

the growth pattern was undetermined. In group 2, 42% were PMC, 28.4% PEC, 18.5% both, and 11.1% of the patients had an undetermined growth pattern. There was no difference in the diagnosis of the principal ear between the two groups ($p = 0.40$). In the analysis of the CLE, in group 1, 35.7% of ears had *pars tensa* (PT) tympanic membrane (TM) retraction, 28.6% *pars flaccida* (PF) TM retraction, and 35.7% had both abnormalities. PT and PF retractions were present in 50% of children from group 2, and PT retraction only in 9.5% of this group. The differences between the two groups were statistically significant ($p = 0.03$). The CLEs of patients with AEC were normal.

Conclusion: The majority of AEC was found in children younger than 12 years of age and all displayed a normal CLE, suggesting a probable congenital origin. PMC was the most prevalent in both the study groups. The most prevalent CLE abnormalities in children over 12 years of age were PT and PF TM retraction together, suggesting that the PT retractions could evolve and block epitympanum aeration resulting in a PF retraction.

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Acquired middle ear cholesteatoma in children

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Learning Objectives: To describe in children: 1. prevalence of cholesteatoma growth patterns; 2. hearing impairment; 3. contralateral ear alterations.

Introduction: Acquired middle ear cholesteatoma in children is a rare event. Over the years, many studies have elaborated the differences between cholesteatoma in children and adults. The clinical findings and the cholesteatoma growth patterns are known to be distinctive in children.

Methods: In a cross-sectional study, videotoscopy data of 155 pediatric patients were analyzed for cholesteatoma growth patterns. They were subjected to an audiological evaluation. We also analyzed the contralateral ear (CLE), classifying it as normal, TM perforation, outside-in TM perforation (in instances with signs of previous TM retraction), moderate and severe TM retraction, and cholesteatoma.

Results: Cholesteatoma growth patterns were posterior epitympanic in 23.2% patients, posterior mesotympanic in 40.6% and both in 17.4% of the patients. Anterior epitympanic growth pattern was observed in 4.5%. In 14.2% the growth pattern was undetermined. The observed pure tone average for bone conduction was 8.8 dB (SD 13.4), for air conduction was 39.7 dB (SD 21.79) and for air-bone gap was 32 dB (SD 15.61). There was no difference between

the cholesteatoma growth patterns and the pure tone average for bone conduction ($p = 0.6$), for air conduction ($p = 0.42$) and for air-bone gap ($p = 0.32$).

A normal CLE was observed in 34.8% of the patients. Moderate or severe TM retractions were observed in 45.2%, TM perforation in 7.1%, and cholesteatoma in 12.9%. Of all the TM perforations, *outside-in* pattern was observed in 63.6%.

Conclusion: Posterior mesotympanic cholesteatoma was the most prevalent in the study population. Most patients had a conductive hearing loss irrespective of the cholesteatoma growth pattern. The most prevalent CLE abnormalities were moderate or severe TM retraction and cholesteatoma.

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The prevalence and implications of marginal tympanic membrane perforations in cholesteatoma pathogenesis

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Learning Objectives: (1) To evaluate the prevalence of marginal perforations in patients with chronic otitis media. (2) To evaluate the marginal perforations searching for signs of previous TM retraction and (3) To study the alterations in the contralateral ear.

Introduction: The pathogenesis of acquired cholesteatoma is still not completely understood. Currently, theories involving previous tympanic membrane (TM) retractions are the most accepted. Migration of the squamous epithelium across a marginal perforation of the TM has also been implicated in the development of cholesteatoma. Marginal perforations are rare events and prospective studies are also very difficult to perform since cholesteatoma is a rare disease and takes many years to develop. The study of marginal perforations and the contralateral ear (CLE) can help us to determine their implications in cholesteatoma pathogenesis.

Methods: Videotoscopy data of 1781 patients diagnosed with chronic otitis media (COM) between August 2000 and December 2015 were analyzed to determine the prevalence of marginal perforations. Signs of previous TM retraction associated to the marginal perforations were evaluated for the following: 1. medialization of the manubrium of the malleus, 2. remnant tympanum adhered to the ossicular chain, 3. remnant tympanum adhered to the promontory, and 4. ossicular chain erosion. Videotoscopy data of the CLE were also analyzed.

Results: Of the 1781 patients evaluated, 45 (2.52%) demonstrated marginal TM perforation. One thousand five hundred eighty-three patients (88.9%) showed two or more signs of