

Background. Main pediatric diseases, accompanied by bronchial obstruction, include acute bronchiolitis, obstructive bronchiolitis, virus-induced wheezing (VIW) and bronchial asthma (BA). During VIW the patient (usually aged 1–5 years) experiences the recurrent episodes of bronchial obstruction (> 3 per year or > 2 per 6 months). **The aim.** To identify the main principles of therapy of bronchial obstruction in children. **Materials and methods.** Analysis of the guidelines and consensuses on this topic. **Results and discussion.** According to the majority of the guidelines, in bronchiolitis salbutamol is not recommended for the routine usage. However, Italian and Spanish guidelines mention that it can be used as a trial treatment in children > 6 or > 9 months. Routine usage of epinephrine is not recommended also (it is reasonable only for children < 6 months with severe bronchiolitis in inpatient settings); issues on the topic of ipratropium bromide are not decided yet. Algorithm of clinically oriented trial therapy in bronchiolitis requires differentiation between bronchiolitis caused by rhinoviruses and by respiratory syncytial viruses. In the former trial therapy by salbutamol can be used, whereas in the latter it is not effective. Hypertonic saline can be used to liquefy the sputum. In Ukraine quite high percentage of children with bronchiolitis receive antibiotics, however, treatment of this condition with the help of penicillins, cephalosporins or macrolides (first of all, azithromycin) is accompanied by the increased BA risk. English-speaking documents do not use the term «obstructive bronchitis», instead they use “bronchitis with wheezing” term. If the patient has wheezing, salbutamol can be administered, if no- β -agonists are not indicated. The initial treatment of VIW and BA does not differ. Salbutamol in high doses (if nebulized, it should be given without any solvent) is a drug of choice for the initial treatment of all stages of VIW and BA. In preschool children the inhalation device (spacer or nebulizer) can be chosen in dependence of exacerbation severity. Nebulization should be preferred in patients with severe wheezing, in patients with spontaneous breathing disorders and neurological disorders. Nebulization of broncholytics leads to the normalization of blood oxygenation faster than their usage via dry powder or aerosol inhalers. In case of the absence of improvement salbutamol administration can be continued once in 3–4 hours. In life-threatening exacerbations, it is reasonable to administer oxygen therapy, nebulization of β -agonist and ipratropium bromide, intravenous aminophylline and salbutamol, magnesium sulfate, antibiotic therapy, intubation, mechanical lung ventilation. The needed amount of salbutamol doses is calculated according to the exacerbation grade: in mild exacerbations the patient usually needs 1 dose (2.5 mg via nebulizer or 2–4 inhalations via spacer) once in 3–6 hours, in moderate and severe exacerbations — 3 doses via nebulizer during 1 hour. If the effect is unsatisfactory, ipratropium bromide or prednisolone can be added. Combination of ipratropium bromide and salbutamol potentiates bronchial dilatation, but in mild and moderate exacerbations such combination does not have any advantages. Studies of L. O. Yashyna (2013) showed that the clinical effectiveness of domestic salbutamol for nebulizations (Nebutamol, «Yuria-Pharm») is similar to the original salbutamol. Prevention of VIW can include inhaled corticosteroids (Nebufluyzon, «Yuria-Pharm») during 4–8 weeks; in case of recurrence this therapy can be repeated. **Conclusions.** 1. Initial treatment of exacerbations of wheezing and BA must start from salbutamol administration. 2. Inhalational route should be preferred. 3. Simultaneous administration of some different short-acting β -agonists or both oral and inhalational salbutamol is not recommended. 4. In severe exacerbations of BA and VIW adding of ipratropium bromide is recommended. 5. For the prevention of VIW inhaled corticosteroids can be used (Nebufluyzon, «Yuria-Pharm»).

Key words: virus-induced wheezing, bronchial asthma, salbutamol, ipratropium bromide.