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OTOLOGIE

Pediatric Middle Ear Cholesteatoma: Retrospective Analysis of Surgical Cases

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Introduction

Middle ear cholesteatoma is defined as an abnormal accumulation of squamous epithelium and keratin debris, typically affecting the middle ear and mastoid. It can be either congenital or acquired. In the latter case, it may manifest as a primary or secondary condition. The most prevalent cause of acquired cholesteatoma in children is retraction pockets in the tympanic membrane resulting from atelectatic processes following prolonged Eustachian tube dysfunction..

Aim of the study

This study aims to retrospectively analyse the clinical characteristics, surgical outcomes, and predictive factors for recurrence of pediatric middle ear cholesteatoma.

Methods

A retrospective descriptive study was conducted involving 123 children aged 3 to 16 years who underwent surgery for acquired middle ear cholesteatoma. Data were collected over a 33-year period from 1990 to 2023 in our ENT and Head and Neck Surgery Department.

Results

- **Mean age =** 10.7 years / male predominance.
- **A functional sign** in 89.4% of cases
- **A complication** was present in10.5% of cases.

Mastoiditis	5 cases
Meningitis (+ mastoiditis)	2 cases
Abcess	3 cases
Thrombosis of the lateral sinus	2 cases

- **Otoscopic examination under a microscope:** ⇨ a retraction pocket in 47 cases (38.2%)
  ⇨ a tympanic perforation in 46 cases (37.4%).
- **Audiometry:** pure conductive hearing loss in 98 cases (90.8%), and mixed hearing lossin 11 cases (9.2%), with an average audiometric leakage of 35 dB.
- **Temporal CT scans** (36 patients prior to surgery): ⇨ to assess the extent of the cholesteatoma,
  ⇨ to detect any associated preoperative complications
  ⇨ to identify any recurrence during follow-up.
- **Cholesteatoma is treated surgically.** ⇨ Open tympanoplasty was performed in 88 cases (64.2%)
  ⇨ closed tympanoplasty in 49 cases (35.8%).
- **Outcome:** was considered good in 102 cases (74.5%).
- **Cholesteatomatous recurrence** was noted in 35 cases (25.5%) requiring repeat surgery.
- ✈ **Analytically**, ⇨ the age less than 7 years,
  ⇨ the presence of a lysed ossicular chain
  ⇨ the extension of the cholesteatoma to the window region
  ⇨ the closed technique.

predictive factors for cholesteatomatous recurrence

Conclusion

The eradication of cholesteatoma and restoration of hearing function in pediatric patients present unique surgical challenges. The optimal balance between these two goals is related to the incidence of recidivism, the degree of ossicular damage, and the experimental evidence that this disease exhibits a more aggressive behavior than in adults. Fortunately, intratemporal and intracranial complications, such as inner ear fistula, facial nerve paralysis, and epidural or intracerebral abscess, are rare in children. Early and appropriate management of pediatric middle ear cholesteatoma is essential to minimize functional sequelae and reduce the risk of recurrence.