

Towards a new staging for Meniere's Disease: A vestibular approach

By Inga Louisa Stevens

With the advancement in the staging of Meniere's Disease (MD), subsequent abnormal cVEMP, oVEMP and vHIT responses are expected to follow. In order, the histopathological evidence of progression of the disease, from the saccule up to the SCCs. This is according to Prof Osama Sobhy, Chief of the Audiology Unit at Alexandria University in Egypt, who proposed a new vestibular-based staging for MD at the 'Recent Advances in Diagnosis & Management of Audio-Vestibular Disorders' track, on Day 1 of the 7th EROC Congress in Dubai.

Critics of the current classifications believe that all the audiometry-based staging methods ignore the histopathologic spread of the disease, from the pars inferior to pars superior, and the more recent developments in vestibular diagnosis, namely Vestibular Evoked Myogenic Potential (VEMP) and Video Head Impulse Test (vHIT).

Prof Sobhy et al. carried out a study in 2016 with 40 MD patients to assess the efficacy of the current audiometric staging. Their data showed that there was no significant correlation between the duration of symptoms of MD, or their severity, as judged by vertigo symptom scale – short form (VSS-SF score, Yardley et al 2004) and the stage of the disease (I through IV). Also, cVEMP shows early abnormality in stage I (saccular affection), whereas oVEMP shows abnormalities later in stages II to IV (utricle affection).

The data also showed that audiometry-based staging was inaccurate because there was no correlation between the degree of canal paresis in caloric test and the stages of MD. In addition, the vHIT results in all stages of MD were not significantly different from the controls.

According to Prof Sobhy, the need for vestibular-based staging for MD is because vertigo and dizziness are the most common symptoms in MD. "The judgment for the need for IT Gentamicin injection is based on the failure of medical treatment to control dizziness, not hearing loss," he explained. "Therefore, most of the vestibular function needed for angular acceleration remains intact, even in later stages of the disease, and this function needs to be stopped by ablation therapy."

The proposed new staging for MD is based on the functional affection of the labyrinth starting antero-inferiorly and progressing postero-superiorly:

- Stage (IA): cochlear affection with abnormal PTA only
- Stage (IB): abnormal PTA & cVEMP
- Stage (IC): abnormal PTA, cVEMP & oVEMP
- Stage (ID): abnormal PTA, cVEMP, oVEMP & caloric test
- Stage (IE): all of the above, plus abnormal vHIT.

Tests for Progression of MD

- Cochlear function – Pure Tone Audiometry (PTA)
- Saccular function – Cervical Vestibular Evoked Myogenic Potential (cVEMP)
- Utricle function – Ocular Vestibular Evoked Myogenic Potential (oVEMP)
- SCC function – Caloric test for lateral SCC & Video Head Impulse Test (vHIT) for 3 SCC



Professor Osama Sobhy

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Congress Secretariat: MD/Middle East, United Arab Emirates, Tel: +971 4 311 6300, Fax: +971 4 311 6301, E-mail: eroe@mcigroup.com