Guest Editorial

Vertigo: A complex problem!

The patients with disorders of balance are not uncommon and they can present to several physicians lie ORL, neurology, general practice and geriatrics. It is not surprising to note that approximately one quarter of people experience dizziness at some point of time in life and 80% of cases warrant a consultation. Vertigo is defined as an illusion of either oneself or the environment rotating is a very reliable symptom but has to be differentiated from several types of nonspecific dizziness. Associated symptoms point toward the site of the lesion and will help to localize the disease. Poor postural balance in the elderly can lead to falls and fall-related complications are major killer and a major public health concern especially in the geriatric age group. Pathophysiologically, vertigo is due to an asymmetry in vestibular nucleus activity. Acute vestibular failure produces temporary asymmetry in vestibular nucleus activity causing verigo and associated nystagmus and sympathetic symptoms, such as nausea and vomiting. Slowly progressive and chronic unilateral vestibular failure might not cause symptomatology, whereas bilateral symmetrical vestibular failure do not result in vertigo.

Vertigo can present as an acute verigenous episode, recurrent or episodic vertigo and chronic dizziness. There are several conditions which can cause the vestibular dizziness. Important causes, like Meniere's disease and life-threatening conditions like CP angle lesions, need to be ruled out by imaging and audiological evaluation. The peripheral vestibular lesions, like vestibular neuritis, Meniere's disease, superior semicircular canal dehiscence and bilateral vestibulopathies due to ototoxicity have to be distinguished. Central vestibular conditions, like TIA and stroke, vestibular migraine, multiple sclerosis and cerebellar ataxias. Clinical ocular examination and investigation of nystagmus will possibly lead to a diagnosis between central and peripheral lesions. Neurotological evaluation includes clinical examination of posture and gait, otolith testing, vestibular evoked myogenic potentials and a detailed audiological evaluation.

Knowledge of vestibular compensation mechanism is necessary for the management of the vertigo. The vestibular endorgan damage is followed by oculomotor, sensory and postural symptoms and will start recovering at different rates. This recovery is the result of multiple processes that is known as vestibular compensation. Adaptation, habituation and plasticity are responsible for gaining of the vestibular reflexes and substitution mechanisms, such as sensory input, motor responses and substitution strategies.

The treatment includes pharmacological therapy, psychological or psychiatric intervention in the form of cognitive behavioral therapy and vestibular rehabilitation, including vestibular exercises. Surgical intervention for Meniere's disease and CP Angle lesions has gained popularity.

There are several deficiencies in the current knowledge and, hence, there is a need for future research in the understanding of the vestibular neurochemistry. We are looking toward evidence-based approach in the pharmaceutical treatment of vestibular disorders. Another area needing extensive work is understanding interaction of autonomic and endocrine systems with vestibular functions. Translational research is also needed to apply the understanding of the vestibular neurochemistry and pathophysiology to allow the development of new antivertigenous treatments and drugs which facilitate vestibular compensation. High quality clinical trials and potential high technology approaches for vestibular rehabilitation need to be explored further.

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