FACT SHEET

Visual Vertigo/Motion Sensitivity

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Overview

Visual vertigo is defined as dizziness provoked by full field repetitive or moving visual environments of visual patterns.[1] There are several theories regarding the origin of visual vertigo/motion sensitivity; one theory is motion sensitivity and visual vertigo are due to a sensory conflict or mismatch between the visual, vestibular and somatosensory systems.[2,3] It is thought that there is a possible discrepancy between what the person expected and the external stimuli received. Another theory is that the combination of a vestibular disorder and subsequent visual dependence is what causes visual vertigo.[1] There are also several diagnoses which may contribute to visual vertigo/ motion sensitivity: migraine related vertigo, traumatic head injury, post-concussive syndrome, and cervicogenic dizziness/ whiplash associated dizziness.[2] Psychological disorders, including panic attacks, are also important differential diagnoses.[1]

Symptoms

Typical symptoms of visual vertigo and/or motion sensitivity include episodic dizziness, pallor, diaphoresis, tiredness, salivation, nausea, vomiting, imbalance, vertigo and disorientation. Symptoms are usually provoked by passive locomotion (such as riding in a car or traveling by boat or plane), or motion of the visual surround while standing still. Examples of moving visual surrounds include viewing a rotating optokinetic stimulus, watching large moving visual objects (traffic, clouds, trees) or viewing a large screen motion picture.[1,3,4,5,7,8]

Diagnosis

The Dizziness Handicap Inventory (DHI) and the Motion Sensitivity Quotient (MSQ) are the most often used tools in the diagnosis of motion sensitivity. In the DHI the patient answers 25 questions to identify difficulties that the patient may be experiencing due to their symptoms.[2] In the MSQ the patient is taken through 16 different head and body position changes during which intensity and duration of any symptoms are recorded and a quotient is calculated.[6] The Situational Characteristics Questionnaire which assesses space and motion discomfort observed in vestibular and agoraphobic patients may also be helpful.[7] An oculomotor exam, VOR function tests and other vestibular function tests should be performed to rule out central or peripheral vestibular pathology. The Clinical Test for Sensory Interaction and Balance (CTSIB) is useful to identify the sensory inputs (vestibular, visual and somatosensory) that the patient uses for postural stability. Computerized Dynamic Posturography, which uses a forceplate and moving surround, further objectify the patient's capabilities to resolve sensory conflict in efforts to balance in standing.[2]

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Visual Vertigo/ Motion Sensitivity

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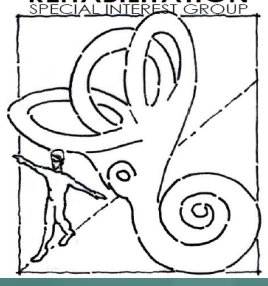

Treatment

Treatment for visual vertigo and motion sensitivity involves vestibular rehabilitation as well as education about compensation strategies. Habituation exercises are done to decrease symptoms of motion provoked dizziness. These exercises are selected by identifying the motions and positions that provoke symptoms during the assessment with the Motion Sensitivity Quotient. Over time, with repeated motions, the symptoms diminish and new exercises can be introduced.[6] Along with standard vestibular rehabilitation exercises, patients benefit from optokinetic stimulation (OKS) and exercises that involve visuo-vestibular conflict.[1,4,7,8] As compensation occurs, the patient moves from a visual dependent postural control to a more proprioceptive postural control with use of vestibule-proprioceptive cues.[4,5,7,8]

References:

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