

ACOUSTICS2008/1783

Cartilage conduction hearing aid for the patient with atresia auris

Takefumi Sakaguchi^a, Osamu Saito^b and Hiroshi Hosoi^a

^aNara Medical University, 840 Shijo-cho, 634-8522 Kashihara, Japan

^bDepartment of Otorhinolaryngology, Nara Medical University, 840 Shijo-cho, 634-8522 Kashihara, Japan

Although bone conduction hearing aid is considered to be better to compensate the hearing loss of the patients who have atresia auris, some of these patients tend to wear air conduction hearing aid because of the feeling of tightness when wearing bone conduction hearing aid. We expected cartilage conduction would reduce feeling of tightness compared to bone conduction, and improve compensation compared to air conduction. In this study, we report the result of the basic studies performed to evaluate the usefulness of cartilage conduction hearing aid.

Patient who has atresia auris participated in the hearing test. Stimuli were presented to the patient by means of two types of transmitter. One was piezoelectric transducer placed on antilobium, another one was insertion earphone.

We found that the hearing threshold of the patient improved about 25 dB or greater when the transducer was located on antilobium compared to the result when insertion earphone was used. These results suggest that the cartilage conduction hearing aid can be an option of the hearing aid for the patient who has atresia auris which is better than air conduction hearing aid in compensating their hearing, and more comfortable to wear compared to the bone conduction hearing aid.