The use of OAE compensation of middle ear pressure in children qualified for surgery in otitis media with effusion

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Material and methods

The study selected patients previously qualified for surgical treatment of otitis media, criteria for diagnosis and classification in accordance with: Algorithm of behavior in chronic exudative otitis media (OMS), dr hab. n. med. Henryk Skarżyński, Institute of Physiology and Pathology of Hearing 2002.

The study was conducted on a group of 14 patients (10 girls and 4 boys).

The test duration was one month (August 2017) - a short test period was related to the availability of equipment.

The study was conducted on an Interacoustics Titan instrument with broadband tympanometry and middle ear concentration compensation in the otoemission

Results

14 patients were enrolled in the study, of which 28% were male children, 72% female children
59% of patients had additional burdens most likely predisposing to chronic exudative otitis media
- 6 children (43%) had Down’s syndrome
- 2 girls with Turner syndrome
- 2 children were after the cleavage of the lip and palate
The other children did not have any additional burdens.

Conclusion

• The above methods can be combined with one acoustic probe so that emissions can be induced at the maximum level of compliance with the middle ear
• For chronic exudative otitis media, children with coexisting genetic diseases resulting in craniofacial disorders are more likely to get sick

The purpose of the study

The air pressure of the external auditory canal significantly reduces the repeatability of the emission shape, in many cases it causes that the emission does not differ from the background noise. The consequence of these findings in the case of hearing tests is that there may be a high rate of false alarms for patients with normal hearing and intra-articular pressure, which may differ significantly from ambient pressure. (Naeve SL et al.)

The aim of the study was to assess the use of state-of-the-art test methods and the qualification of patients for the surgical treatment of exudative otitis media

Fig. 1 Correct result of tympanometry and absorbancy

Fig. 2 Negative pressure of the middle ear

Fig. 3 Examples of the broadband absorbancy

Fig. 4 Examples of ME pressure compensation