

Single-centre experience of using Biodesign® graft in myringoplasty and mastoid surgery

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Abstract:

Tympanic membrane perforation (TMP) is a common condition encountered in otological practice. TMP causes include; otitis media, acoustic trauma, ventilation tube insertion, foreign body in the ear canal and cholesteatoma. The majority of acute TMPs heal spontaneously through epithelial proliferation and connective tissue growth. Failure of this healing process can lead to chronic TMPs. Chronic TMP can be associated with recurrent ear infections and hearing loss and in such circumstances myringoplasty may be indicated. In chronic TMP there may be a reservoir of infection in the mastoid bone requiring a cortical mastoidectomy. Numerous graft types have been trialled for myringoplasty such as paper patch, adipose tissue, vein graft, fascia lata, temporalis fascia (TF) and tragus or conchal bowl cartilage/perichondrium. Currently, the most widely used graft material is TF due to its abundant supply and biocompatibility. The success rate for TF tympanoplasty is up to 94%. Over recent years a bioactive material derived from porcine small intestinal submucosa (SIS) has been introduced into surgical practice, an example of which is Biodesign®. This natural extracellular matrix, formed of collagen, proteoglycans and glycosaminoglycans, provides a scaffold for host cells to remodel into the required tissue whilst maintaining signalling factors to guide growth and has not been shown to provoke an immune response in the recipient. SIS has been used with success in vascular grafts, skin grafts, complex wound healing, and repair of bladder and abdominal wall defects. In Otolaryngology, SIS has mainly been used for nasal septum perforations, dural repair, as well as myringoplasty. In a small study of nasal septal perforation repairs using SIS, Ambro et al demonstrated a 100% success rate and reported the material is “easy to work with”. The aim of this study was to evaluate our success rates and experience of Biodesign® for TM grafting in myringoplasty and mastoid surgery.

Biography:

I am currently a full-time consultant in the Trust. In my training years I rotated through all the major teaching hospitals in North West London. I have trained in Head and Neck cancer surgery and thereafter in otology and salivary gland surgery. I have run the ENT Study Day for 9 years in the Trust. I have recently completed a book for the final year medical students. My current NHS and University post is that of Honorary Lecturer and Honorary Teacher.

Note: This work is partly presented at Webinar on Otolaryngology and Rhinology (London UK, April 30)