CONDUCTIVE HEARING LOSS AFTER CHRONIC SUPPURATIVE OTITIS MEDIA SURGERY

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Abstract

Background: A study on the chronic suppurative otitis media (CSOM) is done.

Materials and Methods: 10 years of gathered material from diagnostics and operative treatment performer on over 186 patients with CSOM (77-epitympanitis and 109-mesotympanitis) is used. For examinations there were applied: medical history, status, audiometry, tympanometry, image diagnostics (X-ray examination, CT, MRI). An oto-endoscope examination was introduced.

Results: CSOM treatment – over 77 (41.4%) patients were treated with open and closed operative techniques. Very good final functional results of patients' recovery were obtained in 87.17% at the former and 86.84% at the second ones. The average value of ABG pre/post operation was 27.09 dB/17.42 dB at the operations. 70.09% of the cases show ABG ≤20 dB. In 109 (58.6%) patients reconstructive techniques (tympanoplasty type I, II, III) were performed. The average value of ABG pre/post operation was 24.79 dB/14.06 dB in the plastics done. 95% of the cases show ABG ≤20 dB.

CSOM training and experience of our team: internet page www.prootology.domino.bg in ENT specialty and 18 scientific meetings areheld; the 4 cadaver dissections for the otosurgeons were organized.

Conclusions: The audiological functional results received are comparable with those of leading otosurgeons at home and in the European Union (EU) clinics. A training and qualification is pursued throughout contemporary forms and instruments of education, compatible with the rules and requirements of EU.

Keywords: Conductive Hearing Loss • Chronic Suppurative Otitis Media • Cholesteatoma

Background

Chronic suppurative otitis media (CSOM) is a socially important disease. Very common complications are conductive hearing loss and intracranial disorders. For the last 15 years new otological instruments of examinations, treatment and training have been introduced by European Academy of Otology and Neuro-Otology (EAONO), Politzer Society and during various regional otological meetings [1–3]. The aim of the study is to present our functional results of CSOM treatment.

Materials and Methods

In the last 10 years there were studied 186 patients with chronic suppurative otitis media. The group consisted of 100 males (53, 76%) and 86 females. 109 (58, 60%) patients were with mesotympanitis and 77 (41, 40%) – epitympanitis. The standard methods of examinations were applied ORL examination, audiometry, tympanometry, otoendoscopy-intracanal, transmastoid, X-Ray examination, CT (Siemens), IMR (General Electric), SPSS statistics etc. We applied open surgical technique in 39 cases(tympanomastoidectomy, epitympanomastoidectomy) and closed operation technique in 38 (posterior-tympanotomy, meatoatticotomy, endomeatal tympanotomy, mastoidoaditoatticotomy) cases. For the reconstruction of conductive hearing we have used 109 tympanoplasties (types I, II, III). The plastic materials we have applied were cartilage and tragus perihondrium.

Results

In 77 CSOM patients – open (50.65%) and closed (49.35%) operative techniques were performed. Very good final results of patients' recovery were obtained – 87.17% at the former and 86.84% at the second ones. A general average value of air-bon gap (ABG) pre/post operation is showed on Figure 2. 70.09% of the cases have shown ABG ≤20 dB. During the open operation technique value of ABG is shown on Figures 1–3. We found otogenic complications – in 15.38%, paresis of n. facialis 7.69%, extradural abscesses in 15.38%, meningitis in 7.69%, cerebral abscesses in 5.12%. 31.25% were reoperated including patients from other hospitals and the postoperative pus evacuation was in 12, 82%. The closed technique have shown recovery in 86, 84%, relapse of pus evacuation was observed in 10, 53%. The improvement of hearing was ABG ≤20 dB in 62, 50% (Figures 1–3).

In 109 patients reconstructive techniques (tympanoplasty type I, II, III) were performed. The average value of ABG pre/post operation was 24.79 dB/14.06 dB in the plastics done (Figures 1–3). 95% of the cases have shown ABG ≤20 dB. The reconstructive operation with fascia have showed good results in 86, 37%.

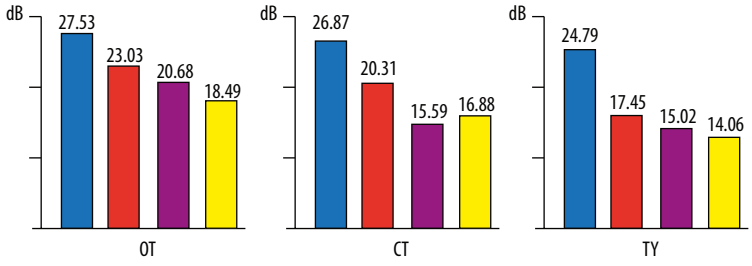

Figure 1. Demonstration of middle levels of air-bon gape (ABG) with dB of patients with CSOM before (blue) and after 3 m (red), 6 m (purple) and 1 year (yellow) of treatment with open (OT), closed (CT) and tympanoplasty (TY) techniques.

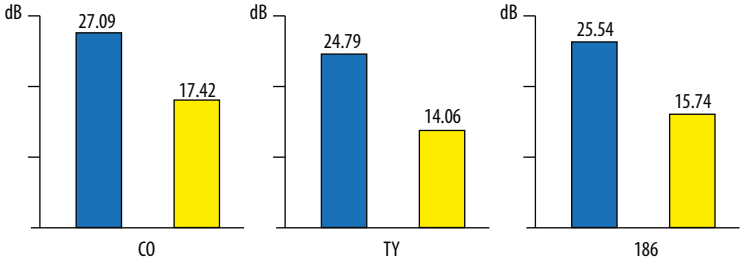

Figure 2. Demonstration of middle levels of air-bon gape (ABG) with dB of patients with CSOM before (blue) and after 1 year (yellow) of treatment with curing operations (CO), tympanoplasty (TY) and all 186 patients.

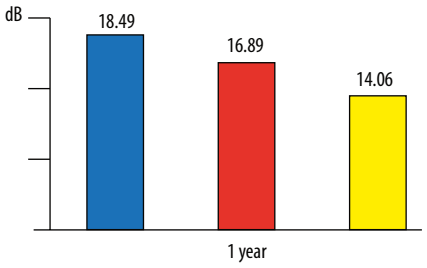

Figure 3. After 1 year comparison of final functional results of operative treatment of CSOM. Demonstration of middle levels of air-bon gape (ABG) with dB of patients after treatment with open (blue), closed (red), and tympanoplasty (yellow) techniques.

A qualification is pursued throughout contemporary forms and instruments of education, compatible with the rules and requirements of European Union (EU). The first Bulgarian internet page (www.prootology.domino.bg) in ENT specialty and the first on-line ENT magazine-Balkan journal of Otology and Neuro-Otology "Pro Otology" are created. 18 international otological scientific meetings were held. 4 cadaver dissections for otosurgeons were organized. The first accreditations in the ENT-specialty were done after U.E.M.S.

Discussion

The result 50,9% of H. Kempt, K. Jahnke (1990) is similar to our open techniques of operations [4]. The data of pus evacuation were similar as in operations 6.8–15.6% of G. Edrev (1986), U. Fisch (1994), M. Tos (1995) [5–7]. Our results of closed techniques are similar to H. Kempf et al. (1990), K. Jahnke (2000, 2004) with ABG ≤20 dB in 69.5% [4,8,9]. Reconstructive operations data were very close to M. Gersdoff, P. Garin et al. (1995) 87.7% [10]. The complications with unclosed perforation in 13.63% were similar to M. Tos (1993) with 12% (11).

Conclusions

Our received results are comparable with those of leading otosurgeons at home and in the European Union (EU).

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