Association Event : Sound Hearing

Topic : T13. Modern Appropriate Technologies In Ear And Hearing Care

Discussing vestibular system dysfunctions using vestibular tests including VNG,VEMP and ECOG in patients with single sided sensory-neural hearing loss complaining vertigo at Amiralam hospital between 2016-2017

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Abstract

Background: Patients suffering single-sided sensoryâ€“neural hearing loss, have also experienced vertigo attacks after a while. Schukenecht named it Delayed Endolymphatic Hydrops(DEH) and categorized it into : ipsilateral,contralateral and bilateral that is based on the ear which caused vertigo. This classification is according to patient's clinical signs and symptoms which are not always fault-free and sometimes the ear which caused vertigo is not truly diagnosed. In this study we tried to determine pathologic site by using ECOG, VEMP and VNG electrodiagnostic tests. patients with single sided sensory-neural hearing loss and 44Methods: In this case-series study vertigo attacks were surveyed. At first deafness was affirmed by PTA test. After that ECOG,VNG and VEMP test were done for patients and by discussing the results, we interpreted the relation between them. Results: Among 34 patients, 20 patients were male and 14 patients were female. The youngest one was 12 and the oldest one was 90.The mean age of patients was 43.5Â±18.9. Among all of them, there were 17 patients with left ear deafness and 17 patients with right ear deafness. ECOG test has shown 7 patients with dysfunction in receptive ear (SP/AP>0.4). Surveys showed patients with abnormal VEMP result in deaf ear also had dysfunction in receptive ear's VEMP results which shows significant statistical relation (Pvalue:0.002).in survey about VNG and VEMP test in deaf ears, patients with hypofunctional VNG test had also dysfunctional VEMP result in 68.4% of deaf ears which is not statistical significant. In comparison between VEMP in deaf ears and VNG in receptive ears, patients with normal VEMP result in deaf ears, had abnormal result in 50% of VNG test in receptive ears although this relation is not statistic significant. Conclusion: By analyzing the results of VNG,VEMP and ECOG test, There were specific dysfunction in both receptive ear and the ear with sensory-neural deafness. There were a considerable relation between VEMP in receptive ears and VEMP in deaf ears which shows the pathology that caused dysfunction in deaf ear's saccule could also cause dysfunction in receptive ear's saccule. The possibility of hypofunctional VNG result in receptive ear is stronger when there is a normal VEMP test in deaf ear. According to these results, this study recommends doing vestibular tests for patients with vetigo attacks following single-sided sensory-neural hearing loss and starting treatment in deaf ear at first step. before deciding ablation treatments for deaf ear, medical and local treatment should be considered for receptive ear. Keywords:VEMP, ECOG,VNG,Single-sided hearing loss, Vertigo,DEH

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