

Prevalence of Cholesteatoma and its Complications in Patients of Chronic Suppurative Otitis Media

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Abstract

Background: To determine the prevalence of cholesteatoma and its complications in patients suffering from chronic suppurative otitis media (CSOM).

Methods: In this prospective observational study 160 patients of CSOM were selected randomly. They were put on conservative treatment. Forty patients did not respond to the regimen and they had to undergo mastoid exploration. The latter were observed for cholesteatoma, granulation tissue, aural polyps and other complications.

Results: Majority (69%) of the patients belonged to lower socioeconomic status. Mean age of the patients was 29±14.26 years, ranging from 1-80 years. Cholesteatoma was diagnosed in 10.63%. An unusual finding was observed in one patient who had marginal perforation, but per operatively showed no cholesteatoma. The most common complication was ossicular damage (13.5%). Intracranial complications were seen in 4 cases.

Conclusion: Cholesteatoma was found to be associated with most of the complications in CSOM.

Key Words: CSOM, Cholesteatoma.

Introduction

Chronic suppurative otitis media (CSOM) is a common disease in low socioeconomic stratum and rural areas, with poor hygienic and dietary conditions. The disease is now-a-days less aggressive, due to excessive use of antibiotics, but its atticofurrow type with marginal perforation and cholesteatoma can lead to serious complications. Bone erosion is an established complication of this type and may involve extracranial and intracranial structures. Previously the morbidity and mortality were high due to less awareness of disease, and less effective treatment measures. Now-a-days, the frequency of complications is greatly reduced due to effective and prompt treatment; but still the erosive and spreading effects of cholesteatoma may lead to a grave prognosis. CSOM with cholesteatoma can spread beyond middle ear, leading to extra cranial and intracranial complications.¹⁻⁴

Patients and Methods

This prospective, cross sectional and observational study was conducted in Department of ENT, Head and Neck Surgery, Holy Family Hospital, Rawalpindi affiliated with Rawalpindi Medical College, Rawalpindi. Study incorporated 160 patients of CSOM from outpatient department. The duration of discharge varied from six months to ten years. The study, extended from January 2008 to December 2010. Previously operated, immunocompromised and patients having malignant disease were excluded. Otoscopy and audiological assessment were performed in all cases. Examination under microscope was performed in selected cases. Conservative treatment was given to all patients. Patients with persistent disease and recurrent foul smelling ear discharge, and marginal perforation were selected for mastoid exploration. Selection of surgical operation was done according to type and extent of disease and included radical or modified radical mastoidectomy, atticotomy, with or without tympanoplasty.

Results

The age of patients ranged from 1 to 80 years, with majority, about 65%, being between 10-30 years of age (Table-1). There was male predominance (56.72%). Majority of patients (69%) had poor socioeconomic status. Wet ears (73.75%) was the commonest presentation. Central perforation was seen

Table -1: CSOM-Age Distribution

| Age (Year) | No. of Patients(%) |
|------------|--------------------|
| 01 to 10 | 13(8.12) |
| 11 to 20 | 32(20.0) |
| 21 to 30 | 64(40.0) |
| 31 to 40 | 27(16.87) |
| 41 to 50 | 10(6.25) |
| 51 to 60 | 8(5.0) |
| 61 to 70 | 4(2.5) |
| 71 to 80 | 2(1.25) |

in 88.75% cases, while only 11.25% cases were having

marginal or attic perforation. Mastoid exploration was required in 25% patients and rest (75.0%) were treated conservatively.

Unsafe disease with cholesteatoma, granulations and polypoidal mucosa was observed in 10.62% patients (Table 2). One patient had marginal perforation, but per operatively showed no cholesteatoma.

Table -2: Nature of Disease

| Condition of Ear | No. of Patients | Percentage |
|------------------------------------|-----------------|------------|
| Safe disease without Cholesteatoma | 143 | 89.375 |
| Unsafe disease with Cholesteatoma | 17 | 10.625 |

Ossicular damage was observed in all patients having unsafe disease. Meningitis was the most common intracranial complication (1.17%) (Table 3).

Table-3:Complications

| Complication | Number (%) |
|--------------------------|------------|
| A: Extracranial | |
| Ossicular damage | 23(13.5) |
| Mastoid abscess | 2(1.17) |
| Exposed Facial Nerve | 3(1.76) |
| Exposed Sigmoid Sinus | 2(1.17) |
| Bezolds Abscess | 1(0.58) |
| B: Intracranial | |
| Meningitis | 2(1.17) |
| Brain Abscess | 1(0.58) |
| Sigmoid Sinus Thrombosis | 1(0.58) |

Discussion

In the present study, the maximum incidence of CSOM with Cholesteatoma was in the age of 21-30 years (40%). This is different from a large study in Denmark by Bjarki et al in which the highest incidence was found in eighties. ¹ But this is comparable to the study of Alam J. et al. ⁵ This age difference from advanced countries may be due to overcrowding, malnutrition and poor hygiene in our country. Majority of the patients were from poor socioeconomic stratum and this is in accordance with the study of Chaudhary MA et al. ⁶ In present study the dry ears were 26.25%. This is the reflection of more frequent and extensive use of antibiotics in CSOM.

Cholesteatoma, granulations and polypoidal mucosa are the significant features of unsafe type chronic suppurative otitis media. This was found in 10.62% cases, and is comparable to different studies, national and international. ^{7,8} An unusual finding was observed in one patient who had marginal perforation, but per operatively showed no cholesteatoma.

The complications associated with CSOM and cholesteatoma are high, especially in developing countries. In present study there is higher rate of extra cranial complications about 4.70%, as compared to 2.3%, intracranial complications, excluding ossicular damage, which was found in almost all cases of unsafe CSOM. Intracranial complications can be ascribed to delayed presentation, advanced disease and inadequate treatment of CSOM. ^{8,9}

Conclusion

Improvement of socioeconomic status of people, early recognition and treatment of CSOM can reduce the number of cases and complications of the disease.

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