

ETIOLOGY OF CHRONIC RHINOSINUSITIS AND EFFECTIVENESS OF ETIOTROPIC TREATMENT METHODS (LITERATURE REVIEW)

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Annotation: *The article presents the results of studies on the etiology of chronic rhinosinusitis and the effectiveness of drugs in etiotropic treatment. The importance of etiotropic treatment in the treatment of chronic rhinosinusitis is significantly higher, while preventing various complications, it helps to improve the quality of life of patients.*

Keywords: *chronic rhinosinusitis, effectiveness of treatment, antibiotics, complications, improvement of quality of life*

Purpose of work: Globally, in recent years, many effective treatment methods and modern drugs have been used in the treatment of chronic rhinosinusitis. Application of the research results presented in the article will help prevent many complications caused by chronic rhinosinusitis and improve the quality of life of patients.

Inflammatory diseases of the paranasal sinuses occupy one of the leading places in the structure of otorhinolaryngological diseases. More than 20% of the population of our planet suffer from various forms of rhinosinusitis. The widespread use of minimally invasive surgical procedures, as well as the use of new pharmacological preparations, have provided significant progress in the diagnosis and treatment of this pathology, but the incidence of chronic rhinosinusitis has not decreased in recent decades.

Despite the leading role of the infectious factor in the etiology of chronic diseases of the paranasal sinuses, the importance of allergies both in the development and in the clinical course of sinusitis is underestimated. Many authors associate the transition of inflammation of the paranasal sinuses into a chronic form with allergic tissue restructuring under the influence of allergens of various origins, including bacterial ones. In recent years, the qualitative composition of the microflora has changed significantly. In most patients with chronic rhinosinusitis, polyflora predominates. According to B.T. Palchuna et al. (2002), the role of *Pseudomonas aeruginosa* (30.7%), as well as staphylococcus (16.6%) has noticeably increased.

In general, chronic sinusitis occurs in 70-80% of all diseases of the paranasal sinuses. Most often there is chronic maxillary sinusitis (92%) of the sinus. And then the combined sinus ethmoid inflammation of the bone (5.1%), isolated ethmoiditis (1.2%), pansinusitis (1.2%) and chronic frontal sinusitis (0.5%). Chronic sinusitis can lead to complications and, in some cases, be life-threatening. Local complications include a variety of orbital complications, reactive inflammation of the soft tissues of the face bordering on the affected sinus, subperiosteal abscesses. Rhinogenic intracranial complications include arachnoiditis, extra- and subdural abscesses, meningitis, and cavernous sinus thrombosis.

One of the components of the nasal secretion defense system is sIgA, which is of great importance in the mechanisms of antimicrobial and antiviral protection of the upper respiratory tract. sIgA is synthesized by plasma cells under the action of cytokines and exhibits its bactericidal and antiviral activity by binding to toxins and lysozyme. It has been established that a decrease in sIgA may indicate a lack of local immunity function, and its increased amount - an imbalance in the immune system. In domestic work, a decrease in sIgA in saliva ($p < 0.05$) was found in patients with moderate and severe AR in combination with foci of chronic infection. In addition to mucous membranes, IgA is found in the blood serum. Both secretory and serum IgA are able to neutralize and remove pathogens.

In recurrent acute sinusitis, the spectrum and ratio of pathogens do not fundamentally differ from acute sinusitis.

The main role in the pathogenesis of odontogenic maxillary sinusitis is played by the presence of an oroantral fistula after the extraction of the teeth of the upper jaw and the casting of an aggressive infection from the oral cavity. Such sinusitis initially develops as an acute bacterial one, however, without plastic closure of the fistula, it can proceed for a long time, forming proliferative changes in the sinus mucosa. Another cause of the odontogenic process may be the presence of a foreign body of filling material that has entered the sinus lumen during the filling of the canals of the teeth.

As for the characteristics of the flora in patients with chronic rhinosinusitis, according to Brook, anaerobes and *Staphylococcus aureus* are most common in chronic sinusitis. *Pseudomonas aeruginosa* is a potential pathogen in immunocompromised patients, in patients with nasal catheters or tubes, or in intubated patients. At work. The author points out that in patients with chronic sinusitis, aerobes are sown in 25% of cases (more often Enterobacteriaceae and *Staphylococcus aureus*), anaerobes - in 34% (subspecies *Peptostreptococcus* and *Fusobacterium*, anaerobic gram-negative rods) mixed flora in 41% of cases. During exacerbations of chronic sinusitis, aerobes are isolated in 27% (*Str. pneumoniae*, Enterobacteriaceae w *Staphylococcus aureus*), anaerobes - 37% (subspecies *Peptostreptococcus* *Fusobacterium*, anaerobic gram-negative rods), mixed flora - in 37%. Thus, the author concludes that the flora in chronic sinusitis is mainly represented by anaerobes, but aerobes, recognized as the main causative agents of acute

sinusitis, also play an important role. A.M. Khudiyev conducted a bacteriological study in patients with chronic sinusitis: in 59% of cases, the bacterial flora of the nasal cavity and the maxillary sinus coincided. Staphylococcal flora was isolated in 50.7%, streptococci in 39.4%, *Escherichia coli* in 7%, and polyflora in 16%. In 2.8% of cases, the cultures were sterile.

A.I. Muminov and Khukova during a bacteriological study in patients with chronic MS found that the etiological factor in 65.1% of cases are various types of anaerobic non-clostridial bacteria. *Fusobacterium fragilis*, *Fusobacterium necroforum*, *Peptococcus*, *Bacteroides fragilis* were sown most frequently. The authors emphasize the fact of frequent symbiosis of anaerobes with intestinal microflora, in particular with *E. Coli*, *Proteus*, especially with *Escherichia streptococcus Pseudomonas aeruginosa*.

In recent decades, the growth of resistance of microorganisms to antibiotics has been alarming. The susceptibility of major bacterial pathogens to antibiotics varies greatly from country to country and even from region to region. As I.V. Otvagin et al. pneumococcus is sensitive to cefuroxime, to co-amoxiclav, to ampicillin in 100% of cases, to ceftibuten - in 91%, to co-trimoxazole - in 60.6%, to penicillin - in 97%.

As well as for pneumococcus, an increase in the resistance of *H. Influenzae* and *Moraxella catarrhalis* is characteristic. The main mechanism for the development of resistance in these microorganisms is the production of B-lactamases. High activity is retained by amoxicillin / clavulanate, cefuroxime. cefixime, pefpodoxime and fluoroquinolones. 24% of strains are resistant to co-trimaxosole.

According to the literature, the main direction in the treatment of chronic rhinosinusitis is the appointment of a new generation of broad-spectrum antibiotics orally for 7-14 days without sinus punctures. In this regard, rhinosinusitis ranks 5th among all diseases in terms of the number of prescribed antibiotics. Refusal to use uncomfortable, albeit quite effective techniques for acute purulent sinusitis is an urgent problem, since in the practice of an otorhinolaryngologist, many patients categorically refuse to perform a puncture. and from the use of a sinus catheter. ome antimicrobial drugs, effectively acting on various microorganisms, can cause profound changes in the quantitative and functional parameters of the immune system. Antibiotics inhibit antiviral activity, inhibit phagocytosis and antimicrobial resistance of the organism. By suppressing cellular immunity, antibiotics cause severe complications, including allergic ones. Irrational antibiotic therapy of recurrent rhinosinusitis becomes one of the reasons for the development of secondary immunodeficiency states.

There are other problematic aspects in rational antibiotic therapy, for example, the likelihood of side effects when using an antibacterial drug. Thus, according to O. Poschanukoon, M. Kitcharoensakkul, the frequency of diarrhea and the use of amoxicillin / clavulanate reaches 18.1%. Also, when using systemic antibacterial drugs, serious side effects may develop. For example, some studies indicate the development of liver

damage when taking amoxicillin / clavulanate. observed the development of hepatitis after a course in a 53-year-old patient with chronic rhinosinusitis

In chronic rhinosinusitis, the oral drug of choice is the inhibitor-protected aminopenicillin - amoxicillin / clavulanate or oral cephalosporins II generation cefuroxime axetil cefaclor, as well as the macrolides clarithromycin, azithromycin and tetracycline - doxycycline. Severe chronic rhinosinusitis requires parenteral administration of inhibitor-protected aminopenicillins.

As for the benefits, a study of the pharmacodynamics of chemotherapeutic drugs with direct antegrade endolymphatic administration showed that high concentrations of ero are created in the lymph nodes along the drug transport routes, lasting up to 15 days. At the same time, therapeutic concentrations of antibiotics remain in the blood and central lymph for up to 24 hours. It was noted that in the cervical lymph nodes, when drugs are injected into the lymphatic vessel on the foot, the therapeutic concentration lasts for 8 hours. The antibiotic administered by the endolymphatic route has a distinct positive effect even in cases where its maximum allowable doses are administered in the traditional way. turned out to be ineffective.

In otorhinolaryngology, there is a small number of works on the use of lymphatic therapy. So, K. Kasymov and A.I. Alimov proposed a method of regional lymphotropic administration of drugs for paranasal sinusitis. In an experimental study, the authors found that the content of ampicillin in blood serum after intrasinus administration after 12 hours is $5.3 \pm 1.2 \mu\text{g} / \text{ml}$, and with lymphotropic administration - $13.1 \pm 0.2 \mu\text{g} / \text{ml}$, which was in 2.5 times higher. Patients with acute and chronic purulent sinusitis were injected subcutaneously into the projection of the submandibular lymph node 8-12 units of lidase dissolved in 3-5 ml of 0.25% novocaine solution. Without removing the needle after 3-5 minutes, 125 mg of ampicillin was injected in 2 ml of saline. Injections were performed 1 time per day, 3-4 manipulations per course.

Conclusions. In conclusion, it can be said that etiotropic treatment is the main treatment method in the treatment of chronic rhinosinusitis. Determining the type of microorganism and its sensitivity to antibiotics remains the main factor determining the effectiveness of treatment in any case.

REFERENCES:

1. Gresser U. Amoxillin-clavulanic acid therapy may be associated with severe side effects - review of the literature // Eur J Med Res. 2001. Vol. 6, N4.-P. 139-149.
2. Han DH., An SY., Kim SW. et al. Primary and secondary fungal infections of the paranasal sinuses: clinical features and treatment outcomes // Acta Otolaryngol Suppl.- 2007.- Vol. 558.-P. 78-82.

3. Kozlov V.S., Shilenkova V.V., Shilenkov A.A. Treatment of acute and recurrent exudative sinusitis after ineffective systemic antibiotic therapy. *Russian Rhinology*. - 2005. - No. 4. - p. 30-35.

4. Desrosiers M., Ferguson B., Klossek JM. et al. Clinical efficacy and time to symptom resolution of 5-day telithromycin versus 10-day amoxicillin clavulanate in the treatment of acute bacterial sinusitis // *Curr Med Res Opin*. - 2008. Vol. 24, N6.-P. 1691-1702.

5. Samiyeva Gulnoza Utkurovna, & Farida Farhodovna Kholikova. (2022). OPTIMISATION OF TREATMENT METHODS FOR LARYNGOTRACHEITIS IN CHILDREN. *World Bulletin of Public Health*, 10, 153-155. Retrieved from <https://scholarexpress.net/index.php/wbph/article/view/1019>

6. Samieva Gulnoza Utkurovna, Abdirashidova Gulnoza Ablakulovna, Narzullaeva Umida Rahmatullaevna, Toirova Sakina Bahodirovna, & Mamadiyarova Dilshoda Umurzakovna (2019). The condition of pro-and antioxidant systems in children with acute laryngotracheitis with immunomodulating therapy. *Достижения науки и образования*, (10 (51)), 37-40.

7. Deryugina O.V., Kachkov I.A., Blagoveshchensky S.V. On the tactics of treating patients with purulent oto- and rhinosinusogenic intracranial complications. *Bulletin of Otorhinolaryngology*. - 2002. - No. 5. - p. 57-89

8. Kryukov A.I., Sedinkin A.A., Strachunsky L.S. Kozlov Sn Comparative evaluation of the clinical efficacy and tolerability of cefuroxime axetil (Pinat) and ceftibuten (Cedex) in patients with acute sinusitis // *Bulletin of Otorhinolaryngology*.-2001.5.- P. 29 32.

9. Palchun V.T., Luchikhin L.A., Zavgorodniy A.E. Modern principles of diagnosis and treatment of orbital rhinosinusogenic complications // *Bulletin of otorhinolaryngology*.- 2001.-№2.- P.4-7.

10. Muminov A.I., Khushvakova N.Zh. The use of ozone therapy in patients with chronic purulent rhinosinusitis // *Bulletin of an otorhinolaryngologist* - 2001.-N6.- P. 48-49.

11. U.R. Narzullaeva, G.U. Samieva, U.B. Samiev, The importance of a healthy lifestyle in eliminating risk factors in the early stages of hypertension, *Journal Of Biomedicine And Practice* 2020, Special Issue, pp. 729-733

12. Umida Rakhmatulloevna Narzulaeva, Gulnoza Utkurovna Samieva, Zilola Suvankulovna Pardaeva Pathogenetic Aspects of Verified Risk Factors Such as Arterial Hypertension nd Dyslipidemia in the Development of Chronic Heart Failure *American Journal of Medicine and Medical Sciences*, 2020 10(10), pp. 776-779