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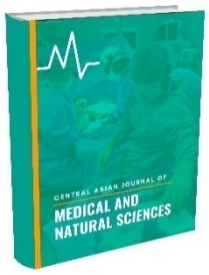

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CORRELATION BETWEEN CORRECTION OF CEREBRAL DISORDERS AND SOMATIC CONDITION IN CHILDREN

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ABSTRACT: The results of researches have shown, that at children with prenatal damages CNS reveal significant infringements in processes a ПОЛ, which is possible were characterized as decreasing and in some cases their misbalance. The assignment of oxibral to children with prenatal damages of CNS alongside with normalization of parameters a ПОЛ to faster improvement of neurological symptoms: children become quiet, active, the dream normalizing. Intra skull pressure on a background of prescription Oxibral was reduced much faster. The opportunity of correction neurological infringements with oxibral opens prospect of rehabilitation and promotes significant to reduction of percent of children with the residual phenomena of prenatal damages CNS.

Keywords: consequences of perinatal damage to the nervous system, infants, lipid peroxidation, treatment.

I. Introduction

Relevance of the problem: Perinatal brain damage accounts for more than 60% of all pathology of the nervous system of childhood, is directly involved in the development of diseases such as infantile cerebral palsy, epilepsy, and minimal cerebral dysfunction [1,4]. Currently, the main hypothesis of the pathogenesis of the consequences of perinatal damage to the nervous system (PPNS) is cerebrovascular, the focus of which is the real fact of the existence of "linkage" of cerebral blood flow with brain metabolism [2]. It is known that under conditions of hypoxia, lipid peroxidation (LPO) is disturbed with the accumulation of aggressive free radicals, hydroperoxides, which have a destructive effect on neuronal membranes [5]. aimed at normalizing the functional state of cells [3]. Recently, a number of studies have appeared, indicating the beneficial effect of the new herbal preparation oxybral on circulatory and metabolic cerebral disorders [3,4]. However, there are no works in which the effect of oxybral in perinatal damage to the nervous system in children of the first year of life would be studied, the questions of the optimal dosage and duration of the course of its use are not substantiated.

II. Purpose of the work

Was the substantiation of oxybral therapy in infants with the consequences of perinatal damage to the nervous system (PPPNS) by taking into account changes in lipid peroxidation processes.

III. Materials and methods of research

The work analyzes the results of clinical and biochemical studies in 70 children of the first year of life. The main group consisted of 44 infants with consequences of perinatal damage to the nervous system. The control group included 26 children with PPPNS who were not prescribed the drug we tested. We also studied the state of LPO processes in 20 healthy children. The state of lipid peroxidation in erythrocytes was assessed according to the following indicators: the degree of erythrocyte hemolysis before and after incubation, the MDA content in erythrocytes, the MDA / hemolysis coefficient after incubation, the intensity of MDA degradation in erythrocytes.

Children with PPPNS were born to mothers suffering from chronic diseases of the cardiovascular system, endocrine system, nasopharynx, kidneys, digestive organs, and genitals. Complicated pregnancy was observed in all mothers of children with PPPNS. All children were born to mothers with a complicated course of labor. In the neurological status, 42.8% of children had hypertensive-hydrocephalic syndrome, vegetative-visceral dysfunctions - in 38.5%, increased neuro-reflex excitability - in 11.4%, psychomotor development delay syndrome - in 7.1% of children. In the department, children of the control group received complex therapy: drugs that improve cerebral circulation were used, and syndrome therapy was performed. Correction of disorders caused by underlying diseases was also carried out.

Research results and their discussion. The research results showed that in children with PPPNS, significant violations in the LPO processes were revealed, which were characterized as a decrease, and in some cases their imbalance. This was evidenced by a significant increase in the MDA content before and after incubation, the MDA / hemolysis ratio after incubation, an increase in erythrocyte hemolysis after incubation, and a decrease in the percentage of increase in hemolysis in comparison with the data in healthy children.

In children of the control group, against the background of conventional treatment, erythrocyte hemolysis before and after incubation tends to decrease in comparison with the data before treatment,

but normalization does not occur. The percentage of increase in erythrocyte hemolysis in children of this group was significantly reduced in comparison with healthy children. The MDA content before and after incubation remained high. The MDA / hemolysis ratio after incubation was higher, and the intensity of MDA degradation significantly increased in comparison with the initial data.

The presence of changes in LPO processes in children with PPPNS dictates the need to include new drugs in the complex of treatment, the action of which is more effective. We used the drug oxybral. In this regard, it became necessary to scientifically substantiate the use of this drug, select the dose and duration of the course of treatment based on the study of the effect on LPO in erythrocytes.

To determine the dose and duration of the course of treatment, initially oxybral was prescribed at 7.5 mg / day. Complete normalization of indicators in most children was observed between 7 and 10 days. The most effective treatment was oxybral when applied for 10 days. For an objective assessment of the therapeutic effect of oxybral, the results of LPO indicators were compared with the corresponding data in children of the control group.

The hemolysis of erythrocytes before incubation in children of the main group did not differ from the data obtained in healthy children and was significantly lower than in the control (1.4 ± 0.05% and 1.17 ± 0.12%, respectively). Oxybral contributed to the normalization of erythrocyte hemolysis after incubation (2.37 ± 0.16%, and 2.3 ± 0.03%, respectively). The percentage of increase in hemolysis in children of the main group did not differ from those of healthy children and was significantly higher than in the control group (99.7% and 64%, respectively).

The MDA content before incubation in children of the main group significantly decreased compared to the initial data (2.7 ± 0.04 nmol \ 10 ^ 6 erythrocytes versus 3.3 ± 0.03 nmol \ 10 ^ 6 erythrocytes). Oxybral contributed to a significant decrease in the MDA content after incubation to normal, while in children of the control group this indicator was significantly higher (1.6 ± 0.18 nmol \ 10 ^ 6 erythrocytes and 2.0 ± .0.17 nmol \ 10 ^ 6 erythrocytes, respectively).

The MDA / hemolysis ratio after incubation when receiving oxybral did not differ from the data in the control group, and was significantly higher than normal values (0.9 ± 0.2, 1.0 ± 0.07 and 0.5 ± 0.1, respectively).

Clinical symptoms also had a pronounced positive trend: children became calm, active, sleep returned to normal. Intracranial pressure on the background of the use of oxybral decreased significantly faster (in 7-10 days, versus 10-15 days in the control group). The pulse and breathing became rhythmic, the activity of the gastrointestinal tract stabilized, the children began to gain weight. Children began to take an active interest in those around them, and a tendency towards the development of motor skills began to appear. In general, a pronounced clinical effect was observed on the 6-10th day of therapy.

Thus, studies have shown that the administration of oxybral to children with consequences of perinatal damage to the nervous system, along with the normalization of LPO parameters, contributes to a more rapid improvement in neurological symptoms. The possibility of correcting neurological disorders with oxybral opens the prospect of rehabilitation and contributes to a significant reduction in the percentage of children with residual symptoms of PPPNS.

Conclusion

1. In healthy infants, the activity of LPO processes has its own characteristics and can serve as a control for diagnosing disorders and evaluating the effectiveness of treatment of pathological conditions.

2. In children with consequences of perinatal damage to the nervous system, the processes of lipid peroxidation are characterized by both increased and decreased activity, which requires the appointment of corrective therapy.

3. Conventional treatment of children with PPPNS does not normalize many indicators of LPO. The inclusion of oxybral in the treatment complex at a dose of 7.5 mg / day for 10 days contributes to the achievement of the values characteristic of healthy children, most of these indicators.

4. Treatment of children with PPPNS with oxybral, along with the normalization of biochemical parameters, improves clinical parameters and shortens the length of hospital stay.

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