American Journal of Bioscience and Clinical Integrity
https://biojournals.us/index.php/AJBCI
ISSN: 2997-7347

Evaluation of the Effectiveness of Surgical Treatment of Chronic Purulent Otitis Media with Simultaneous Tympanoplasty

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Received: 2024, 15, Dec
Accepted: 2024, 21, Jan
Published: 2025, 15, Feb

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Annotation: In this scientific article, the balance organs of humans and vertebrates are the vestibular apparatus. In addition to the vestibular apparatus, the skin, musculoskeletal and visual sensory reflex play a significant role in maintaining balance in a person. The complex relationships formed in the process of these reflections ensure balance.

Keywords: muscle-joint, anatomy, microanatomy, histology, plastic anatomy, cardiovascular.

Introduction

One of the urgent problems of modern otorhinolaryngology is the problem of treatment and prevention of chronic purulent otitis media, which still occupies a significant share, and not only leads to a decrease in social and business activity and a deterioration in the quality of life of patients, but also often causes severe intracranial complications. According to domestic and foreign authors, 1.5 to 4% of the population suffers from this disease. An analysis of the trend in the development of surgical methods for the treatment of chronic purulent otitis media in recent decades shows that currently more and more OTO surgeons are inclined to combine the sanitizing and reconstructive stages of ear surgery.

The purpose of the study:

Improving the effectiveness and quality of treatment of patients with various forms of chronic purulent otitis media by developing and justifying simultaneous tympanoplasty, taking into account the etiopathogenetic mechanisms of the disease and based on a problematic, integrative approach, methodology of the concept of evidence-based medicine and the concept of quality of medical care.

The research objective:

1. To evaluate modern ideas about the etiology and pathogenetic mechanisms of the occurrence of chronic purulent otitis media, modern "views on methods and tactics of surgical treatment; to

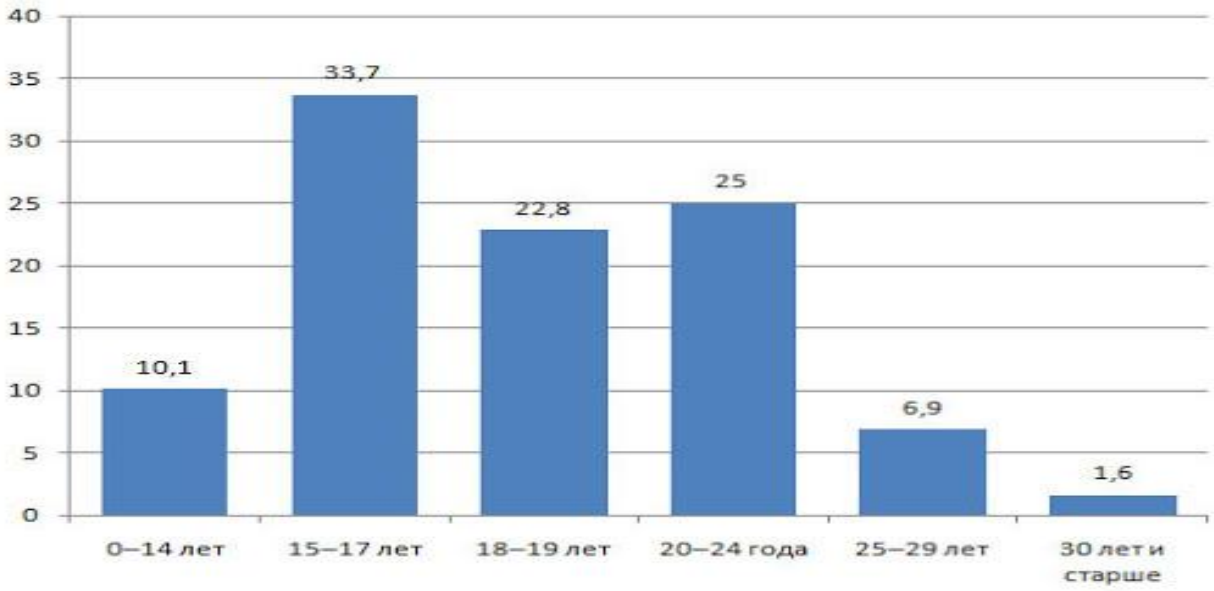
assess their advantages and disadvantages;

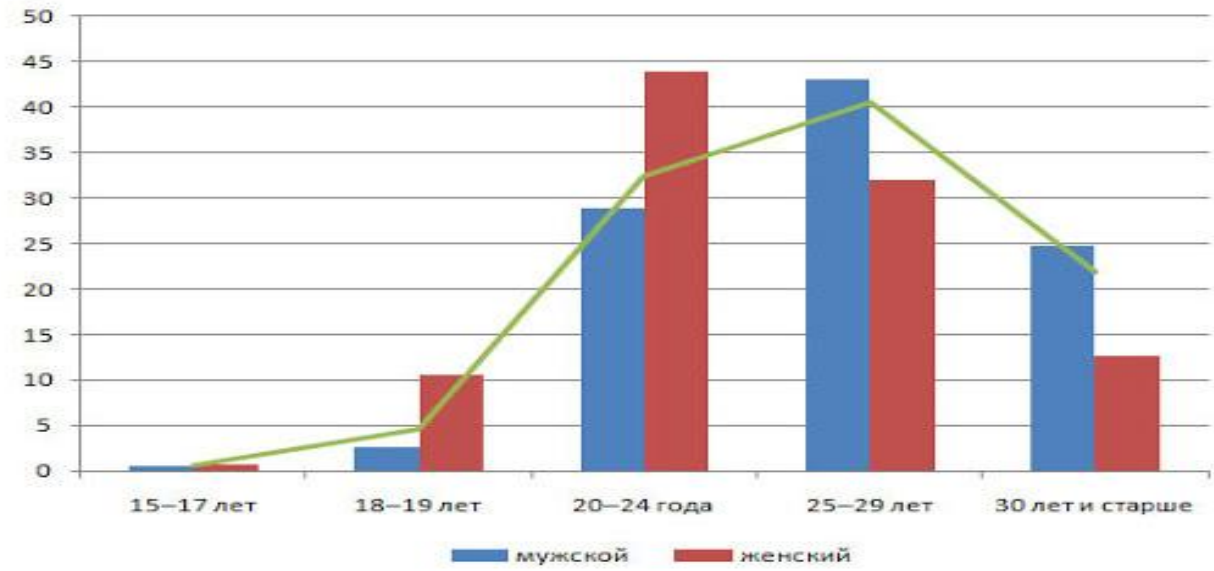
2. To conduct a comprehensive examination of patients with chronic purulent otitis media to clarify the features and conditions of the development and course of the inflammatory process in the middle ear;

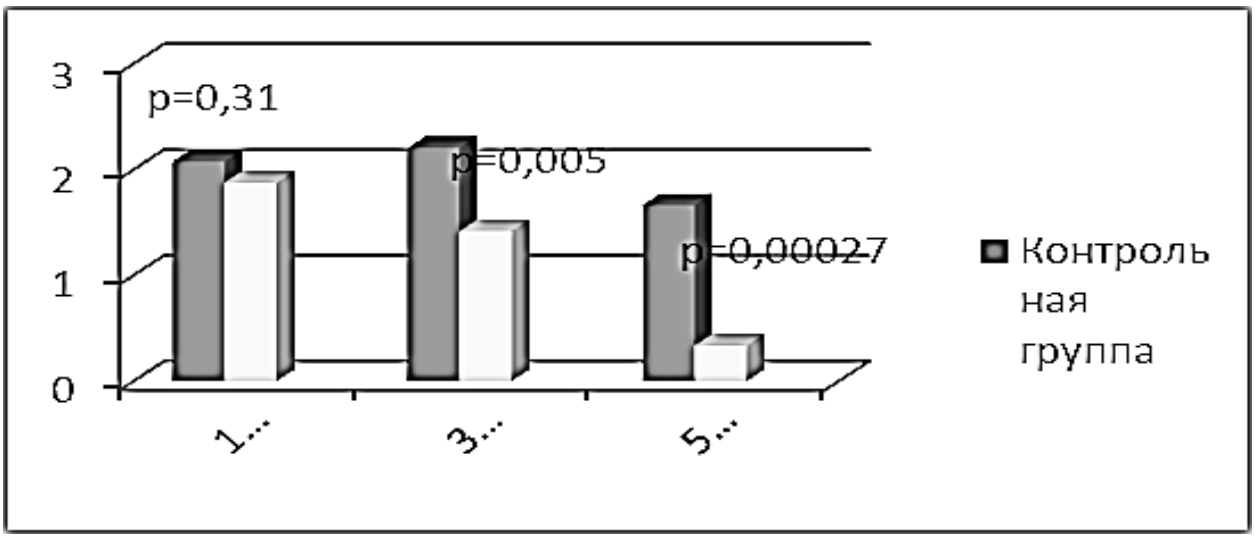
3. To select and detail the most effective methods for correcting the function of the auditory tube in the postoperative period of tympanoplasty.

Research materials and methods:

The data of 70 patients aged 18 to 50 years (50 main group, 20 control group) with a diagnosis of purulent otitis media who were treated at the ASMI clinic in the period 2018-2021 were studied.







Results and Discussion

The findings from the study on the effectiveness of surgical treatment for chronic purulent otitis media (CPOM) with simultaneous tympanoplasty indicate significant improvements in both the morphological and functional outcomes of patients. This investigation highlights the importance of combining sanitizing and reconstructive stages in the treatment process to enhance the efficacy of surgery. The study's results demonstrated that simultaneous surgery on the middle ear, as well as the nasal cavity and paranasal sinuses, results in stable positive outcomes. This aligns with current trends in otorhinolaryngology, where an integrated approach is becoming increasingly favored for addressing the multifactorial nature of CPOM.

The cohort of 70 patients included in this study presented compelling data regarding the correlation between chronic purulent otitis media and the concomitant nasal and sinus conditions. The analysis revealed that pathological changes in the pharyngeal openings of the auditory tubes were observed in 30% of mesotimpanitis cases and 70% of epitympanitis cases. These findings suggest that the condition of the nasal cavity plays a significant role in the progression and chronicity of middle ear diseases, supporting the need for a comprehensive surgical approach targeting both the ear and nasal structures. A critical observation was the increased effectiveness of tympanoplasty when performed in the early postoperative period. Early intervention significantly contributed to reducing the incidence of reperforation by 15.5%. This underscores the necessity for timely surgical intervention, particularly in patients exhibiting concurrent nasal cavity diseases, as it enhances the overall stability of the surgical outcomes. These results are consistent with prior studies that advocate for early reconstruction to improve long-term auditory function and prevent the recurrence of otitis media.

While the results of this study are promising, they also highlight several avenues for future research. One of the key areas for further exploration is the pathophysiological relationship between nasal cavity diseases and chronic purulent otitis media. The current study provided valuable insights into the prevalence of auditory tube dysfunction in patients with nasal pathologies, but further research is required to understand the underlying mechanisms that contribute to this association. For instance, a deeper investigation into the role of nasal mucosal inflammation in the development of middle ear infections could potentially lead to more effective treatment strategies targeting both the ear and nasal cavity simultaneously. Additionally, the long-term effects of simultaneous tympanoplasty and nasal cavity surgery warrant further study. Although the current research demonstrates promising short-term results, longitudinal studies are needed to assess the durability of the treatment outcomes. This includes investigating the long-term impact of early tympanoplasty on the prevention of hearing loss and the overall quality of life for patients with chronic purulent otitis media.

There is also a need for more robust, multi-center studies involving larger sample sizes to

strengthen the generalizability of the findings. While the results of the current study are promising, further research with a more diverse patient population would provide greater insight into the effectiveness of this surgical approach across different demographics and regions.

Lastly, a more nuanced understanding of the influence of various etiopathogenetic factors, such as genetic predisposition or environmental factors, on the success of simultaneous surgical treatments could provide valuable insights. By expanding research to include these variables, clinicians can tailor treatment plans to better suit individual patient profiles, ultimately improving surgical outcomes.

Conclusion:

1. Simultaneous rehabilitation and reconstructive surgery on the middle ear and reconstructive surgery in the nasal cavity and paranasal sinuses allows achieving stable positive morphological and functional effects.

2. In patients with chronic purulent otitis media and concomitant diseases of the nasal cavity, pathological changes in the pharyngeal openings of the auditory tubes occur in 30% of cases of mesotimpanitis and 70% of cases of epithympanitis.

3. Performing tympanoplasty in the early postoperative period makes it possible to increase the effectiveness of tympanoplasty and achieve more stable anatomical and functional results, including reducing the incidence of reperforation by 15.5%.

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