



## Features of Etiological Factors of Acute Rhinosinusitis

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**Abstract:** Treatment of acute rhinosinusitis (ARS) is a pressing problem in rhinology in all age groups. The medical and social significance is due to both the increase of up to 60% over the last decade in incidence and the associated economic costs.

Inflammatory diseases of the nose and paranasal sinuses (SNS) at the present stage retain a leading position among all diseases of the upper respiratory tract. Acute rhinosinusitis (ARS) is one of the most common diseases in most countries of the world and the most common reason for the unnecessary prescription of antibiotics, which becomes extremely relevant in the context of the global increase in antibiotic resistance and the fight against biofilms [1].

In cases of impaired ventilation and gas exchange in the urinary tract, the mucous membrane swells, the secretion of secretions increases, which leads to a block of the natural anastomosis of the sinuses and stagnation of secretions in them against the background of increased vascular permeability and a slowdown in the transport function of the ciliated epithelium. The resulting exudate is a breeding ground for virulent microflora, especially in immunocompromised patients, and this leads to the development of acute sinusitis. Thus, disruption of the functioning of the anastomosis of the SNP is one of the main factors in the development of ARS [4].

**Key words:** acute rhinosinusitis, paranasal sinuses, viruses, bacteria.

### Introduction

Between 2021 and 2022. We examined 70 patients with acute rhinosinusitis who applied to the Bukhara Regional Multidisciplinary Medical Center ENT Department. Inflammation of the paranasal sinuses most often has a viral-bacterial or viral, less often bacterial etiology.

Target.

To study the microbiological composition of pathogens of acute rhinosinusitis in adult patients.

### Materials and methods.

In the period from 2020-2022. We examined 70 patients with acute rhinosinusitis who applied to the Bukhara Regional Multidisciplinary Medical Center ENT Department. The age distribution was according to the World Health Organization classification: young age (18 - 28 years) 58 (29%); average age (45 - 59 years) 69- (35.8%); elderly age (60 - 74 years) 71-(35.8%).

## Results and its discussion.

The leading bacterial pathogen in patients was *Staphylococcus aureus* 24 (34.3%), often 11 (15.7%) in association with respiratory pathogens (RS virus - 1 (1.4%), adenovirus - 1 (1.4 %), rhinovirus – 6 (8.6%), parainfluenza virus – 2 (2.9%) and coronavirus – 1 (1.4%). In association with respiratory pathogens and several bacterial pathogens: *Staphylococcus aureus* + *Acinetibacter baumannii* + rhinovirus – in 2 (2.9%), *Staphylococcus aureus* + *Streptococcus pneumoniae* + parainfluenza – in 1 (1.4%), *Staphylococcus aureus* + *Streptococcus pyogenes* + bocavirus – in 1 (1.4%), *Staphylococcus aureus* + *Acinetibacter baumannii* + coronavirus – in 1 (1.4%), *Staphylococcus aureus* + *Streptococcus pneumoniae* + *Streptococcus viridans* + rhinovirus – in 1 (1.4%), *Staphylococcus aureus* + *Streptococcus pneumoniae* + rhinovirus + adenovirus – in 2 (2.9%) , *Staphylococcus aureus* + *Streptococcus pyogenes* + rhinovirus + coronavirus - in 1 (1.4%) cases and as a monoculture in 6 (8.6%) cases. Second place was occupied by *Streptococcus pneumoniae* 6 (8.6%), as a monoculture 3 (4.3%). Among the main respiratory viral pathogens there were: rhinovirus - in 19 (27.1%), parainfluenza virus - 10 (14.3%), metapneumovirus - in 4 (5.7%), adenovirus - in 7 (10%), MS - virus - in 8 (11.43%), bocavirus - in 1 (1.4%), coronavirus - in 1 (1.4%) cases. Association of two respiratory pathogens: rhinovirus + coronavirus and rhinovirus + adenovirus - 1 (1.4%) case each.

## Conclusion

Thus, inflammation of the mucous membrane of the paranasal sinuses most often has a viral-bacterial or viral, less often bacterial etiology. Timely diagnosis and adequate treatment of acute viral and post-viral rhinosinusitis improves the drainage function of the nose and sinus, which reduces the likelihood of developing ABRS due to viral infections, and therefore prevents the chronicity of the inflammatory process. Improving the drainage function of the SNP at the stage of initial manifestations of ARS creates conditions for resolving the inflammatory process without prescribing antibiotics, and therefore reduces the level of development of antibiotic resistance and helps maintain the integrity of the human microbiome, increasing the natural mechanisms of immune defense of the mucous membranes of the upper respiratory tract.

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