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REHABILITATION OF THE CONSEQUENCES OF PERINATAL PATHOLOGY IN CHILDREN IN THE FIRST YEAR OF LIFE.

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Introduction

Perinatal brain damage has been the focus of attention of scientific researchers and practitioners for many years. This continued interest can be explained by the frequency of pathology, high mortality in the neonatal period, as well as subsequent disability from childhood. The frequency of recorded cases of neurological changes in children of the first years of life has increased. Their share today is 27-60% and does not yet have a downward trend. The list of psychoneurological disorders associated with hypoxic brain damage is extremely wide: from delayed psychomotor development to severe forms of cerebral palsy, accompanied by mental disability, movement disorders, and seizures.

According to the WHO Expert Committee, 10% of children can be diagnosed with neuropsychiatric diseases, 80% of which, according to pediatric neurologists, are associated with perinatal brain damage (1). According to modern ideas причинами возникновения энцефалопатии являются следующие факторы: гипоксия (кислородное голодание во время беременности или в процессе родов), травматические (воздействия повреждающих факторов во время родового акта), toxic: alcohol, drugs and other toxic agents and, finally, a large group of infectious diseases that lead to complications from the nervous system of the fetus and newborn. From the above, it follows that in the early post-hypoxic period therapy is aimed at normalizing general and cerebral circulation, as well as neurotrophic therapy - stimulating reparative processes in the brain (2,3). And this, in turn, leads to long-term prescription of certain drugs and medicinal substances that are introduced into the body parenterally. It is known that each injection causes physical and psychological trauma to the child, especially if these injections are painful. Vitamin B-6 and magnesium sulfate are precisely among the above-mentioned drugs, and children are forced to receive these drugs in parallel and for a long time. Hence the need arises to choose the most affordable and painless medications. In this regard, Magne B-6 is the most optimal, since it combines "two drugs in one" (2.3).

Magnesium is the second most important intracellular element in the body. About 20% of magnesium is found in muscle tissue, the remaining 20% is found in the blood and other tissues of the body.

75-80% of magnesium in blood serum is in the form of ions, and the rest is in the form of binding to special proteins. In recent years, the role of magnesium ion in more than 200 enzymatic reactions has been studied. Magnesium activates enzymes, mainly regulates carbohydrate metabolism, stimulates the formation of proteins. It reduces the excitability of nerve cells and relaxes the heart muscle. Magnesium deficiency is manifested by decreased electrical activity cells. When the excitability of skeletal muscle cells increases, the patient experiences tremors, convulsions, pain in the muscles of the legs and neck, and there is also an increase in the excitability of cardiomyocytes, which can lead to tachycardia and ectopic arrhythmias. Hyperexcitability of vascular smooth muscle cells accompanied by elevated blood pressure давлением and headache. Increased excitability of the smooth muscles of internal organs is manifested by symptoms of unstable stool (constipation, diarrhea, abdominal pain), pain in the stomach.

According to WHO recommendations, the amount of magnesium in the blood serum of children is 0.74 - 1.15 mmol/l; its decrease from 0.5 mmol/l indicates severe magnesium deficiency in the organs.

Magnesium, together with vitamin B-6, improves cerebral circulation and has a neurometabolic effect. The most important participation of magnesium ions in bioenergetic processes is that it affects excitability and conductivity, as well as the transmission of impulses along nerve endings. The purpose of our study was to study the effect of Magne B-6 on the condition of infants with manifestations of perinatal encephalopathy.

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Women's milk contains an average of 30 mg/l of magnesium, and cow's milk - 120 mg/l, however, when feeding a child with cow's milk and milk formulas based on it, the absorption of magnesium from the intestines is limited. This is evidenced by the fact that during breastfeeding the level of magnesium in the blood serum is significantly higher than during artificial feeding.

Common manifestations of magnesium deficiency in the body are decreased physical activity of the child, fatigue or depression, sleep disturbances, convulsive conditions (in newborns), muscle spasms, and cardiac arrhythmias. Magnesium deficiency increases pain sensitivity and enhances the processes of lipid peroxidation.

Materials and Methods

We examined 93 children of the first year of life who had manifestations of перинатальной энцефалопатии. В результате Physical examination of sick children revealed the opening of the sagittal suture, the small fontanel was open in all children, the size of the large fontanel was over 3x3 cm, unstable horizontal nystagmus and “setting sun” syndrome were detected.

We prescribed Magne B-6 orally once a day at a dose of 6-8 mg/kg body weight. The course of treatment was 15-20 days. The administration of oral magnesium and vitamin B-6 supplements was chosen, as stated above, from an ethical point of view. As a result of the treatment, the children's condition improved significantly; positive dynamics were noted already on days 5-7 of hospital stay.

Results

The criterion for effectiveness was clinical improvement in the condition of patients, reduction of intracranial hypertension, improvement of sleep, acceleration of the rate of psychomotor development. The results of control studies - neurosonography, the state of lipid peroxidation showed that the administration of oral forms of magnesium and vitamin B-6 preparations turned out to be no worse, and even more effective, than their parenteral forms.

Magne-B6 belongs to the new, second generation of magnesium preparations in the composition of bioorganic salts. In combination with vitamin B-6, magnesium is better absorbed in the intestinal tract, penetrates and is retained inside the cell. The advantage of this drug is that it is well tolerated, has a pronounced clinical effect and, most importantly, does not injure the child's psyche.

Conclusion

All of the above makes it possible to use gentle treatment methods, namely, magneto-B 6, in the rehabilitation of children with perinatal encephalopathy at an early stage.

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