P331

INNOVATIVE TECHNOLOGIES AND TRANSLATIONAL THERAPIES

Stapedotomy in Congenital Stapes Ankylosis with Mobile Footplate

M. Porowski, P.H. Skarzynski, H. Skarzynski

Abstract

Hearing loss caused by a congenital anomaly of the middle or inner ear can be severe and may negatively affect social interactions, it is important to minimize its adverse effects. **Surgical treatment is the preferred treatment since it can permanently improve hearing**. This is especially important for young people as it eliminates the need to wear hearing aids. However, surgical treatment is not possible in all cases of anomalies, due to the limitations resulting from the depth of the malformation and the risk of complications.

Rapport de Cas

- 15-year-old child with a rare congenital anomaly of the middle ear presented to the Institute of Physiology and Pathology of Hearing – World Hearing Center in Poland.
- Defect coexisted with partial malleus fixation in the attic and caused conductive hearing loss at an average level of 35-40 dB.

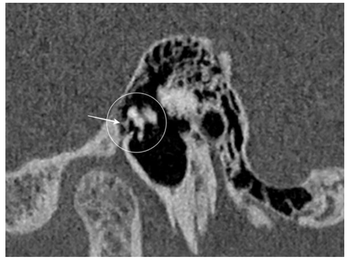

Figure 1. A linear structure present between the malleus and the anterior wall of the epitympanum (white arrow). It was the cause of the malleus head immobilization in the attic.

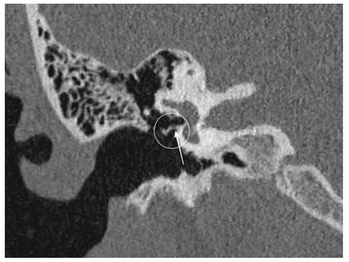

Figure 2. Thickening of the posterior crus of the stapes (white arrow).

- Two exploratory tympanotomies were performed, where excess bone between the stapes and promontory was removed and the head of the malleus was released in the attic. The good effect of these procedures was unstable, mainly due to re-attachment of the stapes to the medial wall of the tympanic cavity.
- Next surgery- it was decided to perform stapedotomy, despite the mobile stapes footplate. The operation was performed with a small-fenestra stapedotomy technique. Perforation of the footplate was done using a microdrill with a balanced speed. A KURZ prosthesis with a diameter of 0.5 mm was used. The postoperative period passed without any complications.

Résultats

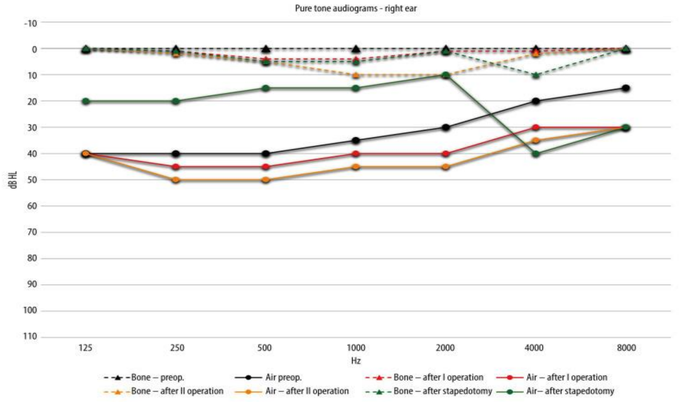

Figure 3. The patient's pure tone audiometry, before and after surgeries: black lines: before operations; red lines: after first operation, yellow lines: after second operation. Green lines: after stapedotomy. Note almost unchanged bone conduction.

Before surgeries audiometric results showed conductive hearing loss of the right ear up to 40 dB. Three and 6 months after the surgery, control pure tone audiometry was performed and showed significant improvement in hearing thresholds. During the follow-up period of more than 6 months, hearing improvement remained stable.

Conclusion

We concluded that it was safe to perform stapedotomy in the presence of a mobile stapes footplate when congenital anomaly of the stapes superstructure caused its severe fixation in the middle ear.

In our opinion, in a child with congenital ear anomaly, consideration should be given to the multifocal origin of the hearing loss.

Références

Porowski M, Skar:yński H, Skarżyński PH. Stapedotomy in Congenital Stapes Ankylosis with Mobile Footplate: A Case Report. Am J Case Rep. 2022 Sep 15;23:e936466-1-e936466-5.

Denoyelle F, Daval M, Leboulanger N, Rousseau A, Roger G, Loundon N, et al. Stapedectomy in children: causes and surgical results in 35 cases. Arch Otolaryngol Head Neck Surg. 2010 Oct;136(10):1005–8.

Dziendziel B, Skarzynski H, Gos E, Skarzynski PH. Changes in Hearing Threshold and Tinnitus Severity after Stapes Surgery: Which Is More Important to the Patient's Quality of Life? ORL J Otorhinolaryngol Relat Spec. 2019;81(4):224–33.