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With exudative otitis media injection of medicines into the tympanic cavity

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Abstract. *Treatment for exudative otitis media (ESM) in most cases requires topical application of medications that are designed to stop the inflammatory process and affect the exudate in the middle ear cavity. One of the most common methods of treating ESOis ear tube catheterization with a Guillot catheter, which is not alwayseffective. This paper presents the second stage of the study on the introduction of drugs-into the middle ear using an original ear catheter. The study included patients with ESO (N = 14, disease duration from 2 to 3 months). Patients underwent surgical treatment: eardrumbypass surgery, septoplasty, and turbinoplasty under endotracheal anesthesia. An intraoperative experiment was conducted to evaluate the effectiveness of ear tube catheterization with an original catheter, tinted solution andMiramistin solution. In all 14 cases, the tympanic membrane of the affected ear performed oscillatory movements during catheterization, in sync with the reciprocating movements of the syringe plunger. In 2 cases (14.3%), we did not visualize the colored solution behind the eardrum. Total fillingof the tympanic cavity with tinted saline solution was 4 patients (28.6%), while the average volumeof the administered solution (V) was 4.09 ml, in 8 ears (57.1%) the tympanic cavity was partially filled with contrast solution (V = 7.0 ml). When transtubary administrationof Miramistin solutioninto the tympanic cavity in all cases (14 ears) – ingress of antiseptic solution into the external auditory canal after miringotomy. Comparing the average volume of the tympanic cavity with the volume of the drug administered, which is necessary for the initial filling of the tympanic cavity, the minimum loss of the liquidform of the drug was 1: 2.*

Key words: ear tube catheterization, exudative otitis media, ear tube dysfunction, tympanic cavity, otitis media.

Introduction

Despite a more significantpreventive focus in modern medicine, there is asteady increasein diseases that manifest themselves as persistent hearing loss. WHO predicts that the number of people with socially significant hearing impairments will increase by more than 30% by 2030. Otitis media is the main cause of hearing loss in at least a third of cases, especially in children, with exudative otitis media (ESM) accounting for 15-17% of all ear diseases. ESO was described byPosterior Riverius 3 centuries ago as an independentdisease characterized by the formation of aviscous fluid in the middle ear. However, close attention to ESO in the medical literaturehas been paid only in the last 30-40 years. This is due to a number of reasons: a rapid increase in the disease over the past decades, the complexity of treatment, frequent relapses and a deteriorationin the quality of life of patients due to hearing loss. ESO is a polyethological inflammatorydisease of the middle ear, in theetiopathogenesis of which auditory tube dysfunction (DST) plays a key role [5].

As is known, theauditory tube (ST) is a narrow channel about 3.5-3.7 cm long connecting the middle ear cavity with the nasopharynx [6]. There are 3 main ST functions: ventilation, drainage, and protective. When all three functions are provided normally, the fourth function, the acoustic function of the ST, is performed. Accordingly, DST can be considered a violation of at least one of its functions. DST is divided into acute and persistent. There are 3 main pathogenetictypes of persistent DST: obstructive, reflux dysfunction, and gaping CT, butfactors leading to persistent DST also play a role in the development of acute DST. CT dysfunction is moreor less present in all inflammatory diseases of the middle ear, and, as I. V. Otvagin points out, more than a third of all cases of conductive and mixed hearing loss can be associated with impaired CT function.

Treatment of ESO is always complex. First of all, it is necessary to eliminatethe causal factors underlying the formation of DST and ESO (surgical/conservative treatment in the pathology of the nasal cavity and nasopharynx,relief of allergic and inflammatory pathologies).

Methods of treating DST vary fromobservation tactics to surgical treatment. A wait-and-see approach can be used for uncomplicated CT dysfunction, however, according to M. Gluth et al, only a thirdof cases have spontaneous resolution within6 weeks. The choice of treatment method depends on the cause of exudate formation in the middle ear, on the stage of development, on the somatic state of the patient and should be individual foreach patient. Existing methods of treating ESO with CT dysfunction can be divided into medical, physical, and surgical methods. Treatment of ESO is always complex and is aimed at evacuation of secretions from the tympanic-cavity, restoration of CT function. Treatment of acute CT inflammation in most cases requires topical applicationof medications that are designed to stopthe inflammatory process and reduce mucosal edema.Decongestants, antihistamines, and steroid medications are used to improve the function of CT in acute purulent otitis media, ESM, and tubotitis используются деконгестанты, анти. In the treatment of ESO, in addition to the effect on the ST, agents that affect the exudate are of great importance.Mucoactive drugs such as mucoregulators, mucokinetics, and mucolytics are used to change the drainage function of the ST and to change the rheological properties мукоактивные лекарственные вещества: мукорегуляторы, мукокинетики и ofthe exudate. Mucolytics, in turn,are subdivided into enzyme and non-enzyme ones.

Physical methods includevarious exercises aimed at improvingthe function of the CT and promoting the removal of exudate – the so-called gymnastics for CT. The patient independently performs exercises aimed at improving the ventilation and drainage functions of the ST. Physical-methods also include procedures performed by an ENT doctor: pneumomassage of the tympanic membrane (hardware, usinga Siegle funnel),and Politzer СТПолитцеру.

When evaluating the mobility of the tympanicmembrane during CT catheterization, we found that in all 14 cases (100%), the tympanic membrane of the affected ear performed oscillatory movements synchronously with thereciprocating movementsof the syringe plunger. Thus, the result obtained by us (P = 1 point according to VAS) indicates that CT catheterization with an original earcatheter allows you to forcibly change the pressure in the tympanic cavity as a result of moving intra-tympanic contents (air or liquid).

literature

1. Alberti Y. W., Bastos I., Bluestone C. D. Prevention of hearing impairment from chronic otitis media. WHO Report.2000:8–9.
2. Tavartkiladze G. A. Rehabilitation audiology: fundamentals, principles, prospects. Russian otorhinolaryngology. 2003;3(6):132.
3. Volodkina V. V. Relapsing exudative otitis media in children: автореф. дисauthor's abstract of the dissertation of the Candidate of Medical Sciences, Moscow, 2006, 25 p.
4. Burmistrova T. V. Modern etiopathogenetic aspects of exudative otitis media. Russian otorhinolaryngology. Proceedings of the 51st Conference of Young Scientists. 2004(1):25–28. https://entru.org/2004-1.html
5. Zhumabaev R. B. Review of methods of treatment of exudative otitis media in world practice. Bulletin of AGIUV. 2016(2):6-12.
6. Leuwer R., Koch U. Anatomy and physiology of the auditory tube. Therapeutic possibilities in chronic disorders of tubal function (in German). HNO. 1999;(47):514–523.
7. Otvagin I. V. Epidemiological aspects of hearing disorders in people of working age in the Central Federal District. Bulletin of Otorhinolaryngology. 2004;5:33–35.