전정유발근전위의 생리학적 기전 및 해석

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Physiological Mechanism and Interpretation of VEMP

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The vestibular evoked myogenic potential (VEMP) is a neurophysiological assessment technique used to determine the function of the otolith organs (utricle and saccule) of the inner ear. By stimulating the ear with air-conducted sound (ACS) or bone-conducted vibration stimuli(BCV), VEMP can be recorded on the ipsilateral sternocleidomastoid muscles (SCM), termed cervical VEMP (cVEMP), and on the contralateral extraocular muscles, termed ocular VEMP (oVEMP). cVEMPs are mediated by the inhibitory vestibule-ocollic reflex that originates from the ipsilateral saccular macula. The central pathway for cVEMP appears to be the medial vestibulospinal tract that descends within the medial longitudinal fasciculus. Whereas, oVEMPs are arised from the otolith-ocular reflex pathway mediated by the contralateral utricular macula. The ideal stimulation mode for cVEMP testing is using ACS stimuli, whereas the optimal mode for oVEMP testing is via BCV tapping. These two electrophysiological tests help the clinicians to explore the dynamic otolithic function in the inner ear disorders, adding a potential usefulness to the vestibulo-collic reflex and vestibulo-ocular reflex. This session will provide a broad overview of the basic principles, recording methods, and interpretations of VEMP.

Key Words: Vestibular-evoked myogenic potential; Otholith function

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