AJPMHS GLOBAL RESEARCH NETWORK

AMERICAN Journal of Pediatric Medicine and Health Sciences
Volume 3, Issue 4, 2025 ISSN (E): 2993-2149

Improvement of Clinical and Experimental Characteristics and Treatment of Acute Rhinosinusitis in Patients

Boboqulova Dilobar Fayzilloyevna
Bukhara State Medical Institute named after Abu Ali ibn Sino, Uzbekistan, Bukhara
boboqulova.dilobar@bsmi.uz

Abstract: Among the pathologies of the upper respiratory tract that significantly worsened the patient's health and quality of life, inflammatory diseases of the nasal cavity and paranasalRsinuses occupy one of the leading places. One of the leaders here is rhinosinusitis, primarily because of the widespread prevalence of this disease and its growth.

The data on its actual epidemiology are extremely diverse: There are also inconsistencies in the criteria for making a diagnosis (clinical symptoms, results of an X-rayor diagnostic puncture of the paranasal sinuses (ONP), and low patient referral for professional help for mild forms of the disease, and the fact that rhinosinusitis often develops against the background of ARVI.

Keywords: acute rhinosinusitis, clinical and experimental Characteristics, turmeric.

Introduction. One way or another, experts estimate the annual prevalence of acute rhinosinusitis (ARS) in 6-15% of the general population [1]. According to some sources, at least one 8.4% of the population of the Netherlands suffers from an episode of ARS per year; in the USA – about 31 million person. The important medical and social significance of this disease is due not only to only by its high prevalence and negative impact on quality of life patients, but also high economic costs. Thus, in the United States In the United States, health care costs associated with sinusitis amount to approximately $6 billion per year[2].

In the world, according to rough estimates, about 10 million people annually suffer from acute rhinosinusitis. Those who studied the prevalence of individual Russian specialists note an increase in the nosological forms of ENT diseases ORS in our country: from 9.1 to 19.3 (per 1000 contingent)[3].

It is also worth noting another relevant aspect of the problem: ORS is one of the most common reasons for prescribing antibacterial drugs (ABP): in the USA 9% of antibiotic prescriptions for adults and 21% for children are written for A similar situation is observed in a number of other countries: in Canada, in 84% of cases When patients present with signs of this disease for the first time, they are prescribed systemic antibacterial drugs[4].

And if we take into account that such drugs are often appointments do not provide a statistically significant advantage, and in the etiology of ARS Experts recognize the leading role of viruses in the initiation of inflammation (acute rhinosinusitis has a bacterial etiology in 2-10% of cases), and bacterial Complications from the paranasal sinuses develop rarely (in 0.5%-2.0% of adults patients and 5% of children), the use of antibiotics in most cases is not justified[5,6].

Especially against the backdrop of the development of global resistance of pathogens microorganisms to ABP. Experts also draw the attention of clinicians to possible complications

of antibiotic therapy, such as dysbiosis and hepatotoxicity. Thus, the use of antibacterial drugs in uncomplicated ORS forms are not recommended[7].

As is known, the etiopathogenesis of ARS is usually determined by rhinogenic infection with the respiratory tract (the main pathogens are rhinoviruses, respiratory syncytial viruses, adenoviruses, coronaviruses) through natural anastomoses, with with whose help aeration and drainage of the sinuses are carried out. Viruses get on mucous membrane and connect with intracellular adhesion molecules (a receptor that is constantly expressed on the epithelial cells of the cavity nose and nasopharynx), due to which they are capable of damaging the cilia of the ciliated epithelium and destroy the ciliated cells themselves[8]. Caused by a virus inflammation causes edema, plasma transudation and hypersecretion of glands. Edematous the mucous membrane of the ostiomeatal complex blocks natural anastomoses ONP. This disrupts the self-cleaning mechanism of the sinus, as well as absorption oxygen from the cavity of the blocked sinus into the blood vessels of the mucous membrane membranes, which leads to the development of hypoxia. Thus, the most important factors in the development of rhinosinusitis are inflammation and swelling of the nasal mucosa and sinuses, disruption of their aeration and drainage[9].

Initially, the concept of using intranasal glucocorticosteroids (GCS) for the treatment of potentially infectious conditions seemed at odds with most medical schools because of concerns associated with the possible negative impact of these medicinal products (MP) on the patient's immunity. However, subsequent studies have confirmed the possibility

use of InGCS in ARS. In addition to providing anti-inflammatory The action of intranasal glucocorticosteroids may be maintained or enhanced

local innate protective reactions of the patient (including the barrier function epithelium, phagocytosis in alveolar macrophages and secretion by epithelial cells substances that directly interact with microorganisms, etc.)[10].

Purpose of the study. Improve clinical and experimental characteristics in patients with rhinitis and improve the treatment of acute sinusitis.

Materials and research methods. We selected a total of 123 patients who applied to the otolaryngology department of the Medical Institute clinic with acute rhinosinitis in 2024-2025 to fulfill the assigned task

tasks for us.

Results. The main method of treatment of acute bacterial sinusitis is antibacterial therapy, which should be carried out taking into account the main causative agents of this disease, since the main factor in Bacterial flora is recognized in the pathogenesis of acute rhinosinusitis. In recent years, there is an increase in the resistance of most bacteria to antimicrobials drugs, which makes their treatment difficult. The observed growth of bacterial Antibiotic resistance is directly related to the frequency of their use.

In recent years, the antibiotic resistance system has received special attention be given to the role of biofilms. The term biofilm refers to a certain matrix, produced by bacteria. Biofilms can be formed by bacteria of one or several types. In clinical otolaryngology, the greatest importance attention is paid to the biofilms formed *Staphylococcus aureus* And *Streptococcus pneumoniae*[11].

High antibiotic resistance is explained by rapid exchange of plasmids DNA between biofilm bacteria and matrix impermeability for chemical drug molecules. Treatment of diseases of the nose and the OPN should be carried out in compliance principles of minimally invasiveness and be aimed at effective elimination pathological process, preservation and restoration of the functions of the mucous membrane.

During the treatment of inflammatory diseases of the nose and the OPN, it is necessary to rationally combine general measures of influence on the body with local treatment. The purpose of local treatment is to create optimal conditions for drainage of the inflammation site, suppression of local infection and stimulation of reparative processes

Treatment of acute sinusitis is carried out depending on the degree of spread. Inflammation in the ONP, the number of sinuses involved in the process, the body's response and forms of inflammation. The main task in the treatment of acute sinusitis iseradication of the pathogen from the sinus, prevention of chronicity of the process and complications.

During treatment it is necessary to achieve restoration of the patency of natural anastomoses, functions of the mucociliary apparatus of the mucous membrane of the nose and sinuses, reducing the contamination of the mucous membrane with pathogenic microflora.

The main method of treatment of acute purulent sinusitis, according to the recommendations of the international document EPOS, is systemic antibiotic therapy, which is based on knowledge of the basics(typical) pathogens isolated from the c avity of the affected sinus. According to According to statistics, sinusitis is the fifth most common diagnosis, in the treatment of which antibiotics are used[12].

For the practicing physician in case of empirical antibacterial therapy it is necessary to focus on international and domestic data on sensitivity of the most probable pathogens to modern antibacterial drugs. Antibacterial drugs play a particularly important role in the treatment of sinusitis. In combination with local antibacterial drugs, many Domestic authors and international EPOS recommendations suggest the use of topical glucocorticosteroids, since intranasal corticosteroids do not suppress the mucociliary activity of the nasal epithelium and the NSC,cause atrophic changes in the mucous membrane and have low systemic bioavailability.

Local decongestants (xylometozoline, levocabastine, naphazoline, oxymetazoline, tetryzoline, etc.) reduce swelling of the nasal mucosa and thus improving nasal breathing, while also improving drainage ONP.

Secretolytic (mucolytic) therapy, affecting mucociliary activity, according to a number of authors, must necessarily be included in the complex treatment of rhinosinusitis with the aim of thinning mucus and stimulating its removal, reducing its intracellular formation, changes in the nature of the secretion. Most often for systemic effects, drugs such as acetylcysteine, etc. are prescribed[13].

Puncture method treatment has both positive and negative effects sides. The advantages of the method are the possibility of fast and targeted evacuation of purulent discharge from the sinus, which corresponds to the fundamental principles of purulent surgery, however, due to the trauma and high risk due to complications, this method is used less and less in pediatric practice today.

Figure 1

Severity of symptoms (treatment of acute rhinosinusitis) in 123 patients before onset therapy and after 6 days of treatment with the drug turmeric solution (nasal douche)

- The number of patients with moderate or severe symptoms has decreased over the course ofs tudies from 48% at the beginning of the study to 6% after 6 days of therapy(Figure 1).
- None of the patients experienced severe symptoms during re-examination (compared to 5 patients at the beginning of the study).
- After 6 days of treatment, improvement in the condition was observed in 95% of patients, in 82%patients experienced the disappearance of all symptoms.
- The time to the first improvement in symptoms was 2.1±1.3 days from the start of therapy.

At the same time, local and general complications of maxillary puncture sinuses such as bleeding, needle penetration into the eye socket or into the cheek tissue are known with subsequent formation of phlegmon. Vascular embolism may also occur, anaphylactic and collapse reactions.

In the last decade, sinus puncture has given way to the YAMIK catheterization method. This method is based on the one proposed by A. Proetz displacement method [14]. The advantages of this method are its non-invasiveness, as well as the possibility of therapeutic effects on all ONP At the same time, the disadvantages are the lack of special sinus catheters in many hospitals, the need for special training of personnel, as well as the possibility infection of healthy sinuses[15].

Physiotherapy procedure sare also widely used in treatme ntsinusitis. However, if there is exudate in the ED before prescribing physiotherapy

it is necessary to empty them of their contents. The goal of physiotherapy for sinusitis is relief of inflammation, improvement of microcirculation and metabolism in tissues. Physical methods are prescribed to reduce the manifestations of intoxication (endonasal electrophoresis of various drugs, darsonvalization, diadynamic therapy), reduction of manifestations inflammation (ultra-high frequency therapy, centimeter wave therapy,

laser therapy, ultrasound therapy) and immune dysfunction (laser irradiation blood, magnetic therapy of the thymus, ultraviolet radiation, air baths, thalassotherapy)[16,17].

Figure 2

General improvement of symptoms with the use of turmeric (nasal douche)

After 1-3 days of treatment, 43% of patients experienced an improvement in symptoms. After 4-7 days of treatment, most of the remaining children showed improvement. Overall, after 7 days of treatment, disease symptoms improved in 83% sick.

Conclusion. The topic raised in this review is far from exhausted - treatment issues patients with acute rhinosinusitis and the choice of productive and rational etiopathogenetic drug therapy remain relevant. Knowledge, extensive clinical data and extensive practical experience foreign and domestic experts in this field, which form the basis consent and recommendation documents make it easier for the practicing physician searching for answers to these questions.

LITERATURE

1. Alekseevskaya O. A., Nazarov I. I., Piskunov G. Z., Kosyakov S. Ya. Features ciliary activity of the nasal mucosa // Russian Rhinology. - 2007. - No. 2.- P. 14.
2. Balyasinskaya G.L. And again this cold... // Pharmaceutical Bulletin. - 2007. - No. 36.- P. 16-17.
3. Wiesel AA Rational antibacterial therapy of upper respiratory tract infectionsrespiratory tract: use of local antibiotics // Consilium Medicum. Pulmonology. - 2008. - Vol. 10. - №1. - P. 12-14.
4. Demidenko A.N. Rhinosinusogenic intracranial complications: questions etiopathogenesis, improvement of diagnostics, surgical and conservative treatment: author's abstract. dis. ... candidate of medical sciences: 14.00.04. - Kursk, 2009. - 24 p.
5. Nosulya E.V. Prospects for improving antibacterial therapy of acute rhinosinusitis // Pharmateka. - 2010. - No. 10. - P. 28-30.
6. Bobokulova D.F.(2023). photodynamic therapy of purulent inflammation of the parapogeal sinuses. Ta'limda raqamli texnologiyalarni tadbiq etishning zamonaviy tendensiyalari va rivojlanish omillari. 24-to’plam noyabr 2023.172-180.

7. Tsyplakov D.E., Mosikhin S.B., Lopatin A.S. Morphological and electron microscopic examination of mucosal cells maxillary sinus in experimental sinusitis and treatment dynamics xymedon // Russian Rhinology. - 2007. - No. 1. - P. 8-11.
8. Nurov, U. I., Xolov, H. N., & Umarov, U. U. (2022). Immunological Diagnosis of Severity Rhinosinusitis. Web of Scholars: Multidimensional Research Journal, 1(5), 165-167.
9. Shilenkova V.V. Acute and recurrent sinusitis in children (diagnosis and treatment): author's abstract of dis. ... doctor of medical sciences: 14.00.04. - M., 2008. - 42 p.
10. Elkun G.B., Boykova N.E. Acute purulent pathology of ENT organs: approaches to treatment. // RMZh. - 2009. - No. 2. - P. 78-81.
11. Alkan A, Celebi N, Ba§ B. Clinical Acute maxillary sinusitis associated with internal sinus lifting: report of a case. // Eur J Dent.- 2008.- Vol. 2(1).- P. 69-72.
12. Boboqulova D.F(2024).Rinosinusitlarni davolashda dorivor o'simliklarning ahamiyati.Spanish international scientific online conference prospects and main trands in modern science.20-23.
13. Bayonne E., Kania R., et al. Intracranial complications of rhinosinusitis. A review, typical imaging data and algorithm of management. // Rhinology. 2009 Mar;47(l):59-65.
14. Felisati G., Borloni R., Maccari A. et al. Maxillary sinusitis today: a consequence ofdental and nasal disease. A case presenting with a difficult differential diagnosis // Minerva Stomatol. 2008.-Vol. 57(7-8).-P. 377-388.
15. Urlea-Sch MI. Effectiveness and tolerance of Euphorbium comp SN for the symptomatic treatment of rhinitis in children aged 2-6 years. Eur JIntMed 2009; 1:236.
16. Weiser M and Gottwald R. Homoopathische Nasentropfen lassen bei Kindern Rhinitis and Sinusitis schneller abklingen. Therapeutische Mitteilungen. Gesundes Leben 1999; 6:63.
17. Nurov U.I., Bobokulova D.F. (2023). study of the immunobiological activity of the medicinal herb celandine . Obrazovanie i nauka v xxi veke. №43-1,84-88.