The aim was to quantify the audiometric thresholds with the bone-anchored hearing aid (BAHA) attached to the test-band (BAHA TB-thresholds) and compare the BAHA TB-thresholds to those of intact ear and postoperative thresholds from previous studies.

METHODS AND MATERIALS

Medical records of 17 patients diagnosed as unilateral SNHL were included in this study. For each patient, sound field threshold tests and speech understanding test were measured in 3 different conditions.

RESULTS

Thresholds while the intact ear was occluded (condition 3) were higher than those in conditions 1 and 2. The subjects are hearing through BAHA stimulation not by air-conduction via the intact ear canal in condition 2 (Fig. 1).

SRTs (19±9 dB HL) at condition 1 (filled circle) were similar to those (17±7 dB HL) at condition 2 (filled triangle). However, thresholds of BAHA test-band (filled triangle) were better at 1 & 2 kHz and poorer at 250 Hz compared to the thresholds at condition 1 (p<0.005).

BAHA is reported to have maximal output at 500~2,000 Hz in frequency-response curve. This can explain the lower BAHA test-band thresholds (condition 2) compared to AC thresholds of the intact ears (condition 1).

CONCLUSIONS

Preoperative BAHA test-band thresholds with full-on gain showed an amplification, which is similar to the postoperative amplification observed in patients with BAHA with the volume control at most comfortable level.

Preoperative BAHA test-band gains under full-on gain are similar to the postoperative gains with the volume control to MCL. This means that the preoperative use of BAHA test-bands under full-on gain helps the patients experience the exact postoperative mean audiologic gain while setting the volume control to the MCL.

They can have higher postoperative functional gain than preoperative BAHA test-band gain with full-on gain if they want to set the volume control to higher level than MCL postoperatively.

REFERENCES


