



Plant Immunomodulators in the Treatment of Diseases of the Upper Respiratory Tract

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Abstract: The herbal immunomodulator Sinupret Extract in the complex treatment of acute rhinosinusitis contributes to an earlier recovery and does not have negative side effects. The drug effectively regulates secretion and normalizes the viscosity of mucus, eliminates mucostasis and restores mucociliary clearance. The decrease in the viscosity of the secret occurs due to the stimulation of the secretory cells of the mucous membrane of the upper respiratory tract, which produce neutral mucopolysaccharides. In addition to the secretolytic effect, Sinupret has anti-inflammatory, antiviral and immunomodulatory effects.

Keywords: Rhinosinusitis, otitis media, tonsillopharyngitis, immunity, immunomodulator, synupret.

Introduction. Inflammatory diseases of the ENT organs in terms of prevalence occupy a leading position in otorhinolaryngology. On average, about 7–20% of the adult population and 10% of children suffer from inflammatory diseases of the ENT organs [1,3].

According to epidemiological data, adults on average fall ill with ARVI 2-3 times a year, and children - up to 10 times. The incidence of acute respiratory viral infections is seasonal - an increase in the autumn-winter period and a relatively stable level in the summer. For acute rhinosinusitis (symptoms of acute rhinosinusitis: difficulty in nasal breathing, heaviness in the projection of the paranasal sinuses, headache, discharge from the nasal cavity, sneezing, dryness and burning in the nasal cavity, decreased sense of smell, stuffy ears) are characterized by the same seasonal trends as for ARVI [2,5,7].

It is well known that sinusitis, otitis media, tonsillopharyngitis, and laryngitis predominate among inflammatory diseases of the upper respiratory tract. Recently, there has been a trend towards an increase in these diseases due to a decrease in local and general immunity, environmental degradation, and the development of antibiotic-resistant strains of microorganisms.

The proportion of patients with rhinosinusitis requiring inpatient treatment increases annually by 1.5-2%.

An important role in the pathogenesis of inflammation of the paranasal sinuses is played by the accumulation of a viscous secretion, which leads to an increase in pressure in the paranasal sinus and

is the cause of pain. In addition, in every third or fourth child and adult, sinusitis is complicated by the development of otitis media, which may result in persistent hearing loss [4,8,9].

Acute otitis media can lead to severe intracranial complications (meningitis, brain abscess, thrombosis of the venous sinuses), paresis of the facial nerve, as well as to the development of an osteomyelitic process with destruction of various parts of the temporal bone.

Tonsillo-pharyngitis and laryngitis can also go from an acute stage into a chronic state.

As you know, the inflammatory process of the upper respiratory tract and ear is caused by a variety of pathogens: viruses, microbes, fungi, their associations.

Bacterial infection is most often preceded by an acute viral infection, and since the disease or its complication occurs when local or general systemic mechanisms of immune defense are violated, therefore, the pathogen invades those cavities that are normally sterile (paranasal sinuses, tympanic space).

In the complex treatment of diseases of the upper respiratory tract and otitis, it is advisable to use various immunomodulatory drugs (in the absence of contraindications). In this regard, the plant immunomodulator Sinupret has proven itself well. The drug effectively regulates secretion and normalizes the viscosity of mucus, eliminates mucostasis and restores mucociliary clearance. The decrease in the viscosity of the secret occurs due to the stimulation of the secretory cells of the mucous membrane of the upper respiratory tract, which produce neutral mucopolysaccharides. In addition to the secretolytic effect, Sinupret has anti-inflammatory, antiviral, and immunomodulatory effects [1, 5].

The aim of the study was to determine the effectiveness of Sinupret Extract in the treatment of diseases of the upper respiratory tract and ear. In the treatment of the above diseases, Sinupret Extract, developed by Bionorica, follows the philosophy expressed by the term "phytoneering" (from phyto - plant and egeneering - technology), which means the development and production of herbal medicines based on their own scientific and clinical research in the field of herbal medicine, is by far the most optimal.

Medicinal plants that are part of the drug Sinupret (gentian root, primrose flowers, sorrel herb, elder flowers and verbena grass) have secretolytic (normalization of the rheological properties of nasal secretion), secretomotor (improvement of mucociliary clearance), anti-inflammatory (reduction of tissue swelling, restoration of ventilation and drainage), antiviral and immunomodulatory effects. The drug is indicated for the treatment of adults and children over the age of 2 years.

Numerous clinical studies have demonstrated the high efficacy and safety of Sinupret in the treatment of diseases of the nasal cavity and paranasal sinuses in children and adults. The experience of its use for the treatment of acute respiratory infections in patients with allergic diseases not only showed high efficiency in relation to the symptoms of a respiratory infection, but also proved the safety of prescribing this herbal medicine to patients with atopy.

The results of studying the effectiveness of using synupret for the prevention and treatment of acute respiratory infections in frequently ill children showed that its use contributes to a milder course of respiratory pathology, prevents complications and exacerbation of foci of chronic infection, reduces the clinical manifestations of the disease, and accelerates the healing process.

Thus, the combined immunomodulatory, antiviral, anti-inflammatory and secretolytic effects of Sinupret make it attractive for the treatment of acute respiratory infections in frequently ill children with atopy, since the problem of optimizing therapy and reducing the drug load in this group of patients is very relevant.

Treatment of rhinosinusitis should be aimed at restoring adequate drainage of the sinuses, and subsequently causes ventilation of the Eustachian tube and tympanic space. Although topical application of vasoconstrictors is effective, their long-term use is not advisable. With timely and adequate treatment of acute rhinosinusitis, antibiotic therapy is usually not required.

Material and methods. The Department of Otorhinolaryngology Faculty of Postgraduate Education

of the Samarkand Medical University has accumulated extensive experience in managing patients with various inflammatory diseases of the ENT organs. We conducted a comparative study of two groups of patients with acute rhinosinusitis. The first group consisted of 25 patients aged 16 to 54 years, the second - 31 patients aged 12 to 60 years. All patients were diagnosed with acute rhinosinusitis based on anamnesis, complaints, and objective examination data.

Also, the studies involved people with allergic reactions and chronic forms of rhinosinusitis (in remission) in history. Patients of the first group were prescribed vasoconstrictor drugs for 5 days, irrigation of the nasal cavity with saline solutions for 7 days. Patients of the second group received all of the above and Sinupret Extract at a dose of 1 tablet 3 times a day for 10 days. In both groups, the use of vasoconstrictors was identical - 2 sprays 3 times a day. Irrigation therapy with saline solution was carried out every 6 hours.

Sinupret Extract is a combined medicinal preparation of plant origin, consisting of gentian roots, primrose flowers, sorrel herb, elder flowers, verbena herb. The pharmacological properties of the drug are due to the biologically active substances that make up its composition. Sinupret Extract has a secretolytic, secretomotor, anti-inflammatory, antiviral and immunomodulatory effect, proven in clinical studies. The immunomodulatory effect of the drug was manifested in its ability to suppress the replication of influenza A viruses, parainfluenza and respiratory syncytial virus. Thus, Sinupret Extract showed a wide spectrum of antiviral activity *in vitro* against viruses that most often cause respiratory infections. In addition to the antiviral Sinupret Extract, it increases the number of phagocytes by 40% and the activity of phagocytosis, as well as local and general factors of the body's immune defense are activated, the duration of acute respiratory viral infections is reduced, the body's protective properties are restored, and swelling of the respiratory mucosa is reduced. The use of the drug promotes the outflow of exudate from the paranasal sinuses and upper respiratory tract, the prevention of the development and treatment of bacterial superinfection, the regeneration of the respiratory mucosa, and the prevention of chronic disease.

Results and discussion. According to the objective examination of patients in both groups on the 4th day of illness, hyperemia and swelling of the nasal mucosa persisted, but their intensity decreased. In relation to all symptoms, the dynamics was positive, however, nasal congestion persisted in all patients. Discharge from the nose in the first group was observed in 55%, in the second group - in 38.4% of patients. Headache and discomfort in the projection of the paranasal sinuses were not noted in any group on the 5th day of observation.

On the 10th day from the onset of the disease in patients of the first group, the terms of normalization of the vascular reactivity of the nasal mucosa after acute rhinosinusitis were evaluated. Patients did not complain. Data of otorhinolaryngological examination without acute pathology.

Findings. Thus, the drug Sinupret Extract in the complex treatment of acute rhinosinusitis promotes earlier recovery and improvement of the rheological parameters of the nasal mucosa, reducing swelling of the nasal mucosa at an earlier time. This is very important, given that with persistent swelling of the nasal mucosa, the probability of bacterial infection of the paranasal sinuses is 58%, which requires consideration of the issue of prescribing antibacterial drugs.

The use of sinupret helps prevent the development of bacterial complications, exacerbation of chronic nasopharyngeal infections and prevent the prescription of antibiotics. Complex and monotherapy with this drug helps to reduce the drug load and exclude polypharmacy; also, allergic reactions and exacerbations of atopic diseases while taking the phytopreparation were not registered.

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