Abstract

Utility of frequency tuning of Ocular vestibular evoked myogenic potential (oVEMP) for evaluation of utricular function in individuals with Meniere’s disease is a recent development. However, there is dearth of studies regarding its utility in differential diagnosis of Meniere’s disease from other vestibular pathologies. Further, there is no consensus about the frequency tuning of oVEMP even in the healthy individuals. Therefore the present study aimed at characterizing the frequency tuning of oVEMP in healthy individuals and individuals with vestibular pathologies like Meniere’s disease, benign paroxysmal positional vertigo (BPPV) and auditory neuropathy spectrum disorders (ANSD) and examining the efficacy of this measure in differentiating between these pathologies. oVEMPs were acquired from 113 healthy individuals and 36 individuals each with unilateral Meniere’s disease, unilateral BPPV and bilateral ANSD. Thirty six age- and gender-matched healthy individuals formed comparison group for each of the clinical groups. The results revealed the existence of frequency tuning at 1000 Hz in a significantly higher proportion of affected ears with Meniere’s disease than the comparison group as well as ears with BPPV and ANSD (p < 0.05). There was no significant difference in frequency tuning of oVEMP between the BPPV group and the ANSD group. Using a criterion point of frequency tuning at 875 Hz, the sensitivity and specificity for identifying Meniere’s disease was found to be 68% and 100% respectively. Thus the results of the present study indicate that shift in frequency tuning is an efficient parameter for not only discriminating Meniere’s disease from healthy individuals but also distinguishing it from other vestibular pathologies like BPPV and ANSD. Therefore, frequency tuning is recommended as test parameter of oVEMP for identification of Meniere’s disease.

Key words: oVEMP, frequency tuning, Meniere’s disease, BPPV, ANSD