
Presenting complaint: Dizziness

By Cathy Sendeki

Some time ago, I realized we were seeing a lot of seniors with the presenting complaint of “dizziness”, a term covering a host of symptoms. The range of possible causes is extensive and sometimes difficult to identify. Relief in the ED is often incomplete, and the patient leaves with many questions, a hesitant gait, ongoing discomfort, and anxious relatives. I wanted to know more about this constellation of symptoms, and how to help the patient deal with this complaint. If you identify with these concerns, here is some of what I’ve learned:

Some definitions

Syncope is a transient loss of consciousness with a loss of ability to maintain postural tone due to global cerebral hypoperfusion. One example would be “church syncope” brought on by standing following a prolonged time seated or kneeling.

Presyncope includes the same symptoms including loss of postural tone without loss of consciousness. There is a sense of impending faint or “blacking out.”

Vertigo describes the illusion of movement, often spinning, or the sensation of falling, and is often accompanied by nausea.

Disequilibrium is a sense of unsteadiness, a feeling that a fall is imminent.

The vestibular nucleus in the brain stem receives information from the ears, eyes, and joints (proprioception). When these inputs cannot be correlated, the sensation of vertigo often results. As with so many conditions in seniors, there will frequently be more than one contributing cause, and brief episodes of acute vertigo may be followed by an ongoing sensation of disequilibrium. Presbyastasis, or multisensory disequilibrium of aging, while not a sudden change, will add to the changes experienced by seniors now challenged with acute dizziness.

“Compared to younger persons, dizziness is more common, more pronounced, has more causes, is less likely due to a psychological cause, and is more incapacitating” (Davis, 1994). How common? According to some studies, approximately 40% of over-65-year-olds report that feelings of dizziness or unsteadiness diminish their quality of life, and it is a frequent reason for persons over the age of 75 to seek medical attention.

Etiology can be medical, otologic, central or psychogenic, bearing in mind that for older adults there may be more than one source. In approximately one-third of patients, no cause will be found.

Medical

In our primary and secondary assessment, we are likely to identify changes in blood pressure, either ominously high, or too low. During the physical examination, infectious processes such as pneumonia or gastroenteritis can be identified, as well as signs of dehydration. Basic lab work will assess for anemia, elevated WBC, electrolyte abnormalities, hypoglycemia or UTI. A review of medications is indicated, to identify recent changes, particularly in antihypertensives, beta blockers and other cardiac meds. Although it can present a challenge, it is important to know what the patient has actually been taking, including prescription and over-the-counter

medications, as well as any alternative remedies. Assess for recent use of Gentamicin or high doses of Furosemide. If the patient is on Phenytoin, serum levels may need to be checked.

An ECG will reveal ongoing dysrhythmias and a history of palpitations or chest discomfort will alert us to look further for cardiac causes. A CT scan may be ordered, as with the ECG, it is important to identify abnormalities, and a negative test can give some reassurance that this is not an ominous event.

Postural versus measurement may help to account for symptoms—the BP and pulse need to be measured with the patient lying, then standing, over a period of three minutes, with an assessment of symptoms. A drop of more than 20 mm Hg systolic, or 10 mm Hg diastolic, or HR increase of more than 20 beats/min. indicates orthostatic hypotension, which may or may not be symptomatic.

While medical causes may herald significant morbidity, such as a patient who presents with “dizziness” and is found to have a hemoglobin in the 60s, the most common causes relate to inner ear problems.

Otologic

Three significant sources of vertigo are vestibular neuritis, labyrinthitis, and benign paroxysmal positional vertigo (BPPV). These conditions tend to come on suddenly, often accompanied by nausea, and sometimes vomiting. BPPV is postulated to be due to otoconia—tiny crystals that become dislodged from the vestibular area of the ear and enter one of the semicircular canals. Also called otoliths or canaliths, these crystals normally help the brain to sense gravity. If they become dislodged, the vestibular centres of the brain sense this as a change in the body’s position. The typical history is of intense brief vertigo upon sudden changes in body position. In the past, it was felt that impingement on the vertebral arteries caused dizziness in some patients who looked up, for example, to find an item on a high shelf. Current evidence indicates this is a rare mechanism of dizziness—more likely the symptoms are related to BPPV.

Vestibular neuritis refers to an inflammation of the vestibular nerve, which carries balance signals from the inner ear to the brain. Inflammation can convey a sense of movement when no actual movement is occurring. This can follow a URI or viral infection. It may be due to decreased circulation to this area. A typical presentation of vestibular neuritis is the patient who wakes up to the sensation of spinning, has difficulty walking, and the symptoms have lasted a few hours.

Labyrinthitis refers to swelling and inflammation of the labyrinth of the inner ear, sometimes due to bacterial or viral infection, although the cause is not always known. Symptoms are similar to vestibular neuritis, but temporary hearing loss, distortion, or tinnitus generally occurs. Almost always, only one ear is affected, and the symptoms of vertigo occur as the brain is receiving incongruent impulses from each ear, as well as visual input.

The incidence of Meniere’s disease increases with age. This is characterized by bouts of vertigo with hearing loss, ringing in one ear, and a sensation of fullness, due to fluid imbalance in the inner ear. Otologic vertigo tends to be recurrent.

Central

Central causes, within the brain, tend to be of more gradual onset, and the associated symptoms are usually less intense. The cause of the symptoms may be more ominous than with peripheral vertigo, e.g., tumours (primary or metastatic). Balance may be significantly impaired, to the extent that the patient has difficulty sitting or standing. Finger-to-nose and heel-shin tests may be abnormal. Such presentations are more common in middle-aged persons than the elderly, although vertigo due to brainstem or cerebellar abnormalities may be more intense than in younger patients. A TIA or CVA in the posterior circulation may present initially as vertigo, occasionally accompanied by headache. Symptoms often include dystonia, ataxia, weakness and numbness in the perioral area or elsewhere.

Psychogenic

While symptoms are less likely to be psychogenic in seniors than younger patients, depression or anxiety may present as dizziness. Understandably, the sudden onset of vertigo can be a source of anxiety.

The symptoms of dizziness or vertigo, even if not caused by a serious condition, are incapacitating for seniors who are prone to serious injuries due to falls. If they remain in bed to avoid falls, they risk significant deconditioning after only a few days. If they live alone, they will have difficulty with preparing meals and other daily activities. The fear of falls can cause seniors to limit their activities and, therefore, social contacts, all of which diminish their enjoyment of life and contribute to declining health.

Interventions will, of course, depend on the underlying causes of the dizziness. Medical causes may be most readily identified and treated. The treatment of central causes of dizziness, once identified, are well established. If TIA or CVA is diagnosed, appropriate management and follow-up to maximize cardiovascular health are needed.

Of the otologic syndromes, BPPV is most effectively treated with otolith repositioning exercises, such as Epley manoeuvres. Cervical spine fragility may necessitate modifications. Medications offer little relief. Patients may feel worse in the morning, as the otoliths tend to clump as the patient sleeps—with activity during the day, these particles become more dispersed and the symptoms subside.

Vestibular suppressant medications may be prescribed to decrease nausea and to lessen the sensation of movement. Meclizine (Antivert) may be prescribed. It has antihistamine and anticholinergic properties, which carry the risk of side effects, particularly falls, constipation and urinary retention. Lorazepam or other benzodiazepines may suppress the central response in the vestibular area, and may be prescribed for symptom management and relief of anxiety, but must be balanced against the risk of falls and mental changes.

Medications may alleviate the distressing symptoms initially but, over time, the central nervous system will accommodate the ongoing changes in stimuli in a similar fashion to becoming accustomed to new eyeglasses. Thus, medications should be taken for only a brief period, for example, up to five days. Beyond this time, they will delay the process of vestibular compensation.

Vestibular rehabilitation therapy is an exercise program designed to promote this compensation. This includes assessment by a qualified

physiotherapist, occupational therapist or other professional, and exercises for the individual to do at home to promote safe activity involving movement of the head and visual stimulation.

When no cause is found, empirical trials of medications and vestibular rehabilitation therapy may be helpful.

Discharge teaching should focus on protection from injury during the acute phase, as well as the need to follow up with the primary care provider.


Advise these patients to get up from bed slowly, sit for one to two minutes, and exercise the feet and lower legs to stimulate venous return to prevent postural hypotension.

- move slowly when symptomatic
- do not lie flat, but elevate the head slightly
- do not drive or climb up on a chair or ladder, or engage in other activities where poor balance could be disastrous until symptoms have resolved.
- ongoing attention to fall prevention may be the “new normal”.

Otologic vertigo tends to recur, so measures to lessen future episodes are important, for example:

- prevent dehydration
- avoid substances that can affect circulation, such as caffeine, alcohol, tobacco
- fatigue, illness, or stress can contribute.

Follow-up should also include correction of vision and hearing problems, adjustment of medications that may be contributing, and fall prevention strategies, such as use of a cane.

This has been an interesting topic to research, both in the literature, and in talking with seniors who deal with ongoing dizziness and vertigo. I hope this information will be helpful, especially as you are assessing and teaching seniors how to deal with this common illness, making the symptoms less incapacitating. 

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About the author

Cathy Sendeki has worked in Burnaby Hospital ED since 1987. As Educator, in 2005 she worked with the Clinical Nurse Specialist for Acute Care of Older Adults to improve the care of seniors in our ED. What started as a three-month project by an ED nurse who did not see great areas for improvement,



became a full-time position that continues to be fascinating and challenging. She appreciates the opportunity to assess patients with a geriatric and emergency “lens” to assist the emergency team to provide the best care to those seniors with complex presentations.