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THE AEVIT DRUG EFFECT

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Abstract. In children with perinatal pathology of central nervous system content of vitamins A and E was decreased in blood serum. At the same time, some patterns of lipid and protein metabolism were altered. These alterations were especially distinct in pathological conditions accompanied by inflammatory reaction due to infections. Parenteral administration of a complex of vitamins A and E (drug "Aevit") within 2 weeks led to normalization of the content of these vitamins in blood serum. At the same time, the altered patterns of lipid and protein metabolism were normalized.

Keywords: children, central nervous system, cyclodextrins, β-cyclodextrin, encapsulation, clathrate, vitamins A and E, Metotreksat, leukemia, liver, toxic hepatitis

The present work aimed at encapsulation of fat-soluble vitamin Aevit (vitamins A and E, oil) with β-cyclodextrin. Inclusion complex of vitamins A and E with β-cyclodextrin was prepared in an aqueous alcoholmedium by ultrasonic treatment. The surface morphology of the resulting clathrate inclusion complexes was described using a scanning electron microscope. The results of thermographic measurements on a differential scanning calorimeter are presented. The spectral properties of the inclusion complex are characterized by 1H and 13C NMR spectroscopy data. The experimental results confirmed the existence of a complex of inclusion of β-cyclodextrin with vitamin Aevit (2:1).

The activation energy of the thermooxidation destruction reaction of the clathrate complex β-cyclodextrin:vitamin Aevit was calculated, kinetic parameters of thermal destruction of clathrate were determined. These parameters were determined based on the Freeman-Carroll, Sharpe-Wentworth, Ahar and Coates-Redfern methods. The use of the above models made it possible to graphically establish the thermodynamic parameters of the thermal decomposition of β-cyclodextrin and its clathrate with vitamin. The data of thermographic measurements on a differential scanning calorimeter showed that the thermal destruction of the Aevite clathrate with β-cyclodextrin begins with the removal of water molecules from the β-cyclodextrin cavity, then the “guest”substance and the cyclic oligosaccharide are destroyed.

One of the main tasks in the treatment of acute leukemia is to prevent the development of complications of chemotherapy, as well as the timely choice of the correct tactics for the treatment of complications. Because forced breaks associated with complications negatively affect the end result of leukemia treatment. Practice

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shows that one of the organs affected by chemotherapy is the liver, and its damage directly depends on the toxicity and duration of chemotherapy. Our task was to conduct research work in this area, and to study toxic liver lesions in patients with leukemia. Before that, we carried out similar work at the stages of induction and consolidation of treatment of acute leukemia in children. And this period of research work is devoted to the supportive stage of therapy in patients.

Objective: To study the frequency of toxic liver damage in children with acute leukemia during support therapy, to choose treatment tactics according to the severity of toxic hepatitis.

Methodology. The study group included 51 children with primary acute lymphoblastic leukemia who completed the induction stage with complete remission and retained this result for the entire period of consolidation. The age of the patients ranged from 2.5 years to 15 years. Of these, there were 28 boys and 23 girls. The patients were from Baku and the regions of the republic. Treatment of acute lymphoblastic leukemia was carried out according to two branches of the Moscow – Berlin – 2015 program: B and T İmRG. The protocols of maintenance therapy of these branches do not differ, and both begin with the 31st week of the general program, end on the 104th. Each protocol consists of 8 stages of a combination of chemotherapy drugs Metotreksat + 6-Mercaptopurine, which last for 6 weeks and alternate with two-week courses of reinduction - Deksametazon + Vinkristin. Before the start of maintenance therapy, all patients with leukemia confirmed the preservation of the previously achieved remission, and the functional and organic state of the liver. With positive results, the continuation of leukemia treatment began. And when the symptoms of toxic hepatitis were detected, the severity was determined. According to this indicator, 3 forms of flow were issued: light, medium-heavy and heavy forms. The tactics of conducting therapy of each form were chosen by us.

Results. Of 51 patients, 42 had toxic hepatitis (82%). It was mild in 12 patients (23.5%), moderate in 26 children (50.9%), and severe in 4 children (7.8%). In the mild form of hepatitis, patients were prescribed intravenous administration of Riboksin + Aevit (orally) for 10-14 days, or alternatively, per os Ursobil + Aevit. This combination made it possible to restore all clinical and laboratory parameters in patients within 14-21 days, and at the same time, without interrupting chemotherapy. Moderate and severe forms of hepatitis occurred mainly during the period of reinduction (54.7%). The administration of intravenous adeomethionine (Heptral) in the form of monotherapy for 8-12 days allowed continuous reinduction courses. Following him, the administration of an oral combination of Ursobil + Lipoic acid + Aevit for 14-21 days allowed to preserve the long-term effect. In severe hepatitis, chemotherapy was suspended, and patients were prescribed intravenous adeomethionine (Heptral) in combination with oral Ursobil + Aevit for 10-14 days, and

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along with this detoxification therapy was carried out in parallel. Such treatment gave an improvement in clinical and laboratory parameters. Subsequently, intensive therapy was suspended, and chemotherapy was started accompanied by Ursobil + Aevit + Lipoic acid for the next two weeks. This choice of therapy allowed us to preserve the restored indicators for a long time. There were no deaths or severe complications from toxic hepatitis in any case.

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