

Original Research Article

A study of clinical profile of patients with CSOM attending tertiary care hospital

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ABSTRACT

Background: Proper management of COM is significant because it is an important cause of middle ear disease. After complete history, thorough clinical examination, the disease is diagnosed. The persistent infection and resultant inflammatory responses are tackled with effective pharmacotherapy. Audiological assessment done by pure tone audiometry for air and bone conduction in order to evaluate and document.

Methods: Total 50 patients diagnosed with CSOM attending the ENT OPD of Medical College were prospectively analysed. Patients fulfilling the selection criteria were included in the study after taking informed consent. All the patients in the study were clinically evaluated by taking detailed history and clinical examination including TFT, as per the proforma.

Results: The mean age of our patients was 28.88 years, ranging from 16 years to 52 years; with almost 75% between 15 and 35 years. 20 patients each had CSOM in the right as well as left ear and 10 suffered from bilateral CSOM.

Conclusions: Recurrent ear infection will cause hearing impairment over the years as a result of mucosal changes in the windows and ossicles.

Keywords: Ossicles, CSOM, Cholesteatoma

INTRODUCTION

Chronic otitis media (COM) is defined as infection of the middle ear cleft of long standing duration.¹ The condition is considered "chronic" if the tympanic membrane defect is present for more than 3 months. Thus a draining middle ear cavity that is associated with a perforation from acute otitis media would not qualify for this diagnosis if it responds to treatment within 3 months. Histologically, COM is defined as irreversible mucosal changes within the middle ear cleft. COM is characterized by intermittent or persistent chronic purulent drainage through a perforated tympanic membrane and can be associated with cholesteatoma.²

Clinically, CSOM is classified as under:

1. Tubo tympanic with permanent defect in pars tensa
2. Attico antral variety with cholesteatoma and inflammatory debris.³

Recurrent ear infection will cause hearing impairment over the years as a result of mucosal changes in the windows and ossicles. The changes may stiffen the windows and ossicles and may lead to the disruption of ossicular chain. The hearing loss associated with the perforation is directly proportional to the size of the perforation. The site of the perforation does not have consistent effect on hearing loss. Semi lunar shaped perforations which detach the Malleus from the TM cause

a greater hearing loss than would be predicted from the reduction of the hydraulic lever ratio alone.

In most cases of COM treated surgically, the post-operative bone conduction thresholds are same as those found preoperatively. However over closure of the AB gap which is seen in stapes surgery has been found following tympanoplasty.⁴

Hearing tests are carried out after all debris and secretion have been removed from the meatus and the middle ear. Both air and bone conduction must be done. Proper hearing is essential if surgery for control of disease is to be coupled with an attempt at improvement of hearing. If the hearing test indicate the conductive hearing loss is complete and that the cochlear function is good, the otologist can proceed with an application of complete array of techniques to attempt hearing improvement along with control of middle ear disease.

Proper management of COM is significant because it is an important cause of middle ear disease. After complete history, thorough clinical examination, the disease is diagnosed. The persistent infection and resultant inflammatory responses are tackled with effective pharmacotherapy.^{5,6}

Audiological assessment done by pure tone audiometry for air and bone conduction in order to evaluate and document.⁷

1. The degree of hearing loss
2. Type of hearing loss
3. To determine the air bone gap

The decision to operate or not in a case of COM–tubo tympanic type is based on potential benefit in terms of recurrent discharge and hearing improvement.

METHODS

A total 50 patients diagnosed with CSOM attending the ENT OPD of Medical College, Bengaluru between October 2010 and September 2011 were prospectively analysed. Patients fulfilling the selection criteria were included in the study after taking informed consent. All the patients in the study were clinically evaluated by taking detailed history and clinical examination including TFT, as per the proforma. Broad spectrum antibiotics were given to dry up the ear discharge and dry aural toilet was done to remove debris from the ear canal. Otomicroscopy was performed following which Septic foci in the nose or in the throat were treated as out patients if infection present. Pre-operative PTA was done and Routine blood and urine analysis was also done.

Patients were then subjected to middle ear cleft surgery under GA OR LA and post-operative PTA was recorded after 3 months.

Inclusion criteria

An inclusion criterion was all unilateral and bilateral cases of CSOM.

Exclusion criteria

Exclusion criteria were all ASOM, otosclerosis, tympanosclerosis, adhesive otitis media, congenital hearing disorder, CSOM with mixed or sensory neural hearing loss (SNHL), hearing loss due to serous otitis media; patients below 15 years and above 55 years of age.

RESULTS

Table 1: Sex distribution.

Sex	No.	Percentage (%)
Male	26	52
Female	24	48

Out of a total of 50 patients, our study had 24 females and 26 males.

Table 2: Age distribution.

Age	No.	Percentage (%)
15-25	20	40
25-35	16	32
35-45	9	18
45-55	5	10

The mean age of our patients was 28.88 years, ranging from 16 years to 52 years; with almost 75% between 15 and 35 years.

Table 3: Type of CSOM.

Type	No.
Safe	32
Unsafe	18

32 patients were qualified as ‘safe’ type of CSOM, the remaining 18 were ‘unsafe’ type.

Table 4: Site of perforation.

Site	No.	Percentage (%)
Attic	13	26
Central	32	64
Marginal	5	10

More than two thirds of the patients had a central perforation, followed by one fourth patients with attic perforation. Only 10% of the cases had a marginal perforation.

Table 5: Laterality of CSOM.

Ear	No.
Right	20
Left	20
Bilateral	10

20 patients each had CSOM in the right as well as left ear and 10 suffered from bilateral CSOM.

DISCUSSION

Patients fulfilling the selection criteria were included in the study after taking informed consent. After requisite pre-op evaluation, we treated the 50 patients, with various types of tympanoplasty procedures. The mean age of our patients was 28.88 years, ranging from 16 years to 52 years; with almost 75% between 16 and 35 years. 24 of our patients were females and 26 were males. We included 32 central, 13 attic and 5 marginal perforation cases. In this study the size and location of the perforation did not significantly affect the outcome of surgery; nor did the age have a bearing on the result.

Even today, four decades after its introduction, tympanoplasty continues to be a challenge to the otorhinolaryngologist. In our study, we achieved a success rate of 74% having a post-op ABG of less than 20 dB. The mean hearing improvement was 12.06 dB with maximum improvement seen in type I with cortical mastoidectomy (16.7 dB), followed by type II with CM which had a mean improvement of 12.66 dB. Procedures combined with modified radical mastoidectomy showed a very poor mean improvement in our study; only 1 dB for type IV with MRM and 4.33 dB with type III with MRM. Type I tympanoplasty and type III with CM showed equal mean improvement with 8.5 dB each.

We examined a total of 50 patients with 24 females (48%) and 26 males (52%). As sex is not a major risk factor in incidence of CSOM, almost equal predilection is seen in both sexes. The mean age of our patients was 28.88 years, ranging from 16 years to 52 years; with almost 75% between 16 and 35 years. Age is not a factor that alters the success rates of tympanoplasty. In our sample, there were no representatives from the geriatric and pediatric populations; therefore it is not possible to correlate age as a significant success factor for surgery.

32 cases in our study had a 'safe' type of CSOM, while the other 18 cases qualified as 'unsafe' type of CSOM. Studies show that with a minimum interval of three months without otorrhea, the surgery success rate increases to more than 30% when compared to the cases that underwent surgery in an infected site.⁸⁻¹⁰

CONCLUSION

More than two thirds of the patients had a central perforation, followed by one fourth patients with attic perforation. Only 10% of the cases had a marginal perforation.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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