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Research Article

ASSESSMENT OF THE EFFECTIVENESS OF CARDIOPROTECTIVE DRUGS IN TREATMENT OF CHILDREN WITH DIABETIC CARDIOMYOPATHY

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ABSTRACT

The medical and social significance of type 1 diabetes mellitus (DM) throughout the world is due to early disability and high mortality in patients due to the development of complications, including those from the cardiovascular system. The increase in the life expectancy of patients with diabetes has highlighted the problem of late complications of the disease, the number of which increases with the progression of the disease. The leading cause of death in diabetic patients is cardiovascular accidents. At the same time, it was found that patients with diabetes under the age of 30 years quite often develop coronary heart disease. In addition, the progression of diabetes leads to the development of cardiomyopathy (myocardial dystrophy), myocardiosclerosis, heart failure, life-threatening cardiac arrhythmias, and sudden cardiac death.

Interest in the study of diabetic cardiomyopathy (PrEP) is due to a true increase in the frequency of its occurrence in common pathology of social significance and the emergence of new instrumental research methods (Doppler

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echocardiography, 24-hour monitoring of heart rate and blood pressure), which significantly improved diagnostic capabilities.

One of the drugs used in cardiology for metabolic purposes is Nikavit Cardio, the mechanism of action of which is associated with the direct inhibition of fatty acid oxidation. The latter is accompanied by a significant increase in the intensity of oxidative phosphorylation and a decrease in acidosis in the cardiomyocyte. A number of clinical studies have shown the high efficiency of Nikavit Cardio, the effectiveness and safety of the use of Nikavit Cardio, due to its cytoprotective mechanism of action, which makes it possible to prescribe it to patients with diabetes mellitus.

KEYWORDS

Diabetes mellitus, cardiomyopathy, cytoprotector, nikavit cardio.

INTRODUCTION

Objective: Methods for correcting diabetic cardiopathy in children with type 1 diabetes mellitus.

MATERIALS AND METHODS OF RESEARCH

A total of 40 children with diabetes mellitus, aged from 3 to 15 years old (average age 10.3 ± 3.4 years), 27 boys and 13 girls were examined, 15 of them were residents of the region's districts, 25 urban. For each child, an information card was compiled, including information from the anamnesis, clinic, electrocardiography (ECG) and Echo-Doppler (Echo-KG) and laboratory methods [2]. All patients were divided into groups depending on the degree of compensation and the duration of diabetes at the time of examination.

The first group consisted of 14 children (mean age 10.1 ± 3.2 years) with newly diagnosed diabetes mellitus [1], (fasting glycemia more than 8.0 mmol / l, fluctuations during the day more than 5.0 mmol / l, nocturnal hyperglycemia, episodes of hypoglycemia, HbA1c level> 7%). Disease duration at the time of examination ranged from 0 to 4 months (on average, 1 month ± 12.5 days). In this group, the drug Preductal (trimetazidine) was used in a daily dose of 60 mg for 2.5 months. Preductal slows down fatty acid oxidation by selectively inhibiting long-chain 3-ketoacetyl-CoA thiolase, which leads to an increase in glucose oxidation and restoration of conjugation between glycolysis and oxidative decarboxylation and protects the myocardium from ischemia. Switching fatty acid oxidation to glucose oxidation underlies the antianginal action of preductal [3].

The second group included 13 children (mean age 12.4 ± 3.5 years) who were in a state of diabetes decompensation at the time of examination (fasting glycemia more than 10.0 mmol / l, fluctuations during the day more than 6.0 mmol / l, nocturnal hyperglycemia, episodes of hypoglycemia, HbA1c level> 8%). The duration of diabetes was up to 5 years (3.17 + 0.98 years). In this group, the drug L-carnitine chloride (Elcar) 20% solution for oral administration was used at a daily dose of 20 mg / kg for 2.5 months. Elkar is involved in metabolism as a carrier of fatty acids

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across cell membranes from the cytoplasm to mitochondria, where these acids are oxidized (beta oxidation process) with the formation of a large amount of metabolic energy (in the form of ATP) [4].

The third group included 13 children (mean age 11.7 ± 2.5 years) with diabetes for more than 5 years (fasting glycemia more than 15.0 mmol / l, fluctuations during the day more than 7.0 mmol / l, nocturnal hyperglycemia, episodes of hypoglycemia, HbA1c level> 9%). In this group, Nikovit Cardio was used in a daily dose of 200 mg 2 times a day for 3 months. The drug is a cardiometabolic complex that normalizes the metabolism of potassium and magnesium, activates cytoplasmic enzymes, regulates intracellular osmotic pressure, protein synthesis, amino acid transport, conduction of nerve impulses, improves skeletal muscle contractions in muscular dystrophy, myasthenia gravis. Coenzyme Q10 is a coenzyme of various enzymes involved in myocardial metabolism. Promotes the normalization of lipid metabolism [5]. Clinical and instrumental signs of damage to the cardiovascular system in 40 patients with diabetic cardiomyopathy (DC) [3].

In the third group, compared with the first group 1, there was a statistically significant decrease in pathological changes in the terminal part of the ventricular complex. Thus, the frequency of registration of negative T waves decreased to 5.0%, flattened T waves - to 15.0%, ST segment depression - to 0%. Low QRS voltage after treatment was noted in only one child. The manifestations of tachycardia in the first group after the course of preductal were 70.0% (with an initial frequency of 95.0%), which can be explained by an improvement in the metabolism of autonomic nerve fibers of the heart. Against the background of therapy with nikavit cardiovitis in the third group, after physical exertion, a significant decrease in the percentage of pathological ECG changes was also observed. There was no ST segment depression in any patient, flattening of the T waves was detected in only two children (10.0%), and the appearance of negative T waves after exercise was noted in only one child (5%). (27.3%) children with a relatively short duration of diabetes (4.0 ± 0.6 years) at rest showed normal indicators of myocardial metabolism. myocardium.

After treatment with nikavit cardio in children with DC, the parameters of diastolic transmitral blood flow normalized, which remained 3 months after the drug was discontinued. So, in comparison with the indicators before treatment and with group 1, the speed of the peak E increased ($p < 0.05$) to 0.79 + 0.03 m / s, the ratio E / A to 1.41 + 0.1 units, the temporal indicators tended to to decrease. 6 months after the end of the course of nikavit cardio therapy, some indicators returned to the pre-treatment level. EDV decreased to 74.86 + 2.48 ml, HR - to 10.14 + 1.61 cm / s, although there were differences with the comparison group [6]. The values of EF, Vcf, AS level reached significant differences from the baseline level, and the characteristics of the transmitral diastolic blood flow did not make significant differences either with the parameters before treatment or with the values of the previous observation period. It should be noted that among the examined patients in 7 children with a longer diabetes mellitus (> 5 years) complicated by diabetic cardiomyopathy, the most pronounced positive changes in hemodynamic parameters were achieved with the help of nikavit cardio. Thus, the drug nikavit cardio should be used with initial deviations of the indicators of diastolic heart function from the age norm. This is justified from the point of view of normalization of metabolic processes in the heart muscle, hemodynamic unloading of the heart, and finally, the possible prevention of the development of

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cardiosclerosis and heart failure. Under the influence of nikavit cardio, EDV, HR, as well as EF, AS, Vcf significantly increase, which indicates a decrease in diastolic rigidity of the myocardium and an increase in LV contractility.

CONCLUSIONS

1. In children with type 1 diabetes mellitus complicated by diabetic cardiopathy, a negative T wave ECG showed a decrease and flattening of T, depression of the ST segment of low QRS voltage on Echo-KG, a decrease in diastolic rigidity of the myocardium and an increase in LV contractility.
2. With a decrease in diastolic rigidity of the myocardium and an increase in LV contractility, it is recommended to improve metabolism and systole - diastolic function of the myocardium, stabilize the basic functional indicators of cardiac activity in children and adolescents, the drug Nikovit Cardio in a daily dosage for a period of 30 to 90 days.
3. To restore myocardial function, the most effective use of drugs that improve metabolism Coenzyme Q10 is a coenzyme of various enzymes involved in myocardial metabolism. Promotes the normalization of lipid metabolism.

REFERENCES

1. A.M. Makarov, V.V. Berezinskaya et al. "Modern cardiovascular drugs in pediatric cardiology." Grew up. Bulletin of Perinatology and Pediatrics. - 2011. - No. 2. - S. 16-23.
2. Bodnar P.N "Heart in diabetes mellitus". Probl. Endocrinology. - 2017. - No. 4. - P. 77-81.
3. Filimonov. M.A. "Preduct and pretarium in the treatment of diabetic myocardial dystrophy." Abstracts. report "Man and Medicine". - M., 2017 .-- S. 212.
4. Karimova N.A. Narzullaeva D.A. Davranova A.D. Features of phosphorus-calcium metabolism in patients with type 1 diabetes mellitus with diabetic nephropathy. Avicenna 2019. Kemerova. 23-24.
5. Kasatkina, E. P. Prevention and treatment of late complications of diabetes mellitus in children and adolescents [Text] / E. P. Kasatkina [et al.] // Problems of endocrinology. - 2000. - T. 46, No. 1. - S. 3 - 7.
6. Narbaev A.N. Togaeva G.S. Khaidarov R.B. Features of the study of multifactorial management of type 2 diabetes. Trends and prospects for the development of science and education in the context of globalization. Pereyaslav-Khmelnitsky. Ukraine. 28 version 2019. Issue 51.323-325.
7. Karimova N.A. Davranova A.D. Features of early diagnosis of congenital hypothyroidism in children. Problems of biology and medicine. International scientific journal №1.1 (108) 2019.
8. Negmatova G.Sh. Saidvalieva S.A. The efficacy of Siofor in the treatment of patients with metabolic syndrome with impaired glucose tolerance. Problems of biology and medicine. International scientific journal. № 1.1 (108) 2019.
9. Nasrullaeva U.F. Dzhuraeva Z.A. Efficiency and safety of combined antihyperglycemic therapy in the treatment of patients with type 2 diabetes mellitus. Achievements and science and education. 315-319.
10. Oskolkov. M.K. "Electrocardiography in children". M .: Medicine, 2016. - S.261-264.

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11. Togaeva G.S. Davranova A.D. Narbaev A.N. Features of the study of multifactorial management of type 2 diabetes mellitus. Proceedings of the conference on scientific and practical research in Uzbekistan. №17. June 30. 2020. p. 118-119
12. Ivanov Dmitry Anatolyevich. Diabetic cardiomyopathy in children: clinical and functional characteristics, rationale for metabolic therapy. Thesis. 2015.
13. www.Google.ru. NIKA PHARM -Nikavit Cardio.