



# Brazilian Journal of OTORHINOLARYNGOLOGY

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## EDITORIAL

### Vestibular disorders in the elderly<sup>☆</sup>



### Vestibulopatias em idosos

The incidence and prevalence of different types of dizziness and balance disorders that affect both genders in old age are high, and even higher in the long-lived elderly. Balance depends on many factors, including the adequate function of sensory, vestibular, visual, and somatosensory structures; muscle strength; joint mobility; and cognition. The sensory structures can be impaired by common diseases of aging, such as cardiovascular, metabolic, psychological, and central nervous system disorders; retinopathy and/or diabetic neuropathy; cataracts; macular degeneration; and by senility of the peripheral and central vestibular system. The all-too-common aspects of self-medication, polypharmacy, and sedentary lifestyle are aggravating or significant causative factors.

Vertigo, feelings of instability or imbalance (with or without the feeling of an imminent fall), light or heavy-headedness, fluctuation, and presyncope/syncope are common types of dizziness observed in old age, occurring alone or in combination. The definition of vertigo, previously an exclusive prerogative of rotary dizziness, was recently expanded to include any dizziness associated with movement of the patient or objects in the environment, even if they do not move. Dizziness-related falls are common and can result in severe consequences, such as repeated concussions and the dreaded hip fracture. The quality of life of elderly patients with vestibular disorders is greatly impaired by dizziness; the functional limitations brought on by the symptom usually result in significant physical and psychological problems, as well as the incapacity to perform the activities of daily living and work to a greater or lesser degree.

Constant acute or positional vertigo and chronic vertigo can be a result of either central or peripheral vestibular disorders. In the elderly, peripheral vestibular disorders are much more common than central ones. In addition to otological and neurological origins, metabolic disorders such

as hypoglycemia, hyperglycemia, hyperinsulinemia, and hypothyroidism; cardiovascular disorders including hypertension and hypotension, and other potential causative factors from different parts of the human body must be considered. In addition, vertigo of psychogenic origin is not rare and can be difficult to diagnose when it occurs in isolation; because of the physical uncertainty arising from it, secondary anxiety, depression, and panic can result.

Common peripheral vestibular disorders in the elderly include: self-limiting benign paroxysmal positional vertigo, recurrent or persistent; Meniere's disease or syndrome; vestibular neuritis affecting the upper or lower vestibular nerve; metabolic labyrinthine disorders; idiopathic bilateral vestibular hyporeflexia or areflexia and persistent postural-perceptual dizziness (the new name for chronic subjective dizziness). Proprioceptive dysfunction in cervical syndromes of different etiologies may also be a source of dizziness and imbalance. Each of these conditions has its clinical and therapeutic peculiarities. Vertigo and other types of dizziness may be present in different diseases of the central nervous system, such as migraine and its equivalents, strokes, tumors, other brainstem or cerebellar syndromes, and Parkinson's disease.

In addition to otolaryngology, several other areas of medicine may be involved in the diagnosis and treatment of dizziness and balance disorders in the elderly including general practice, geriatrics, neurology, cardiology, ophthalmology, psychiatry, physiatry, physical therapy, speech therapy, and emergency care. The need for a differential diagnosis of the conditions that can cause dizziness should always be given special attention by the otorhinolaryngologist in clinical routine.

There are several diagnostic resources available in our practice for neurotological assessment, such as vestibular testing at the bedside; electronystagmography, vecto-electronystagmography, or videonystagmography; vestibular evoked myogenic potentials (VEMPs, both ocular and cervical); video head impulse test (which complements the findings of caloric testing and ocular and cervical VEMP); static and dynamic posturography; and brainstem auditory

<sup>☆</sup> Please cite this article as: Ganança MM. Vestibular disorders in the elderly. Braz J Otorhinolaryngol. 2015;81:4–5.

evoked potentials (BAEPs). These procedures may be useful to complement key information extracted from the patient history, otorhinolaryngological assessment, physical examination, pure tone/vocal audiometry, and impedance audiometry.

After diagnosis, the next step is to choose the appropriate vestibular therapy for the elderly patient in the acute or chronic phase of the vestibular disorder, which may include: supervised vestibular rehabilitation; physical therapy; eventual and judicious anti-vertigo and/or anti-emetic medication, with due care not to damage the vestibular compensation; and nutritional counseling to correct dietary errors and other potential aggravating factors, as well as general and specific guidelines to prevent fall risk factors. Different types of invasive procedures may be performed in specific situations or during treatment of certain clinical conditions resistant to conservative treatment.

Vestibular rehabilitation and physical therapy, often-associated procedures, are the first-choice treatment for most cases. It is also mandatory to seek control of all underlying comorbidities that may detrimentally impact vestibular dysfunction. Psychotherapy may be necessary, especially when anxiety, depression, and panic emerge as relevant symptoms, often without apparent justification at the functional assessment of the vestibular system. The persistence of psychological symptoms can hinder or prevent a favorable neurotological response to therapy.

Considering that otological causes prevail over other etiologies, the participation of the otolaryngologist in the assessment of elderly patients with any type of dizziness and/or imbalance and in the therapeutic management of different balance disorders should be emphasized.

Periodic approaches to educate the geriatric population, similar to the National Campaign for Fall Prevention in the Elderly, sponsored a few years ago by the Brazilian Society of Otolaryngology, with the support of the Brazilian Association of Otorhinolaryngology (Associação Brasileira de Otorrinolaringologia – ABORL-CCF-CCF), provide information on balance disorders; on how to maintain safety on the stairs and in the bathroom, kitchen, and bedroom; the use of adequate footwear; and how to proceed outside the home environment, etc. Universal public policies seek to prioritize actions aimed at the welfare of the elderly. In this manner, we are doing our part to take proper care of elderly patients with vestibular dysfunctions.

### Conflicts of interest

The author declares no conflicts of interest.

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