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DIAGNOSTICS AND RESULTS OF SURGERY TREATMENT OF CHRONIC OTITIS MEDIA

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Resume

The purpose of the work: A comparative description of the results of type I-III tympanoplasty and the study of the characteristics of multispiral computed tomography (MSCT) in chronic otitis media.

Materials and methods There was hold an analyze of 204 medical records of patients who were hospitalized in the ENT department of the Tashkent Pediatric Medical Institute at the age from 10 to 50 with chronic otitis media (COM) before and after surgical treatment in tympanoplasty of type I-III.

Results of the analysis of audiological data (after 2 years), 97,1% of Hearing Improvement function was revealed in patients of the Group I, 92,5% of improvement in patients of the Group II and 89,7% in Group III.

The results obtained indicate that the widespread use of automaterial (perichondrium with cartilage) in in tympanoplasty of type I-III will improve the quality of surgical indicators.

The use of multispiral computed tomography (MSCT) of the temporalis bones provides new opportunities for the diagnostics of COM and helps the surgeon to accurately identify the operation.

Key words: COM, tympanoplasty, multispiral computed tomography.

ДИАГНОСТИЧЕСКИЕ АСПЕКТЫ И РЕЗУЛЬТАТЫ ТИМПАНОПЛАСТИКИ ПРИ ХРОНИЧЕСКОМ ГНОЙНОМ СРЕДНЕМ ОТИТЕ

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Резюме

Цель работы: изучить сравнительную характеристику результатов тимпанопластики I-III типа и характерные особенности показателей компьютерной томографии (МСКТ) при хроническом гнойном среднем отите.
Материал и методы. Проведен анализ результатов тимпанопластики 204 пациентов в возрасте от 10 до 50 лет ХГСО, находившихся на стационарном лечении в ЛОР-отделении клиники ТашПМИ, до и после тимпанопластики I-III типа.

Результаты анализа аудиологических данных (через 2 года), после реоперации, у пациентов I группы улучшения слуховой функции составило 97%, во II группе 92% и в III группе 89%.

Полученные результаты свидетельствуют, широкое применение аутоматериала (надхрящница с хрящом) при тимпанопластики I-III типа, позволит повысить качество хирургических показателей.

Использование МСКТ высочайших костей открывает новые возможности в диагностике ХГСО и помогает хирургу достоверно определить объем хирургического вмешательства.

Ключевые слова: хронический средний отит, тимпанопластика, мультиспиральная компьютерная томография.

СУРУНКАЛИ ЙИРИНГЛИ ЎРТА ОТИТ ДАВРИДА ТИМПАНОПЛАСТИКАНИНГ ДИАГНОСТИК АСОСЛАРИ ВА НАТИЖАЛАРИ

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Резюме

Тадқиқот максади: I-III турдаги тимпанопластика натижаларининг киёсиий тавсифини ва сурункали йирингли ўрта отит (СЙЎО) даврида компьютер томография (МСКТ) кўрсаткичларининг характерли хусусиятларини ўрганиш.

ТошПТИ клиникасининг ЛОР бўлимида стационар даволанишида бўлган СЙЎО билан касалланган 10 ёздан 50 ёзгача бўлган 204 та беморларда I-III турдаги тимпанопластикадан олдинги ва кейинги натижалари ташкил қилган.

I гуруҳда ногона пардаси нуксанини берилса улчун аутотрансплантант, қулоқ думбогчиси тогай усти пардаси билан тогай, II гуруҳда тогай усти пардаси, III гуруҳда чака мушак усти пардаси аутофасциясида фойдаланилган. I-III турдаги тимпанопластиканинг анатомик самарадорлиги I гуруҳдан беморларда эндоурал усули билан жарроҳликдан қийин 94% га, II гуруҳда 91% ва III гуруҳда 85% га етган.

Аудиологик маълумотларни таҳлил натижалари (2 йилдан кейин), қайта жарроҳликдан сўнг, эшитли функциясини яхшиланиши I гуруҳдан беморларда 97%, II гуруҳда 92% ва III гуруҳда 89% ни ташкил этди.
Relevance

Chronic suppurative otitis media (CHS) still remains one of the important problems of otorhinolaryngology and is still a common disease with an average incidence of 1.5-5% of the population, and is also one of the main reasons for hearing loss in people of working age [1 -21,28,29].

Of all the existing methods of functional-reconstructive surgical interventions for chronic hepatitis B, the method of restoration of the tympanic membrane is most often used in clinical practice, i.e. myringoplasty [1, 2, 4, 6, 8]. The effectiveness of myringoplasty depends on the size of the tympanic membrane perforation, the duration of the disease, the stage of the pathological process, an adequate selection of biomaterial and on the regenerative capabilities of the tissues of the graft bed. The success of myringoplasty depends on both the functional result and the outcome of the termination of the tympanic cavity infection through perforation [3,5,7,8,9]. From a diagnostic point of view, at present, multispiral computed tomography (MSCT) of the temporal bone is of indisputable help in CHS. This technique is quite informative in terms of diagnostics, it is especially important before performing hearing-improving operations, for assessing the state of the auditory tube, structural cells of the mastoid process and meninges, the state of the auditory ossicles and the labyrinth [7].
**Purpose of the work:** to study the comparative characteristics of the results of type I-III tympanoplasty and the characteristic features of computed tomography (MSCT) indicators in chronic purulent otitis media.

**Material and methods**

The analysis of the results of tympanoplasty of 204 patients aged 10 to 50 years, CHGS, who were inpatient treatment in the ENT department of the TashPMI clinic, before and after tympanoplasty of I-III types.

The studied patients, depending on the material used, were divided into three groups. Group I included 69 (33.8%) patients in whom the perichondrium of the tragus with cartilage was used to eliminate the defect of the tympanic membrane. Group II included 67 (32.8%) patients, where the perichondrium of the tragus was used. In group III there were 68 (33.4%) patients in whom the temporal muscle autofasction was used during tympanoplasty. There were 127 (62.3%) patients with bilateral ear lesions, 77 (37.7%) patients with unilateral ear lesions. In case of bilateral lesions, tympanoplasty was performed on the worse hearing ear. All patients underwent a general clinical examination, traditional examination of ENT organs, otomicroscopy, determination of the patency of the auditory tube, endoscopic examination of the nasopharynx and the mouth of the auditory tube, acumetry, tone threshold audiometry and MSCT of the temporal bones. The studies were carried out on a Toshiba Aquillion multispiral computed tomograph with a tomograph step of 1 mm and a slice thickness of 1 mm.

**General characteristics of patients.** The analysis of the clinical data of the examined patients was carried out in four age groups: from 10 to 20 years old - 76 (29.4%) patients, from 21 to 30 years old - 65 (36.1%), from 31 to 40 years old - 39 (21, 6%) and from 41 to 50 years - 24 (12.7%) patients. When collecting the anamnesis of the disease, it was revealed that the duration of the chronic process in the middle ear from 1 year to 10 years was in 79% of patients, and in the remaining 21% the disease lasted more than 11 years. Otomicroscopic examination data showed the presence of subtotal perforation of the tympanic membrane in 48% of patients, total perforation in
32% and marginal perforation in 20%. At the site of localization, central perforation occurred in 80%, marginal perforation in 20%. When examining the auditory tube, all patients had II-III degree dysfunctions. In patients on tonal threshold audiometry, the conductive nature of hearing loss was revealed in 196 (96.1%) and mixed in 8 (3.9%) with the prevalence of the conductive type. In the preoperative period, the data of computed tomographic diagnostics of the temporal bones were performed and evaluated. Radiological examinations of the temporal bones in 73.3% revealed sclerotic changes in the mastoid process, mainly in patients with subtotal and total perforation, in 26.7% there was a violation of pneumatization in the form of expansion of perianthral cells. Violation of pneumatization in the form of thickening of the bony mouth of the auditory tube was noted in 37.2%, carious changes in the long process of the malleus in 16.6% and partial destruction of the ossicular chain was found in 6% of cases.

The operation was performed under local and general anesthesia, and an endural approach. In patients of group I, after anesthesia, a fragment of cartilage with a perichondrium of the required size was excised from the tragus, then under a microscope along the edges, the cartilaginous part was separated from the perichondrium and removed, leaving the cartilaginous base in the middle. The latter became thinner, and a smooth, thin connective tissue graft was obtained. The main distinguishing feature of the method was the need to lay the cartilaginous base of the graft on the remnants of the hammer handle. The prepared graft was dried and placed under the remnants of the tympanic membrane (underlay) in order to prevent the occurrence of secondary cholesteatoma, pre-filling the tympanic cavity with a gelatinous sponge impregnated with an antibiotic, which served as the basis for fixing and feeding the graft in the first days after surgery.

In group II, plastic surgery of the tympanic membrane was performed with the perichondrium taken from the tragus. The incision was made along the free edge of the tragus, the perichondrium was highlighted, and a fragment of the required size was cut out. The result was a smooth, thin connective tissue graft, 1x1 cm in size, sufficient to
replace defects usually exceeding the size of the tympanic membrane perforation. In cases where the ossicular chain was preserved and mobile, the intervention was limited to the restoration of the tympanic membrane. When the chain of the auditory ossicles was fixed with adhesive cords, their mobility was restored with excision.

In group III, the fascia of the temporal muscle served as the material for the restoration of the tympanic membrane; the latter was taken by the generally accepted method. The fascia was mainly used in patients with bilateral tympanic membrane defect. The tympanic cavity was also filled with a gelatinous sponge and fixed as in patients in groups I and II.

**Result and discussion**

The analysis of the research results made it possible to identify the features of the interventions that affect the adaptation process of heterogeneous grafts. The anatomical efficacy of type I-III tympanoplasty in patients of group I with the endural approach after surgery reached 94%, in group II - 91% and in group III - 85%. In the course of the results of the follow-up analysis of the work carried out in patients of group I during audiological testing, an improvement in auditory function was revealed by 17.2 ± 1.52 dB, in patients of group II by 14.3 ± 1.54 dB, in patients of group III by 8.5 ± 1.47 dB. At the same time, the results of the analysis of the work performed showed that in patients of group I in 4 (4.5%) there was no improvement in auditory function, in patients of group II in 7 (8.9%), in patients in group III in 5 (16, one%). Moreover, secondary perforation of the tympanic membrane after reoperation was not observed in patients, and no significant differences were found in studies of the auditory function. The results of the analysis of audiological data (2 years later) after reoperation revealed 97.1% improvement in auditory function in patients of group I, 92.5% in group II and 89.7% in group III, respectively.

When studying the anamnesis of patients after tympanoplasty, it was revealed that in order to obtain a lasting effect in hearing-improving operations, it is necessary to take into account the age factor, the size of the perforation, the patency of the auditory
tube, the state of the mucous membrane of the tympanic cavity, the duration of the chronic process, the period since the last relapse of the underlying disease, its competent treatment, the chosen method of microoperation, the experience of the surgeon and postoperative care, as well as an important role in the postoperative period are preventive measures to combat acute diseases of the upper respiratory tract and dysfunctions of the nasal cavity and nasopharynx. Analysis of the results of clinical and audiological studies showed that the use of perichondrium with cartilage serves as a more "elastic" material to improve the transmission of sound vibrations in the structures of the middle ear and a reliable material for restoring the integrity of the tympanic membrane.

Thus, studying the research results, we can say that two-layer autografts (perichondrium with cartilage), was the most resistant and more "elastic" material, replacing the tympanic membrane.

The use of perichondrium autologous material with cartilage to replace the tympanic membrane leads to an improvement in auditory function, which allows it to be recommended for tympanoplasty types I-III.

The use of a complex of preliminary studies with the inclusion of MSCT of the temporal bones in chronic hepatitis B is informative in terms of preparing patients for tympanoplasty.

**Conclusions**

1. The results obtained indicate that the widespread use of autologous material (perichondrium with cartilage) in tympanoplasty will improve the efficiency of surgical tactics.
2. To improve the efficiency of tympanoplasty in patients with chronic hepatitis B, early surgical intervention, the use of a multilayer autograft and supervision of an operating otosurgeon are necessary.
3. The use of MSCT of the temporal bones opens up new possibilities in the diagnosis of CHS and helps the surgeon to reliably determine the volume of surgical intervention.

LIST OF REFERENCES:


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