

Assessment Of Patients' Quality Life With Chronic Purulent Otitis After Tympanoplasty

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Key words: *chronic otitis media, tympanoplasty, quality of life.*

Abstract: *The aim of our study was to study, using a questionnaire (COMOT--15 questionnaire), the level of quality of life of patients with chronic suppurative otitis media before and after tympanoplast.*

Material and research methods: *We examined 60 patients, over 18 years old, with chronic suppurative otitis media. All participants filled out the COMOT--15 questionnaire, anamnesis and otoscopy were studied in detail, all patients underwent clinical studies - these are endoscopic and microscopic assessment of ENT organs, as well as audiological studies, which included a tonal audiogram with measurement of the air-bone interval in both ears.*

Conclusions: *Patients with chronic suppurative otitis media report a decrease in the quality of life associated with a decrease in hearing acuity, and not with disturbing tinnitus or otorrhea. The type of chronic suppurative otitis media (epitympanitis or mesotympanitis) in no way reflects the patient's quality of life. Tympanoplasty significantly improves the patient's quality of life.*

1. RELEVANCE

Chronic suppurative otitis media is characterized by clinical symptoms of decreased or loss of hearing acuity, otorrhea, congestion, noise and pain in the ears, and headaches. But besides this, patients are also concerned about limited ability to communicate due to decreased or loss of hearing, and this in turn causes depression, anxiety and social isolation [Newman CW, Weinstein BE, Jacobson GP, Hug GA: The Hearing Handicap Inventory for Adults: psychometric adequacy and audiometric correlates. *Ear Hear* 1990,11: 430-433]. This condition leads to a decrease in the quality of life associated with health, both physical, functional, social, psychological and family [Korsten-Meijer AGW, Wit HP, Albers FWJ: Evaluation of the relation between audiometric and psychometric measures of hearing after tympanoplasty. *Eur Arch Otorhinolaryngol* 2006,263: 256-262 .; Meijer AGW, Wit HP, Albers FWJ: Relation between change of hearing and (modified) Amsterdam Inventory for Auditory Disability and HandicapScore. *ClinOtolaryngol* 2004,29: 565-570.].

The quality of life related to health is an important parameter today. In order to determine the success of a surgical intervention, it is necessary both to improve objectively measured parameters and it is important to supplement them with improving the patient's quality of life [Koller M, Lorenz W: Survival of the quality of life concept. *Br J Surg* 2003,90: 1175-7.]. To demonstrate this, we used the proven COMOT -15 questionnaire, which was previously

studied and approved, specifically designed to assess the quality of life in chronic suppurative otitis media.

Until 2009, a study of the quality of life in chronic otitis media was carried out using CES [Wang PC, Nadol JB Jr, Merchant S, Austin E, Gliklich RE: Validation of outcomes survey for adults with chronic suppurative otitis media. *Ann OtolRhinolLaryngol* 2000 109: 249-254]. Evaluating this questionnaire, many authors concluded that the clinical findings of chronic suppurative otitis media are well represented in the CES, while functional complaints such as understanding speech in noisy environments or the psychological state of patients, for example, anxiety and depression, were not included. This was the reason that some authors decided to develop a questionnaire for chronic purulent otitis media, including the above questions [Baumann I, Kurpiers B, Plinkert PK, Praetorius M: Entwicklung und Validierung des Chronic Otitis Media Outcome Test 15 (COMOT-15) zur Messung der gesundheitsbezogenen Lebensqualität bei chronischer Otitis media. *HNO* 2009,57: 889-895.].

Goal. The aim of our study was to study, using a questionnaire (COMOT -15 questionnaire), the level of quality of life of patients with chronic suppurative otitis media before and after tympanoplasty.

2. MATERIAL AND METHODS OF RESEARCH:

We examined 60 patients with chronic purulent otitis media, in whom demographic indicators were taken into account - age, gender, education and marital status. All participants filled out the SOMOT-15 questionnaire [Baumann I, Kurpiers B, Plinkert PK, Praetorius M: Entwicklung und Validierung des Chronic Otitis Media Outcome Test 15 (COMOT-15) zur Messung der gesundheitsbezogenen Lebensqualität bei chronischer Otitis media. *HNO* 2009,57: 889-895.]. This study was conducted from January 2019 to January 2020 at the clinical sites of the Department of Otorhinolaryngology, Pediatric Otorhinolaryngology and Pediatric Dentistry of the Tashkent Pediatric Medical Institute. All study participants were informed and agreed to conduct a survey. The study group consisted of: participants over 18 years old, as well as people who had the opportunity to fill out forms. Were excluded: participants under the age of 18, persons who did not have the opportunity to fill out forms, the presence of mental, chronic, systemic diseases, as well as those who refused to participate in the study. The questionnaire includes 16 questions, which are subdivided into 3 main groups: the 1st group of questions includes questions on the assessment of ear symptoms (ES-ears symptoms); The second group of questions assesses the patient's hearing function (HF-hearing function) and the third group - these are questions that assess the psychological state of patients (MH-mental health). When all three groups are added, the result obtained determines the quality of life of patients ($ES + HF + MH = OS$). Each question is rated on a 5-point scale.

The examination included a detailed study of the anamnesis, otoscopy, all patients underwent clinical - this is an endoscopic and microscopic assessment of the ENT organs, as well as audiological studies, which included a tonal audiogram with measurement of the air-bone gap in both ears. Tonal audiometry was performed on the same apparatus by a single audiologist in a soundproofed hearing assessment room. The mean was measured in dB and calculated

from air permeability rates at 500 Hz, 1000 Hz, 2000 Hz and 4000 Hz. When determining hearing loss, we used the ASHA classification (2011) [1].

Data collection was performed prospectively before and after tympanoplasty, one year later. All patients underwent surgery - tympanoplasty. In most cases, the incision was made retroauricular with a tympanomeatal flap. We used the temporal bone fascia to reconstruct the tympanic membrane.

Results of the study: We studied 60 patients (24 men, 36 women), the average age was 39.14 ± 8.2 (from 18 to 65 years).

We also analyzed some factors that could influence the general condition of the patient, such as gender, age, place of residence (city or village), alcoholism and smoking, marital status, presence of diabetes mellitus, educational level (secondary or higher) and index body weight taking into account subjective results (Table 1).

Patient characteristics for some factors

Table 1.

№	Characteristic	quantity	(%)
1	Sex		
	Female	36	60
	Male	24	40
2	Affected side of the ear		
	One-sided	46	77
	Double-sided	14	23
3	Severity		
	1 st degree	9	15
	2nd degree	33	55
	3rd degree	18	30
	4th degree	-	-
4	Maincomplaint		
	Otorea	23	38
	Lossof hearing	60	100
5	Decreased active life		
	Yes	56	93
	No	4	7
6	Education		
	Yes	36	60
	No	24	40
7	Smoking		
	Yes	26	43
	No	34	57
8	Alcohol		
	Yes	17	28

	No	43	72
9	Diabets		
	Yes	8	13
	No	52	87
10	Materialstatus		
	Yes	47	78
	No	13	22

From the above table it can be seen that a large number of patients indicate a decrease in an active lifestyle (93%) and all of the surveyed have a decrease in hearing acuity (100%).

In 46 (76.7%) patients, the opposite (unoperated ear) was healthy. In 3 patients, the opposite ear was previously operated on for chronic purulent mesotympanitis (condition after radical surgery), 10 patients suffered from chronic mesotympanitis and 1 patient suffered from chronic epitympanitis. The ear on which the tympanoplasty was performed was previously operated on in 12 (20%) patients: repeated tympanoplasty - 4, after sanitizing surgery - 8. Of the total number of patients, grade 1 was mild in 9 (15%), in 33 (55%)) of patients with moderate (grade 2), in 18 (30%) - moderately severe hearing loss according to the ASHA recommendations (2011). When patients were subdivided by hearing loss (mild, moderate, and moderate), their quality of life showed no statistically significant difference (Table 2).

When dividing according to the types of chronic suppurative otitis media (mesotympanitis and epitympanitis), no significant differences were found when assessing the quality of life ($p < 0.45$).

Table 2. Comparative assessment of the results according to the degree of hearing loss according to the COMOT -15 questionnaire

	Light		Medium-heavy		Heavy		r		
	(n=9)		(n=33)		(n=18)				
	M1	M1	M2	M2	M 3	M3	M1/M2	M1/M3	M2/M3
ES	55,56	16,60	56,52	10,34	50,00	11,79	0,95	0,76	0,61
HF	33,30	15,71	19,13	10,18	27,78	10,56	0,61	0,78	0,54
MH	44,44	16,56	47,83	10,42	44,44	11,71	0,86	0,99	0,86

Patients with chronic purulent otitis media who, in addition to hearing loss, have additional complaints such as discharge from the ear, tinnitus, when questioned, showed a lower level of quality of life.

Tympanoplasty resulted in a significant improvement in air conduction and a decrease in the air-bone corridor. The bone sound conductivity remained unchanged (Table 3).

Table 3.

Average values of pure tone by air before and after tympanoplasty (n = 60)

	Before surgery (dB)	After surgery in 12 months (dB)	p
Airconductivity	25,3	23	p<0,05
Boneconduction	56,2	47,4	P>0,05
Air-bonecorridor	26,5	16,1	p<0,01

The overall score of COMOT -15 after the operation in all three subscales showed changes in the direction of improvement, which is shown in Table 4.

Table 4.

Results of SOMOT-15 before and after tympanoplasty (n = 60)

COMOT-15	Before surgery		After surgery in 12 months		p
	M	m	M	m	
ES	50,00	7,02	13,33	4,02	p<0,001
HF	78,30	5,86	16,66	5,22	p<0,001
MH	61,66	6,86	25,00	7,13	p<0,001
OS	63,00	6,56	18,00	4,89	p<0,001

Analysis of the results obtained between the scales SOMOT-15 and the results of audiometry showed that all indicators of SOMOT-15 significantly improved.

3. CONCLUSIONS:

1. Patients with chronic purulent otitis media note a decrease in the quality of life associated with a decrease in hearing acuity, and not with disturbing tinnitus or otorrhea.
2. The type of chronic suppurative otitis media (epitympanitis or mesotympanitis) in no way reflects the patient's quality of life.
3. Tympanoplasty significantly improves the patient's quality of life.

4. LITERATURE:

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