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Vibrant Soundbridge – Lessons Learnt Over Two Decades

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Learning Objectives: Appropriate patient selection for middle ear implant is important.

Introduction: The Vibrant Soundbridge (VSB) is an active middle ear implant that is currently used in patients with conductive, sensorineural, and mixed hearing loss. Initially it was intended for adults with moderate to severe sensorineural hearing loss with previous experience with conventional hearing aids. Since 2006, it was also used for conductive hearing loss and from 2009 onwards, the indication was extended to children. The first implantation in UK was performed in 1997 in our department.

Objective: Our experience of VSB over a period of almost two decades will be presented.

Method: A retrospective survey of two groups of patients: Group I (VSB inserted 1997–2002) and Group II (VSB inserted 2011–2015) were conducted. We looked at indications, surgical and audiological data between the two groups. Long-term follow-up data presented for Group I.

Results: In total 28 VSB were implanted between 1997 and 2015: 14 patients in Group I and 12 patients in Group II (2 patients with bilateral VSB implants). In Group I, all 14 patients had the VSB coupled to the incus for moderate to severe sensorineural hearing loss. Among them, 6 patients are still VSB users. One patient went on to have a cochlear implant 9 years after VSB surgery due to progressive hearing loss. In Group II, all apart from one patient is a VSB user 12 months post implantation. Two patients had round window placement and one patient had a stapes placement, the remaining 11 VSB were the conventional incus coupler. The indications included conductive and mixed hearing loss for chronic middle ear disease (4 patients) and obliterative otitis externa (2 patients).

Conclusion: The VSB implantable hearing technology has been proven to be safe, effective and highly desirable option for patients with conductive, mixed and sensorineural hearing loss. With improvements in patient selection and technology, patient outcomes have improved over time.

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Three-dimensional displacement of an endoscope - preliminary result

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Learning Objectives:

Introduction: Recently, an endoscopic ear surgery is widely spreading. During the endoscopic surgery, the operator holds an endoscope with one hand and manipulates the instruments with another hand. The fixation of the endoscope could be unstable especially for operators who do not have enough experience of the endoscopic surgery. Unstableness of the endoscope can cause the surgical difficulty, furthermore, increases the complication by contacting to the surrounding important structures. Because the intraoperative monitor is 2-dimension, we could not measure how far the endoscope is displaced parallel to the visual axis. In this study, we objectively measured the 3-dimensional displacement of the endoscope in several situations and assessed the appropriate fixation.

Methods: The displacement of the endoscope tip was measured using the 3-dimensional motion capture software. The measurements were performed in several situations such as just holding the endoscope without any manipulation, during the manipulation, and while receiving the instrument from the scrub nurse. In each situation, the endoscope was fixed with or without operator's elbow.

Results: The displacement of the endoscope with elbow fixation tended to be smaller than that of without elbow fixation in each situation.

Conclusions: From our preliminary result, it seemed the most appropriate to fix the endoscope with elbow.

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The incidence of facial nerve dehiscence at surgery: a report of 224 tympanoplasty for cholesteatoma

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Learning Objectives: Facial paralysis can occur after surgery for cholesteatoma. Rate of FND was reported 13% in our serie, suggesting that otologist should be highly vigilant when dissecting near the FN.

Objective: The objective of this retrospective study was to identify the incidence of facial nerve dehiscence (FND) in patients undergoing tympanoplasty for cholesteatoma.

Patients and method: We retrospectively reviewed 224 patients, who underwent tympanoplasty performed by a