

technique for disease control for example between canal wall up (CWU) or down (CWD) and mastoid preservation or obliteration.

In an attempt to clarify this relationship between disease, patient and surgery, a single-surgeon prospective database of consecutive cholesteatoma surgeries was analysed. Analysis was restricted to cases with no prior history of cholesteatoma surgery. Out of 368 paediatric cases, 328 (89%) were completed with CWU of which 69 were totally endoscopic (TEES), and 40 were completed with CWD of which 10 had primary obliteration. Overall 34 (9%) were found to develop recurrent cholesteatoma. Kaplan Meier survival (KM) analysis was used to control for the cumulative increase in recurrence with time, giving an overall recurrence rate of 12% at 5 years and 18% at 10 years. Perhaps surprisingly, KM analysis suggests that gender and younger age had no impact on likelihood of recurrence. Similarly the same rate of recurrence was found for congenital and acquired cholesteatoma and whether disease was acquired from pars tensa or pars flaccida retraction. The most significant pre-operative determinant of outcome was extent of cholesteatoma, with cholesteatoma involving 4 sub-sites (meso- and epitympanum, antrum and mastoid) having significantly greater risk of recurrence than smaller disease (30% at 5 years; KM log rank statistic $p = 0.002$).

While canal wall down surgery (CWD) is commonly considered to have a lower risk of recurrence than intact canal wall surgery (CWU), in this series, KM analysis showed no difference in rate of recurrent cholesteatoma between these different techniques. Subgroup analysis, in which the sample sizes are small, suggests (a) the same recurrence rate with TEES and (b) no difference in revision surgery for uncontrolled disease for CWD cases with or without obliteration of the mastoid. In contrast to the perhaps unreachable gold-standard of a randomized prospective trial to control for differences between patients, it must be noted that selection of surgical technique was allocated according to patient and disease factors, for example CWD surgery was used more often for larger cholesteatoma.

Careful recording and analysis of surgical intervention and outcome provides valuable insight into the effectiveness of otologic intervention for cholesteatoma.

Survival analysis is required to control for the increasing incidence with longer follow up. It is also important to control for other risk factors such as the extent of cholesteatoma. Understanding of the mechanisms of recurrent cholesteatoma is confounded by selection of surgical technique according to the extent of disease.

Nevertheless, as it seems that “*Bad ears do badly and good ears do well*” it is arguably most important maximise strategies to prevent recurrent disease in those thought to be most at risk.

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Paediatric Cholesteatoma (R811)

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Management of Pediatric Cholesteatoma: The Gruppo Otologico Experience in the Management of 618 Cases

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Learning Objectives: Management of pediatric cholesteatoma and the long term outcomes of canal wall up mastoidectomy.

The objective of this study is to report the Gruppo Otologico experience in the surgical treatment of paediatric cholesteatoma. This is a retrospective study wherein 572 charts of young patients who underwent surgery between 1983 and 2015 were analysed. 46 patients had bilateral disease and the average age was 10.6 years old. The extension of cholesteatoma was defined using Sanna and Zini’s cholesteatoma classification. The most commonly surgical procedure used in children were Canal Wall Up and a Canal Wall Down tympanoplasty. Canal Wall Up Tympanoplasty (CWU) was performed in 263 patients, while, Canal Wall Down Tympanoplasty (CWD) that includes Modified Bondy Technique (BT) and Radical Mastoidectomy (RM), was used in 258 patients. There were more numbers of revision surgeries in CWU (34%) than CWD (10%) tympanoplasty. In all surgeries put together, we had an improvement of hearing of a mean of 8.5 dB HL. The mean follow-up was 10 years. In conclusion, the technique of choice for pediatric cholesteatoma is CWU tympanoplasty. However, the use of a CWD approach to surgically treat extensive cholesteatoma in children results in a low recurrence rate with a high rate of trouble-free ear in the long term.

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Paediatric Cholesteatoma (R811)

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Long term functional and hearing outcomes of surgery in pediatric cholesteatoma

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Learning Objectives: The aim of this study is to retrospectively analyze the functional and hearing outcomes of surgery for cholesteatoma in pediatric population.

Study Design: Retrospective study

Setting: Gruppo Otologico, a quaternary referral center for Otolaryngology and Skull Base Surgery in Italy.

Materials & methods: A retrospective analysis is presented of 664 cases of cholesteatoma in pediatric population who were treated by surgery. The surgical approach was chosen according to the hearing loss, symptoms, status of tympanic membrane and radiological finding. Surgical procedures included Canal Wall Down mastoidectomies, Modified Bondy mastoidectomies, Canal Wall Up mastoidectomies, Radical mastoidectomies, revision surgeries and Subtotal Petrossectomies. In some of these patients