TYMPANOMETRY IN CHILDREN WITH RECURRENT SOMATIC PATHOLOGY

S. Diacova[1], A. Chiaburu[1], D. Chirtoca [1], N. Revenco [1], T. Culesin [1], L. Celac[1],
O. Diacova-Sosnowska[1], Veronique Desvignes[2]

[1]*Department of Otorhinolaryngology, State University of Medicine and Pharmacy "Nicolae Testemitanu", Chisinau, Moldova;*
[2]*Society "Medicins du Monde", Pediatrics, Clermont-Ferrand, France*
*E-mail: svetdiac@yahoo.com

Background and aim Tympanometry as an objective and noninvasive method of middle ear examination is used for diagnostics of otitis media, dysfunction of the Eustachian tube, etc. Is it adequate and precise for differential diagnostics of middle ear pathology? We analyzed tympanometry results and middle ear changes in children with recurrent somatic pathology.

Methods Children with chronic somatic pathology at the age between 1 and 7 years were examined: monitoring of middle ear status by tympanometry was performed every three months during 1 year. We registered tympanogram type, maximum admittance, tympanometric peak preassure, static compliance, gradient, relative gradient and other characteristics. Results of complete audiological assessment with air-bone gape (ABG) calculation, otomicroscopy and complex clinical analysis were indication for surgery. CT and other tests were carried out in all 78 children who was included in surgery group. Tympanometry monitoring data were compared with ABG, otomicroscopy changes, CT results, surgical findings during modified tympanostomy A sample correlation coefficient was calculated.

Results Tympanogram Types showed sample correlation coefficient, r = 0.51. Tympanometric peak pressure which represents the basis of tympanometry types classification demonstrates positive, but relatively weak correlation to middle ear changes, r = 0.42. Tympanogram maximum admittance, absolute and relative gradients correlated to GAP and middle ear changes with r = 0. 67, r = 0.74 and r = 0.92, correspondingly.

Conclusion Children with recurrent somatic pathology have to be included in the middle ear monitoring. Tympanometry may be used as an objective measure to estimate the extent of conductive hearing loss, especially in young children. Complete analysis of tympanometry results and complex clinical data have to be included indication for surgery.