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Healing of tympanic membrane perforations after myringoplasty. Data from the Swedish Quality Register of Otorhinolaryngology

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Objective

- To evaluate the results after conventional myringoplasty as the treatment for dry tympanic membrane perforations. Healing rate, complications, and patient satisfaction were studied.

Method

- The Swedish Quality Register of Otorhinolaryngology was initiated 1996/97 and register the process and results of nine different diagnosis or surgical procedures, of which myringoplasty is one. Both conventional myringoplasty and the minor fat grafting procedure are registered. All clinics in Sweden performing the procedures are offered to participate. Concerning myringoplasty, 32 out of 33 clinics register. However, not all myringoplasty procedures are included. The inclusion criteria excludes infected ears, and operations where concomitant procedures, as for example ossiculoplasty, are performed.
- Data are collected at 4 timepoints, at the out-patient visit when the surgery is planned, at the timepoint for the operation, at a postoperative follow-up visit after the surgery (6-24 months). Finally, a patient-questionnaire is sent to the patient, or parent of the child, appr. one year after surgery.
- The quality register is a ongoing developing database. Since it started 1996/97, the information that has been collected has changed over the years. In total 5777 procedures were planned for surgery between 2002 and 2012. However, there are difficulties in receiving complete registrations for all four timepoints of datacollection, leaving 2642 complete registrations of conventional myringoplasty and 508 complete registrations of the fat grafting procedure.
- [LINK](#) to information collected in reports



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Result

- The analysis of the patient questionnaire showed that 84% answered that they had less problems with their ears after surgery. Five percent had more problems, and 12% were not satisfied with the result.



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Results, healing of Tympanic membrane (TM) at follow-up* visit.

	Male, n=	Female, n=	Total, n=
Healed TM	1199	1176	2375
Re-perforation	127	140	267
Total	1326	1316	2642



Results

	All (%) n=2642	intact TM at follow-up*, (%)	perforated TM at follow-up*, (%)
Day care surgery	24,5	89,2	10,8
Inpatient	75,5	90,1	9,9
Local anesthetic	3,1	91,4	8,6
General anesthesia	96,9	89,8	10,2
Primary operation	87,7	90,2	9,8
Re-operation	12,3	87,7	12,3

Indication for surgery

hearing improvement	27,4	89,5	10,5
prophylaxis against infection	72,6	90,0	10,0



Results

Reported complications at follow-up visit*

	All (%), n=2642	Intact TM (%)	Perforated TM (%)
Chorda tympani	0,6	0,7	0,4
Tinnitus	1,4	1,3	3,0
Postop infection	3,6	3,1	8,2

Patient reported complaints**

	All (%) n=2642	intact TM at follow-up (%)	perforated TM at follow-up (%)
Dissatisfied with the preop information	2,5	2,1	7,1
More problems with the ear after surgery	4,1	3,1	13,1

Hearing results

	Improvement (%)	Worse (%)	no change (%)
Gain (n=1078)	79,6	16,4	4





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Age distribution (myringoplasty and fat grafting procedure)

age	number
0-9	387
10-14	686
15-19	446
20-29	304
30-39	296
40-49	327
50-59	271
60-69	239
70-79	92
80-89	16
total	3064



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Conclusion

The analysis of data obtained from the Swedish Quality Register showed a healing rate of 89% after conventional myringoplasty and a high degree of patient satisfaction. The reported number of postoperative complications were few.



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Registered data

- Preoperative report
 - primary surgery or revision surgery
 - day care surgery or in hospital surgery
 - local anesthetic or general anesthesia
 - Main indication for surgery:
 - recurrent infections or hearing improvement
 - preoperative audiometry
 - date for surgery
 - gender
 - age
 - personal number
 - free field (for example name of doctor)
- Peroperative report
 - date for operation
 - gender of patient
 - personal number
 - fat graft or conventional myringoplasty
 - day care surgery or in hospital
 - local anesthetic or general anesthesia
 - free field (for example surgeon)
- Follow-up visit (recommended 6-12 mths postop)
 - date
 - gender
 - personal number
 - healed tympanic membrane
 - postoperative audiometry
 - new onset of tinnitus
 - chorda tympani symptoms
 - Postoperative infection
- Patient questionnaire (after 12 mths)
 - Are you satisfied with the information you received before surgery?
 - Do you have less or more problems with your ears after the surgery?
 - Are you satisfied or not with the result of the surgery?



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