

PREVALENCE AND RISK FACTORS OF BRONCHO-OBSTRUCTIVE SYNDROME IN YOUNG CHILDREN

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Relevance of the topic: The article is devoted to the clinical and pharmacological audit of the use of antibiotics in the treatment of broncho-obstructive syndrome (BOS) in premature infants living in the Aral Sea region, using the Republic of Karakalpakstan as an example. Broncho-obstructive syndrome is one of the most common and clinically significant problems among premature infants today. According to a retrospective analysis, the frequency of CF in patients is 1.9% of the total number of children with bronchopulmonary pathology in Tashkent, 1.0% in the Khorezm region and 1.0% in the Republic of Karakalpakstan. Among the social risk factors that have the greatest impact on the development of cystic fibrosis in children, marriage between relatives is considered (26.6%). The main factors aggravating the course of the pathology are: medical and biological factors - complicated pregnancy (91.1%), diseases during pregnancy (73.3%), anemia of I-II degree during pregnancy (100.0%), aggravated premorbid background in the child (anemia of I-II degree - 100.0%, AEE - 91.6%, residual complications of rickets - 63.8%, atopic dermatitis - 91.6%).

Broncho-obstructive syndrome (BOS) is a clinical symptom complex characterized by narrowing or occlusion of bronchi of various calibers due to accumulation of bronchial secretions, thickening of the wall, spasm of smooth muscles, decreased mobility of the lung or compression by surrounding structures. BOS is a common pathological condition in pediatrics, especially among children under 3 years of age. According to various statistics, BOS occurs in 5-45% of cases against the background of acute respiratory diseases. In the presence of an aggravated anamnesis, this figure is 35-55%. The prognosis for BOS varies and directly depends on the etiology. In some cases, clinical manifestations completely disappear against the background of adequate etiotropic treatment, while in others, the process becomes chronic, disability or even death occurs.

The main cause of broncho-obstructive syndrome in children is infectious diseases and allergic reactions. Among ARVI, bronchial obstruction is most often provoked by parainfluenza viruses (type III) and RS infection. Other possible causes: congenital heart defects and bronchopulmonary system, RDS, genetic diseases, immunodeficiency states, bronchopulmonary dysplasia, aspiration of foreign bodies, GERD, roundworms, hyperplasia of regional lymph nodes, neoplasms of the bronchi and adjacent tissues, side effects of medications.

In addition to the main causes of broncho-obstructive syndrome in children, there are contributing factors that significantly increase the risk of developing the disease and worsen its course. In pediatrics, these include a genetic predisposition to atopic reactions, passive smoking, increased reactivity of the bronchial tree and its anatomical and physiological features in infancy, hyperplasia of the thymus gland, vitamin D deficiency, artificial feeding, low body weight, and intrauterine diseases. All of them can enhance each other's influence on the child's body and aggravate the course of broncho-obstructive syndrome in children.

Pathogenetically, broncho-obstructive syndrome in children can be caused by an inflammatory reaction of the bronchial wall, spasm of smooth muscles, occlusion or compression of the bronchus. The above mechanisms can cause narrowing of the bronchial lumen, impaired mucociliary clearance and thickening of secretions, edema of the mucous membrane, destruction of the epithelium in large bronchi and its hyperplasia in small ones. As a result, deterioration of patency, dysfunction of the lungs and respiratory failure develop.

The clinical picture of broncho-obstructive syndrome in children largely depends on the underlying disease or factor that provokes this pathology. The general condition of the child in most cases is moderate, there is general weakness, capriciousness, sleep disturbance, loss of appetite, signs of intoxication, etc. BOS itself, regardless of the etiology, has characteristic symptoms: noisy loud breathing, wheezing that can be heard from a distance, a specific whistle when exhaling.

Also observed is the participation of accessory muscles in the act of breathing, attacks of apnea, dyspnea of expiratory (more often) or mixed nature, dry or unproductive cough. With a protracted course of broncho-obstructive syndrome in children, a barrel-shaped chest can form - expansion and protrusion of the intercostal spaces, horizontal course of the ribs. Depending on the background pathology, fever, body weight deficit, mucous or purulent discharge from the nose, frequent regurgitation, vomiting, etc. may also be present.

Diagnosis of broncho-obstructive syndrome in children is based on the collection of anamnestic data, objective examination, laboratory and instrumental methods. When interviewing the mother, the pediatrician or neonatologist focuses on possible etiological factors: chronic diseases, developmental defects, allergies, BOS episodes in the past, etc. Physical examination of the child is very informative in case of broncho-obstructive syndrome in children. Percussion reveals increased pulmonary sound up to tympanitis. Auscultatory picture is characterized by harsh or weakened breathing, dry, whistling, in infancy - small-caliber wet rales.

Laboratory diagnostics for broncho-obstructive syndrome in children includes general tests and additional tests. In the CBC, as a rule, non-specific changes are determined that indicate the presence of an inflammatory focus: leukocytosis, a shift

in the leukocyte formula to the left, an increase in ESR, and in the presence of an allergic component - eosinophilia. If it is impossible to establish the exact etiology, additional tests are indicated: ELISA with the determination of IgM and IgG to probable infectious agents, serological tests, a test to determine the level of chlorides in sweat if cystic fibrosis is suspected, etc.

Among the instrumental methods that can be used for broncho-obstructive syndrome in children, the most commonly used are chest radiography, bronchoscopy, spirometry, and less often CT and MRI. Radiography makes it possible to see dilated lung roots, signs of concomitant parenchymal damage, the presence of neoplasms or dilated lymph nodes. Bronchoscopy allows you to identify and remove a foreign body from the bronchi, assess the patency and condition of the mucous membranes. Spirometry is performed in the case of a long-term course of broncho-obstructive syndrome in children in order to assess the function of external respiration, CT and MRI - when radiography and bronchoscopy are low in information content.

Treatment of broncho-obstructive syndrome in children is aimed at eliminating the factors causing obstruction. Regardless of the etiology, in all cases, hospitalization of the child and emergency bronchodilator therapy using β_2 -adrenergic agonists are indicated. Anticholinergic drugs, inhaled corticosteroids, systemic glucocorticosteroids can be used later. Mucolytic and antihistamine agents, methylxanthines, and infusion therapy are used as auxiliary drugs. After determining the origin of broncho-obstructive syndrome in children, etiotropic therapy is prescribed: antibacterial, antiviral, anti-tuberculosis agents, chemotherapy. In some cases, surgical intervention may be required. If there are anamnestic data indicating the possible ingress of a foreign body into the respiratory tract, emergency bronchoscopy is performed.

The prognosis for broncho-obstructive syndrome in children is always serious. The younger the child, the more severe his condition. Also, the outcome of BOS largely depends on the underlying disease. In acute obstructive bronchitis and bronchiolitis, recovery is usually observed, bronchial tree hyperreactivity rarely persists. BOS in bronchopulmonary dysplasia is accompanied by frequent acute respiratory viral infections, but often stabilizes by the age of two. In 15-25% of such children, it transforms into bronchial asthma. BA itself can have different courses: a mild form goes into remission already in primary school age, a severe form, especially against the background of inadequate therapy, is characterized by a deterioration in the quality of life, regular exacerbations with a fatal outcome in 1-6% of cases. BOS against the background of obliterating bronchiolitis often leads to emphysema and progressive heart failure.

Prevention of broncho-obstructive syndrome in children involves eliminating all potential etiological factors or minimizing their impact on the child's body. This

includes antenatal care of the fetus, family planning, medical and genetic counseling, rational use of medications, early diagnosis and adequate treatment of acute and chronic respiratory diseases, etc.

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