INHALATION THERAPY FOR INFLAMMATORY DISEASES OF THE LARYNX

Bukhara State Medical Institute

Nurov U.I, Bobokulova D.F.

Summary: ARVI is a heterogeneous group of diseases,whose etiological agents are respiratory viruses,predominantly affecting the epithelium of the upper respiratory tract (5,8,13,15,17,20). The most common disease of this group is acute rhinosinusitis, its contribution to the structure of ARVI is up to 80% .

Keywords: Inhalation therapy, larynx

According to the European guidelines for rhinosinusitis (1,5,8,12), acute rhinosinusitis - acute inflammation of the mucous membrane of the cavity nose and paranasal sinuses (appearing suddenly and lasting no more than 12 weeks), characterized by nasal congestion and/or discharge from the nose or along the back of the throat. The concept of “acute rhinosinusitis”covers a wide range of different nosological conditions, ranging from from a banal ARVI to a severe bacterial infection. About 5% of ARVI complicated by acute bacterial rhinosinusitis , with in which antibacterial drugs are prescribed in 30% of cases (6,10,15,18,20). Acute tonsillitis, along with acute rhinosinusitis, is also a widespread disease. Acute tonsillitis – acute inflammation of predominantly palatine tonsils, accompanied by their edema, hyperemia, the presence of exudate, as well as increased temperature body and the reaction of peripheral lymph nodes (2,4,9,14)IN It has now been established that the cause of acute tonsillitis in most cases is a viral, not a bacterial infection, with This is systemic antibacterial therapy for viral tonsillitis not effective (3,16,23). Today, the most widely used drugs for treatments for upper respiratory tract diseases are antibacterial drugs and non-steroidal anti-inflammatory drugs (NSAIDs). For effective treatment with antibacterial drugs is

required additional research, which often takes time, and the use of NSAIDs entails the development of side effects. That's why Today, the search for new effective and safe drugs for the treatment of inflammatory diseases of the upper respiratory tract. The literature widely contains descriptions of experimental models of allergic and bacterial rhinitis, but no description available experimental models of aseptic rhinosinusitis and acute tonsillitis, which makes it urgent to search for new experimental methods to assess the effectiveness of drugs used in therapy diseases of the upper respiratory tract (7,11,19).

Degree of development of the research topic The drugs Freshnos and KLS-04 proposed for study arenew medicines. Plants whose extracts were used in the creation of the drug freshnos, widely studied and presented in the literature. However, the combination of sage extracts, herbs common yarrow, St. John's wort herb and shoots wild rosemary in the form of nasal drops has not yet been were studied. These plants are widely known for their anti-inflammatory,antibacterial, antiviral and endothelium protective properties. In addition, the drug contains mint essential oil, which is widely used in drugs intended to treat inflammatory diseases of the upper respiratory tract and thymol, which is often used in complex preparations as an antiseptic (1,21,24). Thus, the main active ingredients of the study drug are the volatile components of essential oils and flavonoids, which provide a wide range of harmacologicaleffects of this drug (5,18,23). Goals and objectives of the study The purpose of this study was to evaluate the effectiveness of new preparations of natural origin Freshnos and KLS-04 using developed and validated models of aseptic acute rhinosinusitis and acute cervical lymphadenitis. Experimental methods developed and validated for the first time assessing the effectiveness of drugs using aseptic models inflammation of the upper respiratory tract. It has been shown that for the induction of acute cervical lymphadenitis as a pro-inflammatory agent is most It is advisable to use lipopolysaccharide from the bacterial cell wall E.coI (LPS) at a dose of 0.1 mg/kg and carrageenan at a dose of 0.8 mg/kg, and for development acute rhinosinusitis - formalin at a dose of 12 mg/kg.It has been proven that during the formation of acute cervical ymphadenitis, pathogenetically significant is to determine the

concentration of a proinflammatory cytokine in the blood experimental animals TYR-a - 4 hours from the moment of induction pathology and level of C-reactive protein (CRP) 72 hours after induction pathology. At the same time, during the formation of acute rhinosinusitis pathogenetically significant is the degree of increase in the number goblet cells and the severity of cellular infiltration of the nasal passages. For the first time, the effectiveness of using different doses was tested new anti-inflammatory drug Yu1S-04 in the form of a spray for stopping pathological processes accompanying the development aseptic lymphadenitis, while the benefits of using KLS-04 in comparison with tantum verde, diclofenac and dexamethasone. Also For the first time, anti-inflammatory activity was assessed in a wide range of doses. effectiveness of the new complex drug freshnos on models of aseptic acute rhinosinusitis in comparison with vibrocil and aquamaris, which made it possible to establish the range of effective doses of the drug for subsequent clinical testing. The theoretical significance of the work lies in the testing and validation of new experimental models of acute cervical lymphadenitis and acute rhinosinusitis in rats. Results of an experimental study of the drug KLS-04 was included in the dossier for the drug to obtain permission to conduct clinical trials.

CONCLUSION

The studies carried out allowed us to establish the effectiveness the use of new drugs of natural origin KLS-04 and freshnos,having pronounced anti-inflammatory properties on new developed and validated experimental disease modelsupper respiratory tract - acute cervical lymphadenitis and acuterhinosinusitis, respectively. Mechanisms for the implementation of pharmacological drugs by drugs were identified.effects. So, for acute cervical lymphadenitis, anti-inflammatory the effect of the drug KLS-04 is realized due to its influence on nonspecific cascade of inflammatory reactions, which is reflected in a decrease in the level proinflammatory cytokines, C-reactive protein and leukocytes.Also on experimental model of acute cervical lymphadenitis was shown pronounced anti-edematous effect of KLS-04, which was reflected in a decrease indicator of the difference in the mass of the affected and intact lymph nodes, and also in the percentage of mass

loss of the affected lymph node after freeze drying. Such a pronounced therapeutic effect of KLS-04 is due to inhibition of the synthesis of prostaglandins and leukotrienes from arachidonic acid, and initiation of the formation of resolvins, protectins and maresins involved in the resolution of the inflammatory process (2,8,24).When assessing the effectiveness of the anti-inflammatory effect The study drug freshnos based on plant raw materials was shown marked decrease in the number of goblet cells in the nasal passages experimental animals and a significant reduction in infiltration mucous membrane and submucosal layer with leukocytes. The anti-inflammatory effect is due to the constituents of each component of the drug with flavonoids, which have pronounced antioxidant properties and was confirmed during clinical trials.

PRACTICAL RECOMMENDATIONS

Developed and validated models of acute rhinosinusitis and acute cervical lymphadenitis are recommended for implementation in preclinical studies of the anti-inflammatory activity of new drugs funds for ENT practice.Results of an experimental study of a new complex anti-inflammatory drug KLS-04 are issued in the form of a dossier on drug to obtain permission to conduct clinical trials. On on this basis, the drug KLS-04 can be recommended for clinical testing as an anti-inflammatory and decongestant agent for treatment of upper respiratory tract diseases such as acute tonsillitis (angina), laryngitis, pharyngitis, taking into account the identified effective doses.Established anti-inflammatory activity of a new plant the drug freshnos allows us to recommend it for use in ENTpractice for the treatment of acute and chronic rhinitis and rhinosinusitis.

Literature:

1. Firangiz Suleymanovna Ikramova (2022). IMPORTANCE OF IMMUNOLOGICAL PARAMETERS IN THE CLINICAL COURSE OF PURULENT OTITIS MEDIA. Scientific progress, 3 (1), 151-156.

2. U. I. Nurov, F. S. Ikramova, & Sh. A. Alimova (2021). FUNCTIONAL

STATUS OF IMMUNE STATUS IN INFLAMMATORY DISEASES OF THE PARANASAL SINUSES IN TWIN CHILDREN. Academic research in educational sciences, 2 (5), 238-246. doi: 10.24411/2181-1385-2021-00879

3. Bobokulova D.F. (2023). MODERN APPROACH TO THE TREATMENT OF ALLERGIC RHINITIS IN CHILDREN. Ta'lim Innovatsiyasi Va Integratsiyasi, 3(1), 43–48.

4. Nurov U.I., & Ikramova, F.S. (2021). Features Of Non-Specific Protection Factors And Cytokine Status In Inflammatory Diseases Of The Paranasal Sinuses In Twin Children. The American Journal of Medical Sciences and Pharmaceutical Research, 3(02), 118–126. https://doi.org/10.37547/TAJMSPR/Volume03Issue02-18

5. Ikramova F.S., & Toyirov M.M. (2022). THE PREVALENCE OF CHRONIC RHINOSINUSITIS AMONG ENT PATHOLOGIES IN PRESCHOOL AND SCHOOL-AGE CHILDREN AT THE HOSPITAL STAGE OF MEDICAL CARE. Conferencea, 463–466.

6. Бобокулова Д.Ф. (2023). МАКТАБГАЧА ВА МАКТАБ ЁШИДАГИ БОЛАЛАРДА АЛЛЕРГИК РИНИТНИНГ УЧРАШ ДАРАЖАСИ . Journal of Creativity in Art and Design. Volume: 1 Issue: 1,25-30.

7. F. S., I., & Sh. A.A. (2023). Clinicofunctional Efficacy of Complex Treatment of Chronic Adenoiditis Using Phototherapy. European Journal of Medical Genetics and Clinical Biology, 1(1), 53–56.

8 Nurov U.I., Bobokulova D.F. (2023). STUDY OF THE IMMUNOBIOLOGICAL ACTIVITY OF THE MEDICINAL HERB CELANDINE . ОБРАЗОВАНИЕ И НАУКА В XXI ВЕКЕ. №43-1,84-88.

9. F.S., I., & Sh.A., A. (2023). Complex Treatment of Chronic Adenoiditis Using Phototherapy. European Journal of Medical Genetics and Clinical Biology, 1(1), 36–38.

10. 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.

11. F. S., I. . (2022). The Significance of Diseases of the Gastrointestinal Tract in the Clinical Course of Allergic Rhinitis. Miasto Przyszłości, 28, 97–98.

12. Nurov, U. I., & Ikramova, F. S. (2023). Association of Allergic Rhinitis with Liver Diseases. Scholastic: Journal of Natural and Medical Education, 2(1), 131-136.

13. Nurov U.I, Bobokulova D. F. (2023). Allergic Rhinitis in Young Children. Journal of Healthcare and Life-Science Research. Vol. 2, No. 3,39-44.

14. Nurov, U. I. (2023). Clinical Features of Otitis Media in Patients with Hiv Infection. Scholastic: Journal of Natural and Medical Education, 2(1), 123-130.

15. Shahnoza Azamatovna Alimova The incidence and clinical features of otitis media in patients with hiv infection // Scientific progress. 2021. №5.

16. Бобокулова Д.Ф. (2023). МАКТАБГАЧА ВА МАКТАБ ЁШИДАГИ БОЛАЛАРДА АЛЛЕРГИК РИНИТНИНГ УЧРАШ ДАРАЖАСИ . Journal of Creativity in Art and Design. Volume: 1 Issue: 1,25-30.

17. Алимова Шахноза Азаматовна ЭТИОПАТОГЕНЕТИЧЕСКИЕ ОСОБЕННОСТИ СРЕДНЕГО ОТИТА У БОЛЬНЫХ ВИЧ-ИНФЕКЦИЕЙ // Научный прогресс. 2021. No5.

18. U. I. Nurov, G. U. Nurova, & D. R. Rashidov (2022). THE INCIDENCE OF RHINOSINUSITIS AMONG ENT DISEASES IN SCHOOL-AGE CHILDREN. Scientific progress, 3 (4), 28-31.

19. Шахноза Азаматовна Алимова (2021). ЧАСТОТА И КЛИНИЧЕСКИЕ ОСОБЕННОСТИ СРЕДНЕГО ОТИТА У ПАЦИЕНТОВ С ВИЧ-ИНФЕКЦИЕЙ. Научный прогресс, 2 (5), 74-81.

20. Shaxnoza Azamatovna Alimova (2022). ЭТИОПАТОГЕНЕТИЧЕСКАЯ ХАРАКТЕРИСТИКА СРЕДНЕГО ОТИТА У ВИЧ ИНФИЦИРОВАННЫХ ПАЦИЕНТОВ. Scientific progress, 3 (1), 198-207.

21. Х. Н. Нуриддинов, Ш. А. Алимова (2022). АНАЛИЗ РЕЗУЛЬТАТОВ ЭНДОСКОПИЧЕСКОЙ ДИАГНОСТИКИ И ЛЕЧЕНИЯ ХРОНИЧЕСКОГО ПОЛИПОЗА, РИНОСИНУСИТА. Научный прогресс, 3 (5), 155-161.

22. F. S. Ikramova, & M. M. Toyirov (2022). THE PREVALENCE OF CHRONIC SINUSITIS IN THE PEDIATRIC POPULATION. Scientific progress, 3 (4), 38-41.

23. Нафиса Ботировна Саидмуродова, Шахноза Азамат Қизи Алимова, & Фирангиз Сулеймановна Икрамова (2021). ТУҒМА ТАНГЛАЙ КЕМТИКЛИГИ БЎЛГАН БОЛАЛАРДА ПАРАНАЗАЛ СИНУСЛАРНИНГ ФУНКЦИОНАЛ ҲОЛАТИ. Scientific progress, 2 (4), 404-411.

24. F. S. Ikramova (2022). ETIOLOGICAL FACTORS OF RECURRENCE OF CHRONIC PURULENT OTITIS MEDIA IN CHILDREN. Scientific progress, 3 (1),722-727.