عنوان مقاله:

Vestibular Evoked Myogenic Potential Produced by Bone-Conducted Stimuli: A Study on its Basics and Clinical Applications in Patients With Conductive and Sensorineural Hearing Loss and a Group With Vestibular Schawannoma

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خلاصه مقاله:

Introduction: Vestibular evoked myogenic potential (VEMP) has recently been broadly studied in vestibular disorders. As it is evoked by loud sound stimulation, even mild conductive hearing loss may affect VEMP results. Bone-conducted (BC) stimulus is an alternative stimulation for evoking this response. This study aims to assess the characteristics of BC-VEMP in different groups of patients. Materials and Methods: We performed a cross sectional analysis on ۲۰ healthy volunteers with normal pure-tone audiometry as a control group; and on a group of patients consisted of ۲۰ participants with conductive hearing loss, five with bilateral sensorineural hearing loss and four with vestibular schawannoma. AC and BC-VEMP were performed in all participants. Results: In control group the VEMP responses to both kinds of stimuli had an acceptable morphology and consisted of p۱۳ and n۲۳ waves. Latency value of these main components in each type of stimulus was not significantly different (P>۰.۰۵). However, the mean amplitude was larger in BC modality than AC stimulation (P=۰.۰۲۵). In the group with conductive hearing loss, the VEMP response was absent in fifteen (۴۶.۸۷%) of the ۳۲ ears using the AC method, whereas all (۱۰۰%) displayed positive elicitability of VEMP by BC method. Normal VEMP responses in both stimuli were evoked in all patients with sensorineural hearing loss. In patients with unilateral vestibular schwannomas (VS), ۲ (۵۰.۰۰%) had neither AC-VEMP nor BC-VEMP. Conclusion: Auditory stimuli delivered by bone conduction can evoke VEMP response. These responses are of vestibular origin and can be used in vestibular evaluation of patients with conductive hearing loss.

کلمات کلیدی: