ABSTRACT

Objectives: To describe in children: 1. cholesteatoma growth patterns; 2. conductive hearing loss severity; 3. contralateral ear (CLE) findings.

Methods: Cross-sectional study. Videotoscopies of 129 pediatric patients at a tertiary care hospital were analyzed for cholesteatoma growth patterns, air-bone gap, and CLE otoscopic findings. Data were compared with the Chi squared test and analyzed using SPSS.

Results: The mean patient age was 12.4 ± 4.36 years. The cholesteatoma growth patterns were anterior epitympanic (4.5%), posterior epitympanic (21.7%), posterior mesotympanic (43.4%), two routes pattern (17.1%), and undetermined (12.4%). The pure tone average air-bone gap (PTA-ABG) was ≤20dB in 8.7% of patients, between 20 to 40dB in 43.4% of patients, and ≥40dB in 47.9%. The CLE was normal in 34.9% of patients and had moderate or severe tympanic membrane (TM) retractions in 46.5%, TM perforation in 7.8%, and cholesteatoma in 10.9% of patients. The CLE disease prevalence was similar between the groups, except in anterior epitympanic group, which had normal CLE (p = 0.004).

Conclusion: Posterior mesotympanic cholesteatomas were the most prevalent in the study population. Most patients had a PTA-ABG greater than 20 dB, and the most prevalent CLE abnormalities were moderate or severe TM retraction and cholesteatoma. The CLE of patients diagnosed with anterior epitympanic cholesteatoma were normal, suggesting a probable congenital origin.

INTRODUCTION

Acquired middle ear cholesteatoma is a gradually expanding destructive epithelial lesion of the temporal bone, resulting in progressive erosion of adjacent bony structures. Its most common origins, based on otomicroscopic or videotoscopic findings, are the pars flaccida (attic cholesteatoma) and posterosuperior quadrant of the pars tensa (posterior mesotympanic cholesteatoma). In both cases, the lesion overgrows and erosions the fragile ossicular chain, contributing to the conductive hearing loss perceived by most patients.

One of the hypotheses for the pathogenesis of chronic otitis media (COM) is the continuum theory. It suggests that the earlier phases of otitis media may progress over time into more advanced pathologies such as granulation tissue, cholesterol granuloma and cholesteatoma. As otitis media with effusion, an earlier phase of otitis media, has been reported as bilateral in 54% to 76% of the cases, it is logical to imagine that, in the absence of spontaneous resolution, the pathology may progress bilaterally in a considerable proportion of the cases. So, since 2008, we have been indirectly studying the pathogenesis of chronic otitis media by examining the contralateral ear (CLE)

Several studies have pointed significant differences between cholesteatomas in children and in adults. Some authors have hypothesized that cholesteatomas in children may be more aggressive and can present a higher tax of recurrence after surgery.

METHODS AND MATERIALS

- Cross-sectional study;
- 129 outpatients treated at a tertiary hospital were selected;
- Fiberoptic otendoscopy in both ears was recorded sequentially;
- The inclusion criteria were the presence of cholesteatoma in at least one middle ear and patients aged 0 to 18 years, 11 months, and 30 days;
- The exclusion criteria were: a previous history of any ear surgery except tympanostomy for ventilation tube placement; and impossibility of cleaning and performing videotoscopy for appropriate documentation;
- All the patients underwent pure tone audiometry; The pure tone average air-bone gap (PTA-ABG) was calculated as the mean of 500, 1000, and 2000 Hz;
- Cholesteatoma growth pattern was classified as follows: attic or posterior epitympanic; tensa or posterior mesotympanic; anterior epitympanic; two-route or posterior epitympanic and mesotympanic; and undetermined;
- The patients were analyzed for cholesteatoma growth patterns, air-bone gap, and CLE otoscopic findings;
- Data were compared with the Chi squared test and analyzed using SPSS.

RESULTS

- The mean patient age was 12.4 years (standard deviation [SD], 4.36);

OBJECTIVES

This study aimed to describe in children: 1. cholesteatoma growth patterns; 2. conductive hearing loss severity; 3. CLE findings.

CONCLUSIONS

Posterior mesotympanic cholesteatomas were the most prevalent in the study population. Most patients had a PTA-ABG greater than 20 dB, and the most prevalent CLE abnormalities were moderate or severe TM retraction and cholesteatoma. The CLE of patients diagnosed with anterior epitympanic cholesteatoma were normal, suggesting a probable congenital origin.

REFERENCES