

Abstract EFAS/DGA 2007

Evaluations of Electrocochleography in Possible Meniere's Disease without Hearing Loss

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Background:

It is hesitant to diagnose the conditions with multiple episodes of vertigo of duration varying from 20 minutes to 24 hours without hearing loss as Meniere's disease, and the lack of sensitivity of elevated SP(summating potential)/AP(action potential) ratio in the conventional electrocochleography(ECOG) for the diagnosis of Meniere's disease is troublesome for the patients whose symptoms are not "classic".

Aims: To estimate whether ECOG using alternating, rarefaction, and condensation click phase can increase the sensitivity for the detection of endolymphatic hydrops, and to evaluate the incidence of endolymphatic hydrops in possible Meniere's disease without hearing loss with this ECOG method.

Subjects and Methods: Extratympanic ECOG analysis using alternating, rarefaction and condensation click phase was performed on 42 ears of control group, 26 ears of definite Meniere's disease, 17 contralateral ears of unilateral definite Meniere's disease, and 28 ears of possible Meniere's disease without hearing loss. SP/AP ratios and AP latency differences between rarefaction phase clicks and condensation phase clicks were measured.

Results: The sensitivity of ECOG was increased by addition of AP latency difference measurement to the conventional measurement of SP/AP ratio. The frequency of elevated SP/AP ratio or increased AP latency difference was significantly higher in the ears of definite Meniere's disease than in the ears of possible Meniere's disease without hearing loss. It was higher even in the contralateral healthy ears of definite Meniere's disease than in the ears of possible Meniere's disease without hearing loss.

Conclusions: Measurement of AP latency differences between rarefaction phase clicks and condensation phase clicks may serve as a useful addition to ECOG in the detection of suspected endolymphatic hydrops. It is suggested that further study towards identification of possible cause in addition to endolymphatic hydrops for the episodic vertigo without hearing loss will be required.

