Highly effective mucolytic therapy in cystic fibrosis and bronchioliitis
Physical properties of airway mucus in Cystic Fibrosis

a) Mucus in a healthy lung is made up of a network of mucin filaments consisting of highly glycosylated mucin monomers that are crosslinked by disulphide bonds.

b) In the CF airways, mucus viscosity is increased by DNA and actin that are released from necrotic neutrophils and aggregate into bundles.

After researchers in Australia noted that surfers with Cystic Fibrosis suffered less lung infections and less breathing problems compared to CF patients who didn’t surf, the effects of salty air were studied.

It was found that treatment with hypertonic saline at 7% inhaled twice per day reduces episodes of chest infection and is linked to improved lung function, improved quality of life, and better attendance at school or work.

How does hypertonic saline work?

a) Healthy airway epithelia

b) In CF, Cl- secretion and Na+ absorption are impaired resulting in thick mucus accumulating in the ASL.

c) The high salt concentration encourages osmosis of water into the ASL and thereby rehydrates the mucus allowing for easier clearance of mucus.

Hypertonic saline is effective in significant reduction in the number of exacerbations compared with patients whose treated with isotonic saline.¹

Hypertonic saline has anti-inflammatory and antibacterial properties and is able to influence the formation of biofilms.²

The combination of 7% hypertonic saline with 0,1% hyaluronate showed significant improvement in tolerability and satisfaction with therapy compared to using only the hypertonic saline solution.³

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**LORDE** hypertonic solution of sodium chloride (3%, 7%) for inhalations and nasal lavage

**LORDE hyal** hypertonic solution of sodium chloride (3%, 7%) with 0.1% hyaluronic acid for inhalations and nasal lavage

**Method of application:**

**LORDE** is assigned for inhalation use by inhalation through the mouth or nose via a nebulizer and for intranasal administration. For inhalation: using 2–4 ml 2 times a day. If necessary, the multiplicity of administration can be increased. Inhalation aerosol can be carried out using special face mask, mouthpiece or nasal cannula.

**Indications:**
- Daily nasal hygiene;
- Moisturizing of nasal mucosa in case of dry air;
- Cleaning the nasal mucosa of dust, allergens;
- Prevention of infectious respiratory diseases;
- Comprehensive mucolytic treatment of bronchitis, bronchiolitis, cystic fibrosis, bronchiectasis;
- Comprehensive treatment of acute and chronic diseases of nasopharynx, nasal cavity and sinuses, adenoids hypertrophy in children, year-round and seasonal allergic rhinitis;
- Postoperative period after operations on the organs of the nasal cavity.

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