

Tympanoplasty type – 1

Endaural or postaural approach

“Should the patient decide?”

Latifi A. Ahmed , MS (ENT), DLO (Lond), Syed S. Raza, FRCS (Oto).

ABSTRACT

Objective: To examine the preferred patient approach to chronic suppurative otitis media (CSOM) of the safe type.

Methods: We designed a prospective study to note the variables in the patient’s initial choice for approach to CSOM of the safe type at Buraidah Central Hospital, Al-Qassim, Saudi Arabia from January 2003 to December 2004.

Results: During the 24-month study period, we included 63 consecutive patients diagnosed with CSOM of the safe type. We excluded patients with perforations associated with cholesteatomata, polyps, and acute infections. We

administered a questionnaire discussing the options for the operation, and found most males preferred the endaural approach, and most females preferred the postaural approach.

Conclusions: There was a significant preference by younger age groups for the postaural approach, especially younger females. They were more concerned about the site, visibility, and cosmetic result from the scar, and could camouflage the scar behind the pinna by hair or a traditional headscarf.

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There are multiple studies in the literature regarding surgical approaches for tympanoplasty.¹ These studies compared the efficacy, complications and results of these approaches. Endaural, postaural and transmeatal are the 3 commonly used surgical approaches for tympanoplasty.^{1,2} The choice of approach for tympanoplasty may be determined by the size of the external auditory canal (EAC), location of the perforation, and the personal preference of the surgeon.^{1,3} To date, no studies have addressed the choice of the patient among these options. One study did look into whether the endaural or postaural approach in myringoplasty made a difference to the patient.^{4,5} However, this was a retrospective study

whose main thrust was to study the problems of these approaches. As there is no consensus in the literature for the approach for tympanoplasty, we allowed the patient, in our study, to choose the surgical approach disregarding all other parameters, and noted the variables.

Methods. A prospective study conducted in Buraidah Central Hospital, Al-Qassim, Saudi Arabia over a 2-year period from January 2003 to December 2004. Inclusion criteria were patients who had chronic suppurative otitis media (CSOM) of the safe type and dry perforation before the operation. We included medium sized central kidney shaped, subtotal, and total

From the Department of ENT, Buraidah Central Hospital, Buraidah, Al-Qassim, Kingdom of Saudi Arabia.

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Address correspondence and reprint request to: Dr. Latifi A. Ahmed, PO Box 2290, King Fahd Specialist Hospital Complex, Buraidah, Al-Qassim, Kingdom of Saudi Arabia. E-mail: latifiasrar@hotmail.com

perforations. We excluded patients with perforations associated with cholesteatomata, polyps, and acute infections. We collected patient data including age, gender, initial audiogram, and any other significant medical problems. At our institution, we employ all 3 approaches available for tympanoplasty and 3.0 silk is the preferred choice of suture to close the incision. We explained the choice options, administered a short questionnaire (*Appendix 1) and then divided the patients into 2 groups according to their preference - postaural or endaural. We subdivided each group according to gender and 2 arbitrary age groups – below and above 35 years. We performed statistical analysis of data using SPSS for Windows (Release 6.0), and analyzed the results using Pearson's Chi-square with Yates correction for categorical data and significance taken as <0.05 .

Results. We included 63 patients (19 males, 44 females) in the study and 49 (78%) patients from all age groups opted for the postaural approach; 39 (89%) were female and 10 (53%) were male. Fourteen (22%) patients opted for the endaural approach, among which 9 (47%) were male and 5 (11%) were female. There was a significant preference by females for the postaural approach (p-value was 0.001). Out of 49 patients who chose the postaural approach, 34 (89%) were below 35 years, and 15 (60%) were above 35 years of age. Of the 14 patients who opted for the endaural approach, 4 (11%) were below 35 years and 10 (40%) were above 35 years of age. There was a significant preference for the postaural approach in the younger age groups (p-value was 0.005). Analysis of approach options in relation to the questionnaire given to the patient was as follows. Forty-nine (78%) patients chose the postaural approach, including 39 (89%) females. Their major concern was a noticeable scar and shaving of hair in the preoperative preparation of the operation site. The majority of the females opted for the postaural approach as hair and a traditional head cover or scarf can cover the scar behind the pinna. The males preferred the endaural approach for the smaller length of the scar, which they can cover by growing their whiskers or by using the traditional head cover (Shamag). Sixty percent of the patients had some knowledge about the operation and the approach, mostly obtained from friends and relatives who had previously undergone operation for CSOM. Newspapers, magazines and Internet also had some influence in choosing the approach for their operation.

Discussion. Sir William Wilde was the first to describe the postaural incision, used earlier for all operations on the temporal bone and which is still in use today.² The endaural approach, first employed by Johannes Kessel in 1885, was popularized by Lempert. Shambaugh and others later modified this.^{1,2} A third approach through the EAC, the permeal approach is used to correct small and mid sized perforations of the posterior and inferior quadrants. The latter approach does not require an incision around the ear. The postaural and endaural techniques are commonly used to expose the EAC and perforation site for the repair of the tympanic membrane. Today the postaural approach is the most popular. The advantages of this incision include, easy harvesting of temporalis fascia graft and adequate exposure of the surgical site and perforation through a single incision.^{1,2,6} Irrespective of the site of perforation and size of the EAC, tympanoplasty can be managed by either of these 2 approaches. Shambaugh and colleagues⁶ used the postaural approach for all temporal bone surgery, where as Lempert used an endaural incision for almost all ear surgery. Thus, we can see from the literature that there is no single standard approach in tympanoplasty. A competent Otologist should be comfortable with either of these 2 approaches. Giving the choice to the patient definitely puts the surgeon in a challenging position as he loses his choice of approach in such operations. This study used the patient's choice of approach as the determinant for tympanoplasty. An interesting finding noted was female patients (especially in the young age group) were more likely to opt for the postaural approach. This finding suggests that young females are more concerned with the site, visibility, and cosmetic result of the scar. The traditional head cover, the scarf, can camouflage the scar and temporary loss of hair. Two of our patients in the postaural group developed hypertrophic scars, which were quite noticeable. These patients were most satisfied with their choice of approach. The proponents of the endaural approach (mainly male) reasoned that they could conceal the small preauricular scar with whiskers and the use of traditional head cover, the shamag. Females were not comfortable with the endaural approach, even though they had the option of covering the scar with hair and scarf. Sixty percent of the patients had knowledge about the operation and approach. Patient friends and relatives who had previously undergone the procedure were the main influencing factors in choosing the

*The full text including Appendix is available in PDF format on Saudi Medical Journal website (www.smj.org.sa)

approach. Internet, newspaper and magazines also had some effect in their selection. Health awareness and knowledge have increased in the past few years in the Kingdom and this has influenced the choice of tympanoplasty. Tympanoplasty is a challenging endeavor. Our study suggests the otologist should be proficient in these 2 main approaches in tympanoplasty. The otologist should respect the patient's choice in the approach to this problem. The site of incision, the resultant scar, and the cultural background definitely influence the patient's choice of approach. We need to determine whether a similar study performed among other cultures and societies would support our findings.

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