

Tolerance and osteointegration of TricOs(TM)/MBCP() in association with fibrin sealant in mastoid obliteration after canal wall-down technique for cholesteatoma.

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Abstract:

CONCLUSION: The TricOsTM/MBCP() and fibrin sealant composite was a convenient, effective, and well-tolerated material for mastoid cavity filling and immediate reconstruction of the external auditory meatus after cholesteatoma surgery with canal wall down (CWD).

OBJECTIVE: To assess the tolerance and osteointegration of a bone graft substitute, TricOsTM/MBCP(), in association with fibrin sealant for filling the mastoid cavity after cholesteatoma surgery using the CWD technique.

METHODS: In this prospective observational study 57 patients with cholesteatoma suitable for CWD were recruited from April 2006 to April 2008 and followed up for 1 year. The mastoid cavity was filled with TricOsTM/MBCP() followed by immediate reconstruction of the external auditory meatus covered with fascia temporalis and/or cartilage. The main outcome was skin tolerance assessed by a novel weighted score emphasizing long-term results. The typical weighted reference score was 1.67; skin tolerance was considered acceptable if 75% of patients had a score ≤ 1.67 . Secondary outcomes were otorrhea and/or otalgia, hearing, and osteointegration assessed through computed tomography scanning at 12 months.

RESULTS: Forty-one patients had a complete follow-up; 34 (82.3%) patients achieved the main end point with scores ≤ 1.67 . Otorrhea decreased postoperatively. No otalgia interfering with daily tasks was reported. Ossicular reconstruction was carried out in 29 patients. Absence of cochlear toxicity was confirmed by unimpaired bone conduction. Preoperative and postoperative speech audiometry results were similar. No serious adverse events were observed. Osteointegration was satisfactory with hyperdensity or intermediate density in 95% of patients at 12 months.