**effect of treatment with trimetazidine on the course of arrhythmia in patients with ischemic heart desease and diabetes mellitus**

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**Introduction.** At last time, much attention is given to drugs that have a positive effect on the metabolism of ischemic myocardium. Among the drugs of metabolic action the special interest is induced by trimetazidine. Recently, the drug entered in the arsenal of preparations that are used to treat patients with ischemic heart disease and concomitant diabetes mellitus.

**The aim**. Studying the effects of trimetazidine in patients with ischemic heart disease and diabetes mellitus with associated cardiac arrhythmias: ventricular extrasystole, supraventricular extrasystole and atrial fibrillation.

**Materials and methods.** It was examined 35 patients, among them 12 with registered supraventricular extrasystoles, 12 with ventricular extrasystoles, 11 with paroxysmal cardiac fibrillation. The age of the patients was from 48 to 63 years. The study was conducted by open way without prescribing a placebo. Trimetazidine was administered at a dose of 30 mg 3 times a day on a background of standard therapy, which included nitrates, angiotensin-converting enzyme inhibitors, disaggregants. Initially and after 3 months of treatment the electrocardiogram monitoring was performed. Together with arrhythmias it was evaluated the number and duration of ischemic episodes with reduction of S-T segment below the isoelectric line by 1 mm or more.

**Results and discussion.** After treatment with trimetazidine heart beat rate, systolic blood pressure, diastolic blood pressure did not change from baseline values. Number supraventricular extrasystoles significantly decreased from 314,7±9,4 to 168,8±7,6 per day (p<0,05). A significant change in the frequency of paroxysmal cardiac fibrillation in patients was not detected (p>0,05). The number of ventricular extrasystoles per day after treatment with trimetazidine decreased from 892,7±11,7 to 474,8±12,4 (p<0,05). Attention is drawn to the fact that the drug therapy was accompanied by statistically reliable significant reduction in the number of episodes of myocardial ischemia in all groups of patients regardless of the type of disturbances of heart rhythm.

It is important to determined the character of the influence of trimetazidine on the performance of renin-angiotensin-aldosterone system, lipid metabolism, the level of endotelin-1, catecholamines and cyclic guanosine monophosphate in patients with coronary artery disease and diabetes II with concomitant cardiac arrhythmias.

During evaluation of the influence of trimetazidine on cyclic guanosine monophosphate it was determined that the drug does not effect on its level in patients with supraventricular extrasystoles and cardiac fibrillation, but it is observed the tendency to its increasing in patients with ventricular extrasystoles, although it did not reach the statistical significance.

**Conclusions:**

The therapy with trimetazidine is accompanied by decreasing of the number of supraventricular and ventricular extrasystoles in patients with ischemic heart disease and diabetes mellitus.

2. The drug has no effects on the incidence of paroxysmal cardias fibrillation. The treatment with trimetazidine is accompanied by a reduction of severity of myocardial ischemia.

3. The drug has no effects on the indexes of carbohydrate and lipid metabolism, the state of renin-angiotensin-aldosterone system, cyclic guanosine monophosphate, endotelin-1, immunoreactive insulin.

4. The antiarrhythmic and anti-ischemic effects of the drug are due to primarily to its effects on the intracellular metabolism in cardiomyocytes.

5. Trimetazidine inhibits oxidation by inhibiting the metabolism of fatty acids, and this contributes to a more economical use of oxygen in the oxidation of carbohydrates and thus results in reducing the occurrence of myocardial ischemia and antiarrhythmic action.