

TREATMENT OF PATIENT WITH COUGH: WHY THE PEDIATRICIAN CHOSE THE DRUGS, WHICH EASE THE CONDITION?

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Background. According to the global statistics, cough is the most often cause of the visits of pediatric patients to the general practitioner. Cough is a complex problem, because this symptom can accompany both lung diseases and extrapulmonary disorders. The main causes of cough include otorhinolaryngological and respiratory diseases, cardiovascular diseases, gastrointestinal diseases (gastroesophageal reflux disease), psychoemotional disorders, inhalation of irritants etc.

The aim. To identify the optimal treatment for cough in pediatric practice. **Materials and methods.** Analysis of unified clinical protocols of primary medical care for cough and foreign guidelines on this topic. **Results and discussion.** Children of early age are characterized by some peculiarities of the bronchial tree including relatively small airways' lumen, significant amount of blood and lymphatic vessels, mucous glands hyperplasia, low level of secretory immunoglobulin A, low collateral ventilation, tendency of bronchial hyperresponsiveness, weak bronchial smooth muscles. These peculiarities create a background for bronchial obstruction. Acute viral bronchiolitis is the most frequent respiratory infection in children aged < 2 y.o. Edema of mucous and submucous layers of bronchi holds a significant place in its pathogenesis. The typical characteristics of bronchiolitis clinics include fast development of the respiratory failure without prominent intoxication, shortness of breath, a lot of wet rales, cyanosis, no effect from broncholytics usage. Children aged < 3 months, patients with concomitant diseases and children, which need oxygen therapy, require hospitalization. It is worth mentioning that the bronchial obstruction in infants does not result from the spasm. It results from the edema, which must be eliminated with the help of hypertonic saline (HS) inhalation. Randomized studies and Cochrane meta-analysis demonstrate that nebulization of 3 % NaCl can significantly shorten the inpatient treatment (up to 1.2 days) and improve the clinical parameters in children with acute bronchiolitis. A double-blind study revealed that the nebulization of 3 % HS is more effective in treatment of acute bronchiolitis in children < 2 y.o. than salbutamol. Mechanisms of action of HS include formation of the osmotic flow of the liquid in the respiratory mucus, hydration of the airways surface, improvement of the mucus clearance, decrease of the mucus viscosity due to the breakage of the ion links, stimulation of the ciliary activity via prostaglandin E2 release. When absorbing the water from the mucous and submucous layers, HS decreases the airways' edema. HS can also induce cough, which helps to release sputum from the respiratory system and to improve the bronchial patency. HS is well-tolerated, including in infants. Nebulization of HS is included into the recommendations of British Thoracic Society. It is important that HS is delivered via inhalation and reaches directly the pathological focus. Pills are not recommended for usage in infants, apart from that, pills need more time to make effect. In turn, injections and infusions are painful for the child. Nebulization creates a fast effect due to the direct delivery to the mucus layer of bronchi, it does not have a systemic effect and does not cause psychotrauma. Lorde hyal («Yuria-Pharm») is the only medication of HS with hyaluronic acid (HA) in Ukraine. HS has an osmotic anti-edematous and direct mucolytic effect, whereas HA has an anti-adhesive and anti-inflammatory effect and also improves mucociliary clearance. **Conclusions.** 1. Cough is the most often cause of visits to the doctor in pediatric practice. 2. Cough is a complex diagnostic problem, because it can accompany both respiratory and extrapulmonary disorders. 3. Airways' obstruction in infants is caused not by spasm, but by the edema. 4. HS improves rheological properties and transport of sputum, normalizes pericellular layer of bronchial epithelium, improves mucociliary clearance and lung function. 5. It is recommended to use Lorde hyal (HS+HA) with the aim of bronchial obstruction syndrome treatment in infants.

Key words: bronchial obstruction, infants, hypertonic saline, Lorde hyal.