Ischemic heart disease (IHD) remains one of the leading causes of morbidity and mortality, which determines the high importance of optimal and evidence-based pharmacotherapy. The present study aimed to analyze the quality of pharmacotherapy in patients with stable IHD and to assess its compliance with current clinical guidelines. A retrospective evaluation of prescribed medications was performed, taking into account their drug classes, dosages and combinations, as well as the frequency of use of the main groups of drugs recommended for the treatment of stable IHD. The obtained results made it possible to determine the degree of adherence to contemporary clinical guidelines and patient compliance with prescribed therapy. The analysis highlights the need for regular monitoring of pharmacotherapy quality and for improving physicians' adherence to contemporary clinical guidelines in order to enhance prognosis and quality of life in patients with stable IHD.

Keywords

stable ischemic heart disease; pharmacotherapy; quality of care; clinical guidelines; guideline adherence.

Ischemic heart disease (IHD) is a leading cause of mortality and disability worldwide [1,2], including in the Republic of Uzbekistan [3]. Clinically, the disease manifests as stable angina pectoris, silent ischemia, or a progressively increasing cardiovascular risk. The annual mortality rate among patients with stable angina in developed countries reaches 3-5%, while its prevalence is estimated at approximately 3-4% among the adult population.

The effectiveness of treatment for stable IHD is determined by the quality of secondary prevention and pharmacotherapy aimed at preventing cardiovascular events, controlling symptoms, and correcting risk factors. The main drug classes include antiplatelet agents, statins, β-blockers, calcium channel blockers, renin–

angiotensin–aldosterone system (RAAS) inhibitors, as well as modern antianginal agents such as ivabradine [4] and ranolazine.

A key issue in contemporary cardiology remains the alignment of real-world pharmacotherapy with clinical guidelines, both international (ESC/ACC/AHA) and national, as well as the assessment of how clinical practice in Uzbekistan corresponds to current evidence-based standards.

The aim of this study is to analyze the quality of drug therapy in patients with stable IHD in Tashkent and to evaluate its compliance with international and national clinical guidelines.

Materials and Methods: The quality of drug therapy was assessed in patients during hospitalization and at follow-up visits 6 and 12 months after discharge (n = 160) using a specially designed questionnaire. The quality of therapy was also assessed in patients undergoing outpatient treatment (n=172). Adherence to statin therapy and antiplatelet treatment was investigated through telephone surveys.

For the analysis, data from domestic publications in the Republic of Uzbekistan, outpatient and inpatient records from Tashkent, and a review of current international clinical guidelines were utilized. Domestic sources included studies on the state of drug therapy and patient and physician awareness, publications on the use of antiplatelet, lipid-lowering, and antianginal therapies in patients with IHD, as well as epidemiological data on IHD risk factors in the Uzbek population. For international comparisons, current clinical guidelines from the European Society of Cardiology (ESC) and the American College of Cardiology/American Heart Association (ACC/AHA) on the management of chronic coronary syndromes and stable IHD were used [5,6].

The methods of analysis included a structured literature review, a comparison of the frequency and quality of prescriptions for the main drug classes, assessment of compliance with ESC/ACC/AHA recommendations across patient groups, and evaluation of therapy adherence.

Current clinical guidelines for the pharmacotherapy of stable IHD (ESC/ACC/AHA) are evidence-based and define two main treatment objectives: secondary prevention of cardiovascular events and control of angina symptoms.

Antiplatelet therapy: low-dose aspirin is a fundamental component of secondary prevention; clopidogrel is recommended in cases of aspirin intolerance. The recommendation is Class I, Level of Evidence A (I A) and is widely supported by large clinical trials [7,8].

Lipid-lowering therapy: statins should be prescribed to the majority of patients to achieve target LDL-C levels; if targets are not reached on the maximal statin dose, ezetimibe or PCSK9 inhibitors may be added in very high-risk patients.

This is also supported as a Class I, Level A recommendation in international guidelines for patients with IHD [9,10].

Antianginal therapy: β-blockers are considered first-line agents for symptom control and prevention of angina episodes. Calcium channel blockers, long-acting nitrates, ivabradine, and ranolazine are used for symptomatic treatment, particularly in cases of β-blocker intolerance or contraindications. These recommendations are reflected in both ESC and ACC/AHA guidelines [11,12].

Blood pressure control and management of other risk factors are essential for the successful treatment of IHD.

Official clinical standards in the Republic of Uzbekistan include guidelines for the diagnosis and treatment of stable IHD, which align with international approaches, such as the use of antiplatelet agents, statins, β-blockers, and other antianginal drugs according to specific clinical situations [13].

Results.

The analysis included data from outpatient and inpatient management of patients with stable ischemic heart disease (n = 332) who were followed in primary and specialized healthcare facilities in Tashkent. The mean age of the patients was 59.8 ± 9.6 years, with 61.4% of the patients being men and 38.6% being women. Arterial hypertension was identified in 78.2% of patients, type 2 diabetes mellitus in 24.5%, and dyslipidemia in 81.6%. The confirmed diagnosis of IHD was recorded according to ICD-10 classification. Comprehensive optimal drug therapy, including simultaneous prescription of an antiplatelet agent, a statin, and an antianginal drug, was administered to 74.3% of patients, indicating a relatively high level of adherence to treatment recommendations. Antiplatelet and lipid-lowering therapy were prescribed to all patients; however, the effectiveness of these prescriptions, their compliance with current guidelines, and the achievement of target LDL-C levels were not documented in the majority of outpatient records.

Analysis of outpatient practice showed that antiplatelet therapy was the most frequently prescribed component of treatment for stable IHD (81.5%). Acetylsalicylic acid (aspirin) was used in the majority of patients (74.6%), while clopidogrel was prescribed in 7.2%. The use of alternative antiplatelet agents, such as clopidogrel, ticagrelor, or prasugrel, in cases of aspirin intolerance, remained limited. This may be related to economic factors as well as insufficient physician awareness of the possibilities for individualized therapy.

Statins were included in the treatment regimens of a significant proportion of patients, but lipid profile monitoring was irregular. Statins were prescribed to 78.4% of patients, while high-intensity statin therapy was used in only 21.6%. The use of combined lipid-lowering therapy, with the addition of ezetimibe or other

agents, was rarely documented in outpatient practice, despite recommendations from international expert guidelines. Annual lipid profile monitoring was performed in only 42.7% of patients.

Particular attention was given to the analysis of antianginal therapy. β-blockers remain the first-line agents for the treatment of IHD and were used relatively widely. β-blockers were prescribed to 62.9% of patients, calcium channel blockers to 28.6%, and long-acting nitrates to 31.1%. Analysis of pharmacotherapy quality revealed that in patients with contraindications to β-blockers, the antianginal agent ivabradine was prescribed in 15% of cases, which aligns with the latest domestic and international clinical guidelines.

Discussion.

According to the ESC 2019 guidelines and the updated ESC 2024 recommendations on chronic coronary syndromes, all patients with stable IHD should receive optimal pharmacotherapy, including drugs that improve prognosis, regardless of the severity of clinical symptoms. A similar position is reflected in the ACC/AHA guidelines, which emphasize the priority of lifelong secondary prevention.

Analysis of the quality of pharmacotherapy and its adherence to current clinical guidelines in patients with stable IHD showed that antiplatelet, lipid-lowering, and antianginal therapies were prescribed to the vast majority of patients. According to national data, the frequency of acetylsalicylic acid (aspirin) use remained high, whereas the prescription of clopidogrel and ticagrelor was significantly lower. This may indicate insufficient implementation of a personalized treatment approach and the influence of socioeconomic factors. In addition, outpatient practice did not always include proper monitoring of the efficacy and safety of lipid-lowering therapy, highlighting the need to optimize follow-up care for this patient population.

The results also point to issues with patient adherence to prescribed therapy. Survey data indicate that only a portion of patients are aware of the necessity for lifelong medication use, whereas the majority perceive pharmacotherapy as a temporary measure aimed solely at symptom relief. Low adherence is particularly characteristic of lipid-lowering therapy, which is consistent with international studies [14,15] showing that discontinuation of statins significantly increases the risk of cardiovascular events.

Conclusion.

In conclusion, the analysis of pharmacotherapy indicates that the treatment algorithm for patients with stable IHD generally aligns with national and international clinical guidelines. To improve the quality of pharmacotherapy in

stable IHD, targeted organizational and educational measures are required, focusing on enhancing patient adherence to therapy, strengthening the role of clinical guidelines in physicians' practice, and implementing systems for monitoring the efficacy and safety of pharmacotherapy. The implementation of these approaches is expected to increase the effectiveness of secondary prevention, reduce the incidence of cardiovascular complications, and improve the long-term prognosis of patients with stable IHD.

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