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The Relationship of Neurological Disorders in the Treatment of Respiratory Diseases.

Rasulova Nadira Alisherovna
Department of Pediatrics and General Practice of the Faculty of Postgraduate Education
Samarkand State Medical university

Abdurakhimova Ravshanoy
City Children's Hospital No. 1 of Samarkand

Abstract: Children who have suffered perinatal lesions of the nervous system are more likely to suffer from respiratory diseases. This, in turn, requires antihypoxic, neurotrophic therapy aimed at normalizing cerebral and general circulation. The inclusion of the drug oxybral in the complex of treatment contributed, along with the improvement of neurological symptoms, to the fastest recovery of children with respiratory diseases.

Key words: *perinatal lesions, respiratory diseases, cerebral circulation, rehabilitation, oxybral, children, asphyxia, treatment.*

The urgency of the problem. In recent years, special attention has been paid to an in-depth study of perinatal lesions of the central nervous system, and this is not accidental, since the problem of perinatal lesions of the nervous system has become particularly relevant due to the increase in the frequency of this pathology [3,9]. Perinatal brain damage accounts for more than 60% of the entire pathology of the childhood nervous system, and is directly involved in the development of diseases such as seizures, cerebral palsy, and minimal brain dysfunction [5,12].

Perinatal hypoxia and asphyxia are accompanied by changes in cerebral hemodynamics, which is currently the dominant hypothesis of the pathogenesis of the consequences of perinatal lesions of the nervous system (PPNS) in newborns [1,7,10]. It is these children that require special attention, due to the fact that, compared with healthy children, they are more likely to suffer from respiratory diseases. This, in turn, contributes not only to impaired growth and development of children, but also to polypharmacy and an increase in the cost of treatment [4,8,15].

From the foregoing follows the need for antihypoxic, neurotrophic therapy aimed at normalizing cerebral and general circulation [6,13].

Therefore, we used the drug oxybral, which has a selective vasoregulatory, antihypoxic and neurometabolic effect [2,11]. Oxybral is of plant origin, safe for long-term use. An equally important property is that the drug has a selective vasoregulatory effect: relieves spasm of the arteries and increases the tone of the veins; contributes to the adaptation of cerebral blood flow in accordance with the metabolic needs of the brain; reduces and stabilizes the peripheral resistance of the vascular bed of the brain [14].

In addition, the absence of side effects, good tolerance served as the basis for the appointment of oxybral.

Purpose of the study: To study the features of the course of respiratory diseases in children with the consequences of perinatal CNS damage and justify the need to include the drug oxybral to improve the effectiveness of treatment.

Materials and research methods: Under our supervision there were 37 children aged from 3 months to 1 year with respiratory diseases, who received inpatient treatment at the Samarkand City Children's Hospital No. 1. Among them, there were 20 boys (54%), and girls - 17 (45.9%). The main group consisted of 20 children with respiratory diseases suffering from PPNS who received oxybral against the background of conventional treatment, the control group consisted of 10 children with respiratory diseases suffering from PPNS who received conventional therapy. A conditionally healthy group consisted of 7 children with respiratory diseases, not suffering from PPNS, who received conventional therapy. In children with perinatal brain damage, along with the study of the neurological status, studies of the somatic state, the composition of peripheral blood, urine, and feces were carried out. In addition, instrumental methods (ECG, chest radiography, fundus examination) were used. All children were examined by narrow specialists: an ENT doctor, an oculist, a neuropathologist, and a pediatrician.

The most common background diseases accompanied by the development of PPNS were iron deficiency anemia (87.4%) and rickets (29.7%). An unfavorable premorbid background was noted in all the children studied, of which 20 (54.5%) had anemia of the first degree, 15 (40.5%) of the second degree, and 2 (5.4%) of the third degree.

Discussion of the obtained results: Examination of children revealed deviations in the neurological status. Summing up the clinical and instrumental data, the following results were obtained: the most common was the syndrome of neuroreflex excitability in 13 children (43.3%), then the syndrome of autonomic dysfunctions - 10 children (33.3%), the syndrome of delayed psychomotor development - 7 children (23.3%).

The most frequent complaints of mothers when examining a child were anxiety, which was noted in 92.5% of cases, regurgitation in 31.3%, tremor of the chin and hands in 25.7%.

The main complaints, according to mothers, in children with neuro-reflex excitability syndrome were: emotional lability, startling in sleep, tremor of the chin and hands, difficulty falling asleep, shallow sleep that was not long enough, tilting the head. In children with autonomic dysfunction syndrome, the main complaints were: acrocyanosis, capriciousness, anxiety, straining.

The main complaints in children with psychomotor retardation syndrome were mental and speech development lagging behind peers. The children included in this group later began to hold their heads, turn, sit, stand and walk.

In children of all groups, on examination, the general condition of moderate severity. The skin is pale, clean, warm. Acrocyanosis was observed in 12 (32.4%) children. The subcutaneous fat layer is underdeveloped in 10 (27%) children.

The main complaints from the respiratory system were: cough, difficulty in nasal breathing, swelling of the wings of the nose, cyanosis of the nasolabial triangle, and difficulty exhaling. During auscultation, small and medium bubbling wet and dry scattered rales were heard against the background of hard breathing.

On the part of the cardiovascular system, in almost all children auscultatory heart sounds were muffled, functional murmurs were heard in children with severe anemia. Most of the children experienced an increase in heart rate.

On the part of the gastrointestinal tract in children included in the second group were observed: regurgitation in 5 (13.5%), vomiting in 3 (8.1%) and frequent constipation in 4 (10.8%) children. On examination, there was an increase in intestinal motility, rumbling, and bloating. The chair is irregular, without pathological impurities.

In the rest of the children from the gastrointestinal tract pathological signs were not revealed. The abdomen is soft and painless. The liver protrudes from under the edge of the costal arch by 2 cm, the spleen is not palpable. The chair is decorated, without changes.

On the part of the central nervous system in children with the syndrome of neuro-reflex excitability against the background of normal mental development, the following symptoms were observed: emotional lability, motor anxiety arising from minor changes in the environment, chin tremor, periodic small-amplitude tremor of the hands. There was an increase in congenital reflexes, a spontaneous Moro reflex.

In children with the syndrome of vegetative-visceral dysfunction, muscle hypertonicity, a delay in the reverse development of the Robinson, Babkin, and neck-tonic reflexes were observed. Decreased spontaneous activity, tendon reflexes.

In children with the syndrome of delayed psychomotor development on the part of the central nervous system, the following were noted: a violation of static-motor functions. Weak or no reaction to the mother's voice, no auditory concentration, the cry was inexpressive, there was no cooing, the children searched for the source of the sound with their eyes without turning their heads, a rare hard-to-cause smile appeared. No active attention. The reduction of unconditioned congenital reflexes is disturbed.

In order to study the psychosomatic processes caused by the use of the drug oxybral and evaluate the effectiveness of this drug, we conducted echoencephalography. An echoelectroscopic examination was carried out on the basis of the city children's hospital No. 1 using an ultrasound machine ECHO 12.

Special preparation of the patient for the study is not required. EchoEG is usually performed with the patient lying down. An ultrasonic sensor, the working surface of which is treated (to ensure acoustic contact) with vaseline oil, is successively applied to different parts of the head. Ultrasonic signals converted into electrical impulses appear on the screen of the device in the form of a curve - an echoencephalogram, which is photographed and analyzed. Optimal conditions for obtaining an echo signal are created when the sensor is located on the lateral surface of the head 4-5 cm above the external auditory canal along the biauricular line passing through the parietal region.

As our studies have shown, the use of oxybral against the background of traditional therapy had a pronounced positive clinical effect, which contributed to the maximum stimulation of natural compensatory mechanisms, neuroregulatory processes and limiting the drug load.

Children included in the first subgroup - the syndrome of neuro-reflex excitability due to increased nervous excitability, received oxybral for 20 days (7.5 mg / day orally with meals.)

For children of the second subgroup - the syndrome of autonomic dysfunctions oxybral was used for 1 month (7.5 mg / day orally with meals).

For children of the third group - the syndrome of delayed psychomotor and speech development, oxybral was used for 2 to 6 months. (7.5 mg / day orally with meals) in compliance with the break between courses and the recommendations of the neurologist.

After the inclusion of oxybral in the treatment complex, these parameters had a faster positive trend.

In children with the syndrome of neuro-reflex excitability on the echogram, the number of impulses decreased more significantly than in the control group. The width of the third ventricle decreased almost to normal.

In children with the syndrome of vegetative dysfunctions, after a course of Oxybral, the wave pulsation on the echogram decreased. The number of impulses has increased. The width of the third ventricle is within normal limits.

In children with psychomotor retardation syndrome, frequent waves appeared on the echogram after a course of using oxybral, and the pulsation improved. Large waves appeared. The width of the III ventricle is within the high norm. It should be noted that the correction of neurological symptoms contributed to a more rapid improvement in the general condition of children. In these children, in comparison with the children of the control group who did not receive oxybral, cyanosis of the nasolabial triangle, acrocyanosis stopped faster. Дети становились более спокойными, нормализовался сон. Moreover, the obstruction syndrome, swelling of the wings of the nose and shortness of breath disappeared earlier in children of this particular group. We can not dispute that this was due to the use of bronchodilators and mucolytics, however, in the group of children who received oxybral, the effect was significantly higher. In our opinion, the removal of the syndrome of excitation and vegetative-visceral dysfunctions contributes not only to the improvement of metabolism, but also to microcirculation and blood oxygenation.

Conclusion. In general, the results of the conducted studies allow us to conclude that complex rehabilitation with the use of the drug oxybral is effective for combined disorders in patients with respiratory diseases suffering from PPNS and its consequences. The advantages of this method include, first of all, the fact that the stimulation of the regenerative ability of the brain is achieved by activating the natural mechanisms of regulation. Investigating the functional changes in the central nervous system, when using the drug oxybral and recording echoencephalograms in children, we found that there are positive changes in EchoEg and contributes to a more rapid normalization of neurological symptoms. The possibility of correcting neurological disorders with oxybral opens up the prospect of rehabilitation and contributes to a significant reduction in the percentage of children with residual effects of perinatal CNS lesions, as well as the fastest recovery of children with respiratory diseases.

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