

CLINICAL PHARMACOLOGICAL APPROACH TO THE RATIONAL USE OF DRUGS IN CHRONIC HEART FAILURE

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ABSTRACT

The article discusses the problems of using calcium antagonists (CA) in real clinical practice. Doctors' tactics in prescribing ACs indicate compliance with the basic recommendations of pharmacotherapy for patients with arterial hypertension. The expediency of using dihydropyridine ACs is emphasized as agents with an optimal combination of effectiveness and safety in patients with a combination of arterial hypertension, angina pectoris and chronic heart failure. The results of studies of the clinical effectiveness of felodipine in combined cardiac pathology with cognitive impairment are discussed.

Keywords: cardiovascular diseases, calcium antagonists, felodipine, clinical application.

INTRODUCTION

Calcium antagonists (CA), used in clinical practice for more than 40 years, have significantly expanded the possibilities of treating patients with cardiovascular pathology, in particular with arterial hypertension (AH). The antihypertensive effect of AA is due to a decrease in total peripheral resistance, a decrease in the strength and frequency of heart contractions, a decrease in the sensitivity of arterial vessels to the endogenous influences of norepinephrine, vasopressin, histamine, serotonin, acetylcholine, and a decrease in afterload on the heart [1]. AKs are metabolically neutral drugs, which makes them attractive for patients with impaired lipid, carbohydrate and purine metabolism.

MATERIALS AND METHODS

The purpose of this work is to systematize and analyze the priorities for the use of AC in patients with hypertension in real clinical practice of outpatient doctors.

Copying of data from the primary medical documentation of patients was carried out: a medical record of an outpatient patient, a medical record of an inpatient patient (medical history, form No. 003/u-80). A retrospective sample was sequentially formed for 2019–2023. out of 690 patients with hypertension, 36–87 years old (mean age 64.2 ± 13.1 years), of which 258 were men and 432 women. The structure of prescriptions and the features of the use of this group of drugs in patients with concomitant cardiac pathology were analyzed.

RESULTS AND DISCUSSION

In the studied group of patients, short-acting nifedipine was recommended for 28.6% of patients to relieve hypertensive crises. For the purpose of constant control of blood pressure (BP), 134 (19.4%) patients received OCs, in all cases only long-acting. The distribution of dihydropyridine and non-dihydropyridine AA was 69.4 and 30.6%, respectively. Doctors' priorities among dihydropyridine ACs are amlodipine (43.0%), felodipine (22.5%), prolonged

forms of nifedipine (28.2%), lercanidipine (6.5%). AAs of the non-dihydropyridine series are represented by verapamil (70.7%) and diltiazem (29.3%).

Despite the comparability of indications for dihydropyridine and non-dihydropyridine AA, there is a significantly greater contribution of dihydropyridine AA to the structure of doctors' prescriptions, which is undoubtedly due to the fact that there is evidence of the absence of a clinically significant decrease in potassium concentration in the blood with torasemide [2]; The literature discusses the potential antiarrhythmogenic effect of the drug, which is supposed to be due to the reduction of myocardial fibrosis and its stiffness, the antialdosterone mechanism, and improvement of left ventricular function, which together can reduce the risk of developing ventricular and atrial tachyarrhythmias [3].

Regarding the safety and effectiveness of dihydropyridine AA, a number of authoritative multicenter randomized placebo-controlled studies have been conducted, allowing the widespread use of this group of drugs. A reduction in the likelihood of developing cardiovascular complications and an increase in the life expectancy of patients, including a significant reduction in the likelihood of developing ischemic stroke and dementia with long-term use of drugs, was achieved in the studies HOT, INSIGHT, STOP-2, Syst- China, STONE, ALLHAT, INVEST Syst-Eur. In the STOP Hypertension-2 study [1], patients taking felodipine to control blood pressure had the lowest incidence of fatal and non-fatal strokes. Generic felodipine was prescribed in the large randomized FEVER trial [4]. Small doses of felodipine were added to antihypertensive therapy with hydrochlorothiazide. The results indicate that the addition of even small doses of felodipine compared with placebo leads to a significant reduction in the risk of stroke and overall mortality in patients with hypertension. In a study by T.V. Fovanova et al. [5] showed a pronounced hypotensive effect in patients with hypertension both during dose selection and during subsequent observation; more than 90% of patients noted an improvement in their well-being during felodipine therapy. During long-term therapy with felodipine, a significant improvement in compliance was noted in the group of patients with low adherence to treatment.

The widespread use of AK in clinical practice is facilitated by its anti-ischemic and antianginal effectiveness [2]. AKs cause an improvement in myocardial perfusion during ischemia due to the relief and prevention of spasm of the coronary arteries and a decrease in their resistance [5]. In our study, among patients receiving AC, IHD was indicated in the diagnosis in 53.7%. In the total sample, IHD was 36.2%. In 26 patients with coronary artery disease who are not taking AC, the functional class of angina is higher than I, which suggests increased antianginal therapy. Taking into account the fact that most of them use a β -blocker, it is advisable to optimize treatment by adding a dihydropyridine AK [3].

Patients with hypertension and coronary artery disease are at a very high risk of cardiovascular complications, which requires mandatory prescription of statins. It must be remembered that AKs interact ambiguously with statins. In particular, against the background of amlodipine 10 mg, it is necessary to limit the dose of simvastatin to no more than 20 mg/day [5]. In addition, if a combination of dihydropyridine and a high dose of simvastatin is necessary, it is possible to prefer felodipine, which does not impose a dose limitation on this drug, or to choose atorvastatin or rosuvastatin from the statins.

Particular attention for analyzing the rationality of the combinations used is drawn to the group of elderly patients, characterized by impaired functioning of the organs of biotransformation and elimination and a high level of comorbidity. In our study, in the group of people taking AK, there were 36 patients over 65 years of age. More than 1/2 had in their diagnosis a record of the presence of dyscirculatory encephalopathy of atherosclerotic or hypertensive origin. 47.2% of patients received neuroprotective therapy, of which 4 patients took the combination of felodipine and Mexicor, which was well studied for this clinical situation. The study by A.P. Babkin and T.L. Kurbatova [2] studied the dynamics of 24-hour blood pressure monitoring and cognitive impairment in elderly patients with hypertension during combination antihypertensive therapy in combination with Mexicor.

Patients receiving felodipine achieved target blood pressure in 47.6%. The inclusion of the cytoprotector Mexicor in complex antihypertensive therapy helped to reduce the manifestations of cognitive deficit in patients receiving Ravel and Lorista, against the background of which cognitive functions significantly improved only when the target blood pressure level was achieved. It is important to note that in the felodipine group, improvement in cognitive function on the MMSE scale occurred in both patients who achieved the target blood pressure level and those who did not achieve it.

CONCLUSION

Thus, an analysis of the literature and the tactics of doctors' prescriptions indicates the significant potential of dihydropyridine ACs in the pharmacotherapy of hypertension, the combined pathology of hypertension and coronary artery disease, in combination therapy with beta-blockers, the permissibility of use in CHF, and in improving cognitive functions. In general, the prescription of AC by outpatient doctors corresponds to the recommendation documents. It is necessary to pay more attention to the prescription of dihydropyridine ACs to patients with hypertension and concomitant angina, as well as additional ECG monitoring in the case of prescribing non-dihydropyridine ACs in potentially arrhythmogenic combinations of cardiotropic drugs.

REFERENCES

1. Sidorenko B.A., Preobrazhensky D.V. Calcium antagonists. M., 2017.
2. Mancia G, Fagard R, Narkiewicz K et al. ESH-ESC Task Force on the Management of Arterial Hypertension. 2013 ESH -ESC Practice Guidelines for the Management of Arterial Hypertension: ESH-ESC Task Force on the Management of Arterial Hypertension. Eur Heart J Doi:10.1093/eurheartj/eh1151 (inpress).
3. Belousov Yu.B., Kukes V.G., Lepakhin V.K., Petrov V.I. Clinical pharmacology. National leadership. M.: GEOTAR-Media, 2019.
4. ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure 2012. The Task Force for the Diagnosis and Treatment of Acute and Chronic Heart Failure 2012 of the European Society of Cardiology. Eur Heart J 2012; 33:1787–847.
5. National recommendations of OSHF, RKO and RNMOT for the diagnosis and treatment of CHF (fourth revision). Heart failure. 2013; 14; 7 (81): 379–472.