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Subannular ventilation tubes in treatment of chronic tubal dysfunction – results in 85 consecutive cases

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Purpose: The appearance of a negative middle ear pressure is well-known during the course of secretory otitis media and occasional complications like cholesteatoma, tympanic membrane retraction or atelectasis. The usual treatment is insertion of a ventilation tube into the tympanic membrane, a procedure that often has to be repeated, sometimes with insertion of long-term T-tubes. This, however, increases the risk of persisting tympanic membrane perforations, and in regard to T-tubes the rate can be higher than 20%. Hence, there is an obvious need for a method for long-term ventilation of the middle ear with minimal risk of persisting perforation. The objective of the present study is to describe the in situ lifetime of subannular ventilation tubes (SVT).

Material and methods: A retrospective study of patient files in a consecutive series of 85 patients, who underwent SVT insertion during the period from 1979 to 2004. A tympanotomy was performed and a small groove was burred in the bony annulus of the floor of the external ear canal. A subannular ventilation tube (Per-Lee® 60°-angle) was fitted and inserted into the groove, and the flap replaced. In this way the tube was positioned peripherally to the tympanic membrane itself. The in situ lifetime was determined for two groups; one in which the SVT's were still functional, and one in which they had been removed or extruded.

Results: In the group of functional SVT's the mean in situ lifetime was 59 months (SEM= 7.9; N=25), while in the group of removed or extruded SVT's it was 34 months (SEM=4.0; N=60). The average number of out-patient visits in the two groups was 4.7 and 6.7 per year, respectively. In the group of removed or extruded SVT's, a persisting perforation was found in 10 % of the cases.

Conclusion: The in situ lifetime of the SVT's was considerably longer compared to conventional ventilation tubes (mean 9 months) and T-tubes (mean 20 months). The SVT's were kept functional by means of regular out-patient check-ups with removal of crusts and treatment of occasional episodes of otorrhoea. The rate of persisting perforation after extrusion or removal was smaller than for T-tubes.