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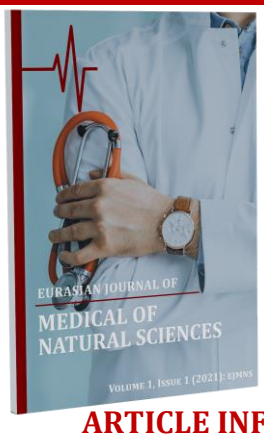

OPTIMIZATION OF TREATMENT METHODS FOR CHRONIC SPHENOIDITIS

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ABSTRACT

Inflammation of the sphenoid sinus in frequency of disease in the third place among sinusitis. The aim of the study was to investigate and compare various methods of treating chronic sphenoiditis. 25 scientific publications published in the last 10 years have been studied. Analysis of the literature showed that there are different views on the treatment of pathology of the sphenoid sinuses, but in determining the method of treatment of sphenoiditis, in our opinion, it is also necessary to take into account the age characteristics of the patient.

Inflammatory diseases of the paranasal sinuses are one of the most pressing problems of otorhinolaryngology. In recent decades, the incidence of sinusitis has increased almost 3 times, while there is a clear tendency to increase the frequency of recurrent and chronic forms of sinusitis [2,3,6,8,11,14]. Among patients hospitalized in ENT clinics, the proportion of patients with rhinosinusitis is 29-46% [1,4,5,7,12]. The increasing number of patients with inflammatory diseases of the nose and paranasal sinuses (SNPs) every year leads to significant costs in the public health system associated with modern treatment technologies, as well as the use of a large number of expensive drugs. The reasons for the increase in the incidence include the anatomical and physiological features of the structure of the nose and SNPs, the complexity of the pathogenesis of the occurrence of chronic inflammatory diseases, as well as the increasing environmental load on the upper respiratory tract. The quality of the diagnosis of inflammatory diseases of the paranasal sinuses has significantly improved in the last decade, but despite the widespread introduction of modern radiation diagnostic methods (KT and MRI research) and the development of endoscopic rhinosurgery [1,2,5,7,13], in practical medicine, the diagnosis of “sphenoiditis” is still a rare nosological form. A variety of symptoms of sphenoiditis, insufficient informational content of diagnostic methods due to the deep location of the sphenoid sinus make it difficult to make a timely and correct diagnosis. As a result, the focus of purulent infection in the sphenoid sinuses most often remains unrecognized, playing a large role in

maintaining the inflammatory process in other paranasal sinuses, the course of concomitant and associated diseases [6], and also the cause of various changes in the shells of the brain adjacent to the sinus leads to the development of ophthalmoneurological complications [9]. These circumstances determine the importance of timely diagnosis and treatment of sphenoiditis. Probing the sinus through the natural anastomosis is the most affordable and physiologically sparing method for diagnosing and treating sphenoiditis, but it has not been widely used in practical medicine because of fear of possible damage to vital structures. Using this method requires detailed knowledge of the anatomy of the nose. These factors hinder the introduction of the sounding method in the practice of a doctor - otolaryngologist. To conduct safe sounding of the sphenoid sinus, knowledge of the distance from the anterior lower nasal spine to the anterior wall of the sphenoid sinus is of great practical importance, this size is one of the main guidelines. According to many authors, this distance is different [3,6,10,15]. Thus, the issues of diagnosis and treatment of inflammatory diseases of the sphenoid sinus, taking into account age-related aspects, have not been studied enough, and this hinders the development and implementation of new diagnostic and therapeutic measures. The aim of this review is to study various methods of treating patients with chronic sphenoiditis based on an analysis of modern literature. Materials and research methods. We have analyzed 25 foreign publications devoted to modern methods of treatment of chronic sphenoiditis. Research results and discussion. Over the past decades, significant progress has been noted in the diagnosis and treatment of respiratory tract diseases, in particular various forms of sinusitis, a pathology that affects more than 20% of the world's population [1,2]. Advances in immunology, genetics, and the results of basic research have brought researchers closer to solving many problems associated with the occurrence and development of pathological changes in tissues at the cellular, molecular level. The creation of new pharmacological preparations, the discovery of more advanced antibiotics made it possible to successfully deal with various types of infectious pathogens. The introduction of microsurgical techniques into practice, the development of minimally invasive methods of surgical intervention, have determined a qualitatively new approach to the treatment of sinusitis. However, neither new molecules, nor modern surgical techniques have reduced the percentage of the incidence of this pathology [3, 4, 5]. Moreover, in recent years, there has been a significant increase in sinusitis caused by atypical pathogens, saprophytic flora, which usually does not lead to inflammation in conditions of healthy microbiocinosis of the mucous membranes [6]. At the same time, inflammation of the sphenoid sinus in the structure of sinusitis according to various authors is from 10 to 58% of cases and the frequency of sphenoiditis is third after inflammatory diseases of the maxillary sinuses and ethmoid labyrinth, often combined with them in the form of polysinusitis [1,3]. The quality of the diagnosis of inflammatory diseases of the paranasal sinuses has significantly increased in the last decade, but despite the widespread introduction of modern radiation diagnostic methods (KT and MRI research) and the development of

endoscopic rhinosurgery, the diagnosis of sphenoiditis in medical practice is still a rare nosological form. A variety of symptoms of sphenoiditis, insufficient informational content of diagnostic methods due to the deep location of the sphenoid sinus make it difficult to make a timely and correct diagnosis. As a result, the focus of purulent infection in the sphenoid sinuses most often remains unrecognized, playing a large role in maintaining the inflammatory process in other paranasal sinuses, the course of concomitant and associated diseases, and is also the cause of various changes in the membranes of the brain adjacent to the sinus, leading to the development of ophthalmoneurological complications [3,7]. These circumstances determine the importance of timely diagnosis and treatment of sphenoiditis. Some foreign scientists report that in about 40-45% of cases, the inflammatory process in the paranasal sinuses resolves independently. Therefore, the task of the otorhinolaryngologist is to help the rest of the patients recover. Since the leading role in the development of the inflammatory process in the paranasal sinuses belongs to the viral infection and the condition of the osteomyatal complex, the main point in the treatment of sinusitis is the suppression of bacterial inflammation and the restoration of the drainage function of the sinus anastomoses [5,8]. Endoscopic diagnosis of the nasal cavity and paranasal sinuses occupies an important place in the examination of patients with all forms of chronic sinusitis [4, 5]. In acute sinusitis, in most cases, it is sufficient to prescribe broad-spectrum antibiotics for a period of 7 to 10 days. The choice of antibiotic and the method of its delivery to the lesion are determined by the nature of the microorganism that caused the inflammation, and the severity of the process. Therefore, it is preferable to administer antibacterial drugs directly to the mucous membrane of the nasal cavity and paranasal sinuses [4, 6]. In conjunction with antibiotic therapy, it is necessary to carry out measures for the rehabilitation of the affected sinuses: washing the sinuses of the nose by moving drugs along the Proetz, puncture of the paranasal sinuses, using the JAMIC sinus catheter. At the same time, in some patients, it is necessary to use techniques that ensure the active evacuation of pathological secretions from the affected sinus and the introduction of drugs into it. With sphenoiditis, endonasal sounding of the sphenoid sinus is used through a natural anastomosis, which is both a therapeutic and diagnostic method. Some authors note that the sounding allows you to establish the nature of the existing changes that caused a decrease in transparency, revealed on the roentgenogram of the sphenoid sinuses [8]. Probing also allows you to determine the presence of contents in the sinus and its nature, indirectly judge the size of the sinus and the condition of its mucous membrane. The introduction of a contrast medium makes it possible to obtain more accurate information about the nature of the change in the sinus mucosa and helps to resolve the issue of indications for conservative or surgical treatment. Some authors, based on their experience, note the significant advantages of the method of forced drainage of the sinuses through natural anastomoses [9]. With this method, there is an improvement in the spontaneous outflow of exudate from the natural anastomosis due to its bougieurage. Using this method, the potential volume of

surgical intervention is reduced. For punctures of the sphenoid sinus, many different devices and methods have been proposed [2, 8, 9]. There are methods for endonasal puncture of the sphenoid sinus with accurate determination of the aiming angle using the aiming device, which determines the production of a puncture of the main sinus that is safe for the patient's body. For this, some authors have developed a device called aiming-visual, which is a modified Killian nose mirror [8]. Subsequently, an aiming and visual puncture method was developed [10]. However, it should be noted that the method of puncture of the sphenoid sinuses is not widespread in practical medicine, due to technical difficulties and fears of manipulation. For therapeutic purposes, puncture must be performed repeatedly, in connection with this, the risk of various kinds of complications increases. Conservative therapy is most effective in acute and some forms of chronic inflammation of the sphenoid sinus. The presence of polypous, polypous-purulent, cystic and often recurring chronic purulent sphenoiditis is an indication for surgical treatment. At the same time, it is recommended to begin rehabilitation measures with conservative methods. Only with short periods of remission and the absence of recovery is surgical treatment considered reasonable [10]. At present, endonasal surgical procedures on the paranasal sinuses, based on the use of the most modern technology: surgical microscopes, endoscopes, high-speed drills, and microdebriders, which make the operation minimally traumatic and safe, are becoming increasingly popular [12]. The deep location of the sphenoid sinus, proximity to vital structures, the pronounced variability of the anatomical structure requires the choice of the most sparing and at the same time the most effective method that preserves the most important function of the natural opening, the integrity of the sinus. Currently, among the concepts of paranasal sinus surgery, the most common is the concept of functional sinus surgery [11]. According to this concept, the main goal is the reconstruction of the zone of the ostiomeatal complex. Since most inflammatory processes in the sinuses are rhinogenic in nature, it is necessary to restore ventilation and drainage of the affected sinus through physiological pathways. Currently, the main direction in the treatment of uncomplicated forms of chronic sphenoiditis is sparing endonasal endoscopic surgery [13]. However, regardless of the method of surgical intervention used, it should be remembered that the optic nerve runs along the lateral wall of the sinus, followed by the internal carotid artery. It should be borne in mind that artificial anastomosis after surgery tends to narrow, but in all cases it is available for probing, washing, and control sinusoscopy [15]. The complexity of the anatomical and topographic structure of the sphenoid sinus, the deep location and poor visibility of its anterior wall, the fear of accidental damage to neighboring vital structures cannot insure the surgeon from the possibility of severe ocular and intracranial complications. Thus, we noted that there are different views on the treatment of pathology of the sphenoid sinuses, but in determining the method of treatment of sphenoiditis, in our opinion, it is also necessary to take into account the age-related characteristics of the patient. Probing of the sphenoid sinus is the most effective method for treating inflammatory

diseases of the main sinus, and long-term sinus drainage performs the function of bougie, which prevents the narrowing of the artificial anastomosis and reduces the number of relapses of sphenoiditis.

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