

NCURE (1997) Асоціація інтенсивного ування інфекційних хвороб 09.09.2021 — РЕСПІРАТОРНІ ЗАХВОРЮВАННЯ ЛІКУЙ РЕСПІРАТОРНО. ВПЛИВ ТРИГЕРНИХ ФАКТОРІВ НА РОЗВИТОК БРОНХООБСТРУКЦІЇ





RESOLUTION

«Respiratory diseases shall be treated in respiratory organs. Influence of triggering factors on development of wheezing»

September 9, 2021 Kyiv, Ukraine

More than 5 000 health care specialists have registered to participate in the Teleconference «Respiratory diseases shall be treated in respiratory organs. Influence of triggering factors on development of wheezing.»

As part of the event the experts in Pediatrics, Allergology and Otolaryngology have shared their thoughts and experience related to management of patients with infectious and allergic diseases of airways, influence of triggering factors on development of wheezing.

Seven main reports were offered to the participants for review and they were dealing with the following issues:

- Respiratory cytoprotection as a modern approach to better efficiency of treatment of respiratory diseases.
- Innovative procedure of Breathering and its opportunities.

The following up-to-date topics were discussed:

- Wheezing of children. Modern principles for diagnostics and treatment.
- Bronchial hyperreactivity of children with atopic and atopic-like phenotypes diseases.

Conclusions and decisions based on discussion of reports:

- 1. Nebulizer therapy is an efficient way of treatment of respiratory diseases. Nowadays nebulizers are widely used for treatment of diseases of upper and lower airways. The selection of drugs for nebulizer therapy should be made carefully and solutions recommended for use with nebulizers should be chosen. No consensus paper on use of nebulizers prohibits their use during increase in body temperature. It is not prohibited to use nebulizers during pandemic COVID-19 by patients who need local treatment of respiratory diseases.
- 2. According to recommendations of the World Health Organization published in 1997 elimination therapy is one of the main directions in treatment of patients with allergic diseases. Even a partial solution of the problem of respiratory allergy is not possible without it. We should understand that opportunities to minimize contact with allergens are limited. That is why we should pay more attention to alternative ways to address allergens. The innovative procedure Breathering is one of such ways, as far as it is realized through breathing, being the most physiological method for delivery of medicines to upper airways. The uniform distribution of the medicinal substance on the mucous membrane of the upper respiratory tract increases the interaction area and improves the efficiency of treatment of allergic rhinitis. Only comprehensive treatment of allergic rhinitis may improve the patients' quality of life.
- 3. «Breathering» procedure is an innovative physiological care of upper airways. Such procedure is conducted with an inhaler Breather AirOx and solutions for «breathering» Breather Barrier and

Breather Treat depending on current stage of disease and patient's needs. Breather AirOx creates aerosol of medical substance with particles larger than 5 microns that is perfect to influence upon upper airways. In the process of «breathering» procedure an influence is exerted by homogeneous distribution of medical substance over all mucosa of upper airways, so the area of interaction will be larger and it improves the efficiency of treatment of chronic diseases of upper airways. At the same time medical substance is administered not under high pressure but by the effect of natural intake of breath.

- 4. Respiratory epithelium performs the main barrier function in the protection of respiratory organs and maintains their normal functioning. Every day the mucous membrane of the respiratory tract is exposed to viruses, bacteria, allergens, dust and chemical irritants, which can lead to disruption of cells of the respiratory epithelium and development of the disease. Respiratory Cytoprotection is a new approach to respiratory disease therapy that helps to protect respiratory mucous cells from the influence of environmental factors. Respiratory cytoprotectors exhibit anti-inflammatory and membrane-stabilizing effects, contribute to respiratory mucous recovery and are promising in the treatment of inflammatory respiratory tract diseases.
- 5. Annually acute respiratory viral infections affect millions of people. Young children may be ill 6-8 times a year and even more. Children attending child welfare institutions are at increased risk of developing respiratory infections of any etiology, especially at the beginning of admission. Viral infection infects respiratory mucous cells, resulting in their death. Respiratory epithelium recovery or regeneration is critical to maintaining barrier function and limiting respiratory hyperreactivity. To date, we can consider a paradigm shift from the pharmacological blocking of receptors to the protection of the respiratory mucous membrane. Osmolytes are a new protection strategy: they act as cell function stabilizers, influence the hydration layer, prevent cell stress reaction in the airways. The Ectoin-based respiratory cytoprotector, being a representative of osmolytes, is very promising in treatment of ARVI.
- 6. Rhinitis is a widespread disease both among children and adults. There is a huge number of medicines and methods for management of patients with rhinitis depending on its type and progress. Uncontrolled application of decongestants may cause excessive drying and further atrophy of mucous membrane. Searching for new methods and approaches to treatment of rhinitis is an up-to-date trend in the global practice. A respiratory cytoprotector may take an important place in treatment of patients with rhinitis, as far as it creates a barrier on the surface of the mucous membranes of the nose, protects against influence of viruses and bacteria, contributes to reduction of mucosa dryness when there is a need to use vasoconstrictive agents.
- 7. 50% of children under age 6 years have ARVI complicated with broncho-obstructive syndrome, 25% of them often have disease recurrence and face a high risk of asthma development. There is an alternative for term «broncho-obstructive syndrome» which is more modern and widely used in medical books. It is «wheezing syndrome» and its treatment is described in details in international recommendations.
- 8. The most frequent reason for parents to see a doctor is the cough of children. Cough is a complex diagnostic problem, as it is associated not only with pulmonary disease but also with extrapulmonary pathological processes. Under the influence of triggering factors, the development of wheezing in young children is caused by the narrowing of bronchial tracts due to mucous edema rather than bronchospasm. That is why it is advisable to use solutions of hypertonic sodium chloride to treat bronchial obstructive syndrome in young children, which, with osmotic action, will eliminate edema and restore the permeability of bronchial cells. In Ukraine, there are hypertonic solutions of sodium chloride for nebulizer therapy at a concentration of 3% and 7% with the addition of 0.1% sodium hyaluronate, which helps to calm and restore mucous membranes of the respiratory tract.

- 9. Bronchial hyperreactivity is an increased sensitivity of the bronchial tree to certain irritants, which in most healthy individuals do not cause bronchial obstructive reaction. Bronchial hyperreactivity is clinically manifested by breathing difficulties, bronchospasm or coughing. Bronchial hyperreactivity is formed by genetic predisposition, respiratory viral infection and recurrent wheezing.
- 10. According to international recommendations inhaled bronchial spasmolytics and steroids should be applied for treatment of broncho-obstructive diseases (for instance, asthma, COPD, acute obstructive bronchitis. An inhaled salbutamol is in priority among recommendations and has better efficiency and safety than peroral salbutamol. A nebulized fluticasone propionate is an alternative for peroral steroids.
- 11. The first step in treatment of wheezing in children caused by bronchospasm is the use of salbutamol through nebulizer or spacer. Ipratropium bromide is added only in case of heavy wheezing. It is not recommended to use oral bronchial spasmolytics due to the large number of side effects and lower efficiency compared to inhaled bronchial spasmolytics. Episodic use of inhaled corticosteroids may be considered for children with frequent virus-induced wheezing episodes and intermittent symptoms of bronchial asthma. A nebulized fluticasone propionate may be considered as a medicine of choice in case of wheezing. It is recommended to use solutions in single-dose containers for inhalation through nebulizer as far as they contain fewer preservatives in excipients.

S. V. Zaikov President of the Association of Allergists of Ukraine

