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МІЖНАРОДНИЙ КОНГРЕС
З ІНФУЗІЙНОЇ ТЕРАПІЇ

RESOLUTION OF TELECONFERENCE

«Respiratory diseases should be treated locally. Diagnose as a doctor, treat as a master»

February 10, 2022
Kyiv, Ukraine

Almost 8 500 health care specialists have registered to participate in the Teleconference «Respiratory diseases should be treated locally. Diagnose as a doctor, treat as a master».

The leading experts in the sphere of infectious diseases, pulmonology and therapy have shared their practical experience of management of young patients with COVID-19, acute bronchitis, obstructive bronchitis and asthma within the framework of the event.

Special attention was paid to the use of modern method for treatment of respiratory diseases – inhalation therapy. Updated evidence was provided on the benefits of inhalation medicines for respiratory diseases as evidence-based medicine.

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

- Specific features of Covid-19 progression and treatment in children.
- New threat: multisystem inflammatory syndrome (MIS-C).
- Management of children with Covid-19.
- Pulmonary cytoprotection – why is this a new promising approach in treatment of respiratory diseases?
- Pill or inhalation: what is better and when?
- Strategy for treatment of children with asthma. Why inhaler is so important?
- Opportunities of elimination therapy.

Conclusions and decisions based on discussion of reports:

1. According to statistics, children have COVID-19, but suffer from it lighter than adults, have fewer complications and adverse effects. 90% of cases are either asymptomatic, mild or moderate. Mild disease means fever, intestinal disorders, coughing, sore throat. Moderate symptoms are pneumonia with cough and temperature, but without hypoxia. Severe disease is a cough and a temperature accompanied by shortness of breath. And the oxygen saturation of the blood is below 92%.
2. Children may not be so heavily infected with COVID-19 due to the spread of other coronaviruses causing respiratory infections among children, so it is likely that the child immune system may provide some protection against SARS-CoV-2. Children have higher levels of cytokines associated with congenital immune response, indicating stronger congenital immunity that protects against the development of acute respiratory distress syndrome (ARDS). Also children have lower number and activity of ACE-2, because the renin-angiotensin system does not fully develop until 16-18 years. Consequently, it prevents SARS-Cov-2 from penetrating into the children's cells.

3. In May 2020, children and adolescents were diagnosed with multisystem inflammatory syndrome (MIS-C), which is a consequence of a coronary disease with high lethality rate. The clinical picture of MIS-C consists of fever, reduced blood pressure, other cardiovascular disorders, gastrointestinal tract and urinary tract. Many children have signs of vasculitis like Kawasaki disease and neuropsychic disorders.
4. Broncho-obstructive syndrome (wheezing) is one of manifestations of COVID-19. According to international recommendations the inhaled salbutamol should be used through nebulizer or spacer in case of wheezing. The World Health Organization does not consider nebulizing as a process generating aerosol containing virus.
5. So far, there are not enough clear instructions and recommendations in Ukrainian and international treatment protocols for Covid-19 in children. In general, the recommendations focus on the treatment of symptoms. But today our treatment abilities are expanding. We are able to use inhaled antiseptics with viral load reduction method. As far as it was proved that the lesser the viral load is, the more mild is COVID-19 progression. To date, a study has been conducted to confirm that a solution of decametoxinum causes death of the SARS-CoV-2 virus. Therefore, the use of inhalations with decametoxinum is a promising method for the treatment of viral diseases, including a new coronavirus infection.
6. Acute respiratory diseases are accompanied by the destruction of the cells of mucous epithelium and disruption of its function. Moreover, tender-age infants have physiological immaturity of the immune system that makes this category of patients more sensitive to respiratory infection and especially to the new SARS-CoV-2 virus. Maintaining the natural protection and normal function of the respiratory mucous tract is an important direction of treatment and prevention of inflammatory diseases of various departments of the respiratory tract.
7. Today doctors even more prefer to use local treatment of various diseases, in particular of respiratory tract pathology, which let us achieve maximum concentration of the active substance in the inflammation site. For the first time, a respiratory cytoprotector was introduced into the Ukrainian pharmaceutical market, which includes the Ectoin® molecule with anti-inflammatory and membrane stabilization properties.
8. Asthma in children starts at the age of 2-5 years. The first symptoms manifest themselves in frequent obstructive bronchitis. According to the latest GINA 2021 guidelines, inhalation steroids such as budesonide are mandatory in the treatment of asthma. For children after 12 years the combination budesonide/formoterol is in priority as far as this combination may be used as MART-therapy, both as a baseline and symptom-based therapy. Easyhaler is one of the best dry powder inhalers containing combination budesonide/formoterol.
9. Patients report that allergic rhinitis is as debilitating as severe asthma. As for children, this chronic disturbance of nasal breathing both has an impact on their cognitive activity, school performance and achievements, and may cause development of many various complications. In addition, in the absence of adequate treatment for AR, there is an increased risk of formation or exacerbation of concomitant asthma. Improving the quality of life of patients with AR is one of the important approaches in the treatment of patients with this pathology. That is why new breathing procedure, as a method of eliminating therapy, may improve the quality of life of patients with allergic rhinitis.
10. Inhalation of acetylcysteine is a priority over oral intake. Inhaled acetylcysteine has a direct impact on sputum, but the oral form has to be transformed in the liver and then only 4-10% of the medicine will be delivered to the site. The latest data are the most interesting as they prove that inhaled acetylcysteine reduces the oxidative stress and helps to counteract the inflammatory reaction in the respiratory

epithelium. The anti-inflammatory and antioxidant action reduces the apoptosis of the respiratory epithelium, which forms the pneumoprotective effect of acetylcysteine. According to international experts, the use of inhaled acetylcysteine is a therapeutic strategy for COVID-19 treatment in the early stages.

11. The mucous membrane of the respiratory tract is the main point of contact with the external medium and the first line of protection of the organism against foreign agents: viruses, bacteria and allergens. The importance of mucous membranes in the immune system cannot be overemphasized. That is why they need special protection and rehabilitation. Pulmonary cytoprotection is a new step in treatment of inflammatory respiratory diseases.
12. Up to 15 per cent of the world's adult population and 5 per cent of the world's children suffer from various forms of rhinosinusitis. The first stage of treatment of rhinosinusitis is elimination therapy. Elimination therapy will help to dilute and remove the viscous discharge from the surface of the ciliate epithelium, free from infectious agents, cellular debris and inflammatory substances, and restore conditions of functioning of ciliary clearance, reduce the swelling of the mucous membrane of the nasal cavity and the osteomeatal complex and restore the drainage function of the outlet sinus holes. Breathing is a new approach to elimination therapy. It has a long-lasting impact on nasal mucous (as opposed to sprays and drops) and a long-lasting action on paranasal sinus. It provides 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.

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