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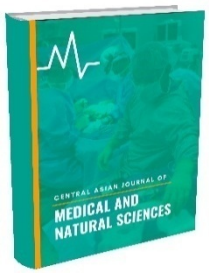

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THE EFFECTIVENESS OF NEBULIZER THERAPY IN BRONCHO-OBSTRUCTIVE CONDITIONS

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ABSTRACT: *By the purpose of work was the comparison of clinical efficiency Bronchodilatation at children of early age. Carried out analyzing of clinical results at 48 patients. The received results have shown, that at the patients 1st of group (24) applications nebutamol promoted faster reduction of tachiapnea, improvement of a common condition of the patient, reduction of cyanosis at nose lipstriangle and cough, disappearance of bronchobstruction symptoms. Whereas at 2nd group (24) of children receiving auphilin positive dynamic is marked in later terms and insmall quantity of the patients. For 2-3 days of treatment the patients with auphilin obstruction relief it was marked only at 66, 6 % of the patients, at application nebutamol the complete removal bronchobstruction was marked at 91 % of the patients. Thus, a good transforming of patient and the fast improvement of a clinical status of the patients, prove advantage assignment of nebutamol of bronchobstruction treatment.*

Keywords: children, obstructive conditions, assessment

I. Introduction

Relevance. Recently, a number of studies have appeared, indicating the beneficial effect of inhaled nebutamol therapy on airway obstruction [2,5]. However, there are not enough studies that would study the effect of oral administration of the drug in young children.

It is known that aminophylline is one of the most popular drugs used in the treatment of broncho-obstructive syndrome [3,6]. At the same time, it requires some caution in its use, since it has a small therapeutic breadth, a long half-life and causes a number of side effects from the central nervous system, cardiovascular system and other organs [1,4].

All of the above dictates the need to search for the most effective and convenient drugs for use in infants that remove bronchial obstruction with the least side effects.

The aim of the work was to compare the clinical efficacy of bronchodilators in young children.

II. Materials and research methods.

To achieve this goal, an analysis of clinical data was carried out in 48 patients. The children were divided into 2 groups according to the use of nebutamol and aminophylline. In order to monitor the effectiveness of the therapeutic measures, an ECG study was carried out before and after treatment with bronchodilators in all observed patients.

Percutaneous determination of the saturation of hemoglobin of arterial blood with oxygen was carried out using the NELLCOR pulse oximeter apparatus before using the drugs and in dynamics after 60 minutes, 24 hours, 48 hours, 72 hours after the administration of nebutamol and aminophylline.

III. Research results and their discussion.

The general condition of the observed patients was moderately severe in 81.2% (n-39) cases, severe in 18.8% (n-9). On examination, it was noted: pallor of the skin, cyanosis of the nasolabial triangle, swelling of the wings of the nose in almost all patients. On auscultation of the lungs, dry, medium-, large-bubble, and also single small-bubble rales were heard in all observed patients. On the part of the cardiovascular system, heart sounds were muffled in all patients.

Patients of group I (n-24) received oral nebutamol (1 mg / kg 3 times a day) as part of complex therapy.

Group II also included 24 children, who, as part of complex therapy, 3 times a day were orally prescribed aminophylline at a starting dose of 4-6 mg per 1 kg of body weight, followed by a transition to a maintenance dose of 3 mg / kg.

The obtained results showed that patients of the 1st group showed a much faster clinical improvement: already at the 10th minute after the administration of nebutamol, a decrease in the severity of tachypnea was noted, in 22 patients, on the 2nd-3rd day, an improvement in the condition, a decrease in cyanosis of the nasolabial triangle, and cough was observed. and shortness of breath, disappearance of symptoms of bronchial obstruction. In children of group II, positive dynamics was observed in 17 patients: complete relief of broncho-obstructive syndrome was observed in 11 patients on the 3rd day of treatment; cough with sputum disappeared on the 5-6th day of treatment. In 6 patients, only a slight improvement was achieved: the sputum became mucous, its amount decreased. The results of our studies showed that in patients receiving nebutamol, the disappearance of symptoms of intoxication occurred on days 2-3 in 91.6% of patients, and in group II, this figure was 79.1%. Of particular interest is the relief of broncho-obstructive syndrome: for example, on days 2-3 of treatment

of patients with euphyllin, relief of obstruction was noted only in 66.6% of patients, with the use of nebutamol, complete relief of broncho-obstructive syndrome was noted in 91% of patients. Cough with sputum production in patients receiving nebutamol disappeared on day 7 in 91.6% of patients, and in the comparison group - on day 7 in 66.6% of patients.

There was a normalization of blood oxygenation in children of group I, and a statistically significant increase in blood oxygen saturation was detected already at the 60th minute of observation (55%). An increase in blood oxygen saturation was also noted in parallel in group II, but it was less pronounced (35%).

In children of the 1st group, we observed a decrease in heart rate, which can be explained by a decrease in the severity of bronchial obstruction and load on the respiratory apparatus, a decrease in vascular resistance in the large and pulmonary circulation. Whereas in the patients of group II, tachycardia was noted by the 60th minute after the administration of the drug, and the differences in this indicator between the groups remained significant throughout the entire period of the study.

In patients of group I, there was a decrease in the severity of symptoms of hyperexcitability from the central nervous system, which occurred before the start of therapy, this could be due, among other things, to an improvement in the respiratory function of the lungs. In 2 (8.3%) children from group II, an increase in the severity of symptoms of hyperexcitability from the central nervous system was observed, which could be associated with the development of side effects of aminophylline. However, in general, these phenomena were unstable and quickly disappeared on the background of drug withdrawal.

Another important indicator of the clinical efficacy of nebutamol is a 2.6-day reduction in hospital stay compared to aminophyllin therapy, which averaged 7.4 ± 0.6 bed-days versus 10.0 ± 0.6.

Thus, good tolerance, easy dosage, no need to learn the correct technique of admission, a significant improvement in the clinical condition of patients and the absence of serious side effects from the cardiovascular system make it possible to recommend nebutamol in the treatment of bronchial obstruction. This is especially true for young children, who may have difficulties in carrying out inhalation therapy. Our experience in the treatment of acute obstructive bronchitis indicates the possibility of using nebutamol in patients with mild and moderate severity. In severe bronchial obstruction, preference should be given to nebulization of nebutamol, which allows the effect to be achieved in a shorter time.

Conclusions:

1. Oral therapy with nebutamol in children is most preferable due to good tolerance, absence of side effects and the need to learn the correct technique.
2. The use of orally administered nebutamol provides a faster and more stable effect than aminophylline in bronchial obstruction in young children.
3. Studies of the main vital indicators and percutaneous saturation of hemoglobin with oxygen by the pulse oximetry method should preferably be carried out 60 minutes, 24 hours, 48 hours, 72 hours after taking bronchodilator drugs. This sequence makes it possible to widely use them not only for the purpose of diagnosis, but also for monitoring the effectiveness of the treatment.

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