

Canal Wall Up Surgery with Mastoid and Epitympanic Obliteration in Acquired Cholesteatoma: a Retrospective Case Series

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Introduction

- Primary aim of cholesteatoma surgery: complete eradication and prevention of recurrence
- Canal wall up (CWU): better hygienic status and hearing, but more residual and recurrence
- Canal wall down (CWD): less residual and recurrence disease, but open cavity with worse hygienic status and hearing
- Before the introduction of obliteration in our hospital the residual rate of CWU surgery was 24.4% and the recurrence rate 39.7%.
- Hypothesis: obliteration of mastoid improves residual and recurrence rates in cholesteatoma surgery
- Objective of this study: evaluate surgical outcome of CWU surgery combined with mastoid obliteration

Materials and Methods

- Retrospective cohort study
- 2010-2014
- (Sequelae) of acquired cholesteatoma
- Primary or revision CWU surgery
- Obliteration: cartilage chips or Mid Temporal Flap (MTF) in combination with bone pâté and/or hydroxyapatite
- Follow-up: micro-otoscopy and MRI-DWI after 1,2 and 5 years

Results

- 99 ears in 96 patients
- Pediatric: 25 (25.3%), Adult: 74 (74.4%)
- Primary: 26 (26.3%), Revision: 73 (73.3%)
- Mean follow-up: 39,6 months (SD 16,3)
- Complications:
 - 1 wound infection requiring surgery
 - 1 retroauricular hematoma
 - 1 "sudden deafness" after 5 months
 - 3 persistent myringitis

	Recurrence	Residual
Overall (n=99)	7 (7.1%)	7 (7.1%)
Adult (n=74)	3 (4.1%)*	5 (6.8%)
Pediatric (n=25)	4 (16.0%)*	2 (8.0%)
Primary (n=26)	2 (7.7%)	1 (3.8%)
Revision (n=73)	5 (6.8%)	6 (8.2%)
Cartilage (n=40)	4 (10.0%)	2 (5.0%)
MTF (n=59)	3 (5.1%)	5 (8.5%)

Conclusion

- The use of a canal wall up technique in combination with obliteration of the epitympanic space and the mastoid cavity results in low residual and recurrence rates
- The anatomy of the posterior canal wall remains intact, resulting in good hygienic status and good hearing results

	Partial prosthesis (n=54)	Total prosthesis (n=17)	Previous prosthesis (n=8)	No prosthesis (n=16)	Overall (n=95)
Postop airbonegap					
0-10 dB	7 (13.0%)	1 (5.9%)	2 (25.0%)	0	10 (10.5%)
11-20 dB	25 (46.3%)	6 (35.3%)	4 (50%)	4 (25%)	39 (41.1%)
21-30 dB	12 (22.2%)	8 (47.1%)	0	5 (31.2%)	25 (26.3%)
>31 dB	10 (18.5%)	2 (11.8%)	2 (25%)	7 (43.8%)	21 (22.1%)