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Cartilage-wire-fascia compact total ossicular replacement prosthesis in one-stage cholesteatoma surgery.

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**PURPOSE:** Retraction pocket and extrusion of the ossicular prosthesis remain significant problems after tympanoplasty in cholesteatoma surgery. This study presents an alternative surgical technique with a total compact ossicular prosthesis including cartilage, wire, and temporalis fascia.

**MATERIALS AND METHODS:** A total of 42 patients (27 adults, 15 children) underwent an ear operation for cholesteatoma requiring total ossicular chain replacement during a 10-year period. Surgery included canal wall down mastoidectomy and reconstruction of the middle ear in one stage. The total ossicular replacement prosthesis was made by a stainless steel wire passed and secured through a piece of conchal cartilage and temporalis fascia positioned on the free end of the wire. The analysis of our data included hearing results pre-surgery and post-surgery, complications recorded in the case notes, and postoperative otoscopic findings.

**RESULTS:** The mean air-bone gap decreased from 39.2 to 22.4 dB in the early postoperative period (mean follow-up, 12.8 months). Eight patients with a long-term follow-up (mean, 7.1 years) presented a small deterioration of their postoperative hearing improvement. The bone conduction did not present significant changes. Three patients developed postoperative infection and treated successfully with medical therapy. No significant complications as displacement or extrusion of the prosthesis and retraction pocket were detected postoperatively.

**CONCLUSION:** This is an alternative tympanoplasty technique with a stable cartilage-wire-fascia total ossicular prosthesis. This technique has a low complication rate; good hearing results and offers another surgical option to the surgeon especially for cases where the cost is a concern.

## References

Vital V, Konstantinidis I, Vital I, Triaridis S, Constantinidis J. Cartilage-wire-fascia compact total ossicular replacement prosthesis in one-stage cholesteatoma surgery. *Am J Otolaryngol*. 2008 Nov-Dec;29(6):393-7. Epub 2008 Jun 20.