

## Understanding the Dizzy Patient A Challenge to Primary Care Physicians

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The sensation of vertigo and dizziness, the symptom code that is the basis of the interesting paper by Sloane<sup>1</sup> in this month's issue of the *Journal*, is often a frustrating complaint for both patient and physicians. The symptom complex, which included "falling sensation, giddiness (dizziness), lightheadedness, loss of sense of equilibrium or balance, room spinning" in the National Ambulatory Medical Care Survey, can be so complicated and hard to unravel that one author has remarked that "often, after taking such a history the physician will be as dizzy as the patient."<sup>2</sup> One source of frustration is that patients frequently have difficulty communicating what is disturbing them.

Perhaps the subjective nature of dizziness and its related symptoms explain the paucity of published papers based on data collected from primary care practices. Given the prevalence and disability associated with dizziness, however, primary care physicians will likely gain from information derived from empiric studies of the causes of dizziness and their management, especially if the clinical material is sampled from primary care practice populations.

As with other subjective complaints, a thorough history, often taken on repeated occasions, is the critical element in the evaluation of dizziness. Although potentially time-consuming, it is usually wise to allow the patients to describe the symptom complex in their own words. Directed, leading questions are usually necessary, but they can come later. We find that a useful strategy is to listen to the patient's exposition, review of systems, and responses to directed questions, and then to ask the patient to describe the symptoms in a single word without using the word dizziness. This question frequently helps to separate vertigo and near syncope from dizziness, an important distinction in the orderly evaluation of sensations that patients describe with the same words (Table 1).

Vertigo is suggested by a sensation of rotatory movement ("spinning as if on a merry-go-round") with clear consciousness. The sensations associated with motion sickness, including nausea, dyspepsia, and even vomiting can accompany more severe episodes. Near syncope is characterized by impending loss of consciousness (as if one stood up too fast), gray vision, and pallor. Dizziness is harder to characterize and includes what is left after removing vertigo and near syncope. A detailed description of activities preceding and during dizziness is almost always helpful, including such details as head or body position and positional change, whether dizziness is episodic or constant, and its duration. When asked, patients will frequently identify precipitating factors.

Syncope and near syncope are common afflictions, especially in the elderly.<sup>3</sup> The causes and evaluation of syncope are fortunately becoming increasingly well described.<sup>4-6</sup> "Vasovagal" factors and symptoms associated with micturition, defecation, cough, and swallow or orthostatic blood pressure changes frequently suggest the diagnosis. Medication review, along with examination for cardiovascular (valvular, carotid sinus), hypovolemic, and autonomic disorders, is important. The diagnostic evaluation of syncope has been studied and, in general, extensive laboratory testing is seldom rewarding if a careful bedside evaluation does not suggest a specific diagnosis. The most frequently useful diagnostic tests are the resting electrocardiogram and ambulatory electrocardiographic monitoring.<sup>7-10</sup>

The evaluation of dizziness and vertigo is less well described. Although it is obvious that both are common and often disabling symptoms for the elderly, the lack of information about dizziness in primary care settings is noteworthy. Vertigo is experienced when vestibular, visual, and somatosensory inputs are mismatched. Thus, disorders of visual and somatosensory symptoms increase the severity of symptoms resulting from vestibular disease. A history of hearing loss and tinnitus, though common in the elderly, suggest a peripheral cause of vertigo. Peripheral vertigo is more often severe, whereas central vertigo is usually mild. The history of a recent upper respiratory tract infection or trauma is noteworthy. Medication review is again of great

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TABLE 1. CAUSES OF DIZZINESS SYMPTOMS

Symptom	Possible Cause
Syncope, near syncope	Unknown
	Cardiac
	Valvular (aortic stenosis, mitral regurgitation)
	Outflow obstruction (hypertrophic cardiomyopathy, myxoma)
	Ischemic
	Cardiomyopathy
	Arrhythmia
	Ventricular tachycardia
	Supraventricular tachycardia
	Bradyarrhythmias
	Tussive
	Hypovolemia
	Dehydration
	Blood loss
	Autonomic
	Vasodepressor (vasovagal)
	Micturition, defecation, swallow
	Glossopharyngeal or trigeminal neuralgia
	Orthostatic hypotension (autonomic neuropathy, medications)
Carotid hypersensitivity	
Vertigo	Unknown
	Benign positional vertigo
	Vestibular neuritis
	Meniere's disease
	Trauma (postconcussion syndrome, perilymphatic fistula)
	Medication
	Serous otitis media
	Middle ear tumors (cholesteatoma, glomus jugulare)
	Multiple sclerosis
	Ischemic
	Central tumor (acoustic neurinoma, meningioma, astrocytoma, metastatic carcinoma)
	Visual dysfunction
	Somatosensory dysfunction
	Physiologic (height, motion sickness)
	Nonsyncope, nonvertigo dizziness
Multiple sensory deficits	
Seizures	
Stroke	
Drop attacks	
Hypoglycemia	
Migraine	
Somatization disorder	

mation, cerumen impaction, perilymphatic fistula, serous otitis media, tympanic membrane perforations, cholesteatomas, and trauma.

The basic neurologic examination concentrates on the cranial nerve and long tract signs. The neurologic examination should also note signs of dysfunction in vestibular connections such as nystagmus, past pointing, and loss of position with eyes closed while marching in place or backward and forward (the Bárány star). The Bárány-Nylén (Hallpike-Dix) maneuver is one of the most useful bedside tests. Brain-stem auditory evoked potentials may be useful screening investigations in patients with suspected central causes of vertigo or hearing loss. Expensive imaging procedures have a low yield (the number of new cases of acoustic neuroma is approximately 45 per year in Britain), but magnetic resonance imaging (MRI) is the most effective test when a procedure is indicated.<sup>11</sup>

Benign positional vertigo is the most frequently diagnosed cause of vertigo in many series, excluding vertigo of unknown cause.<sup>12</sup> If the symptoms are supportive, the presence of a normal neurologic and ear examination with an abnormal Bárány-Nylén maneuver is diagnostic of benign positional vertigo.<sup>13</sup> Vestibular neuronitis is an acute disease in which hearing is spared. Epidemic cases support a viral cause, though most are idiopathic. Recovery occurs within a few weeks. Meniere's disease is associated with fluctuating tinnitus and hearing loss, with low-frequency hearing loss on audiologic testing. Perilymphatic fistula is typically seen after trauma. Medication side effects should be considered in the elderly, including salicylates, aminoglycosides, alcohol, anticonvulsants, sedatives, antihistamines, antidepressants, furosemide, quinine, and antiarrhythmics.

Focal neurologic signs or central patterns on audiometry or electronystagmography are consistent with central causes of vertigo. Tumors involving the eighth nerve, cerebellopontine angle, or brain stem (acoustic neuroma, meningioma, astrocytoma, metastatic carcinoma), stroke, and multiple sclerosis are among central causes.

Nonsyncope, nonvertigo dizziness is also common.<sup>13,14</sup> Hyperventilation is second only to vertigo as a cause of dizziness.<sup>12</sup> Most patients are not aware of an alteration in breathing, and focal sensory and neurologic changes may be found. In patients with confusing histories, hyperventilation for 3 minutes followed by assessment for symptom reproduction is a useful maneuver. Symptoms are frequently reproduced well before the full 3 minutes have elapsed.

Seizures are not frequently mistaken for dizziness even though the patient may report "fits." Strokes are often listed as a scapegoat for undiagnosed syncope or vertigo. In the absence of focal neurologic signs or symptoms, the diagnosis of stroke or vertebrobasilar insufficiency is presumptive and unfounded and thus should be considered

importance, especially in the elderly. Focal neurologic symptoms and other persistent, nonvertiginous symptoms suggest central vertigo. A careful inspection of the ear, nose, and throat will help diagnose viral syndromes, inflam-



suspect. The cause of drop attacks, a fairly common affliction in the elderly, is not known. Hypoglycemia is another overstated diagnosis, usually inappropriately ascribed to dizziness in the absence of documentation on an extended glucose tolerance test. Vague dizziness in the elderly can be attributed to multiple sensory deficits in visual, proprioceptive, and vestibular systems. The early symptoms of migraine (heat waves and scintillation) may be described as dizziness. Commonly, patients with somatization disorders may have presyncope, vertigo, or dizziness that defies categorization.

For the primary care physician, the dilemma is to sort out the symptoms and come up with the best or most likely diagnosis. The preceding discussion has described many of the more common causes according to existing literature and textbooks. Other than a primitive awareness that this problem is common and important, however, dizziness in primary care is much less well described than, for example, syncope, vaginitis, or sore throat. Our understanding of dizziness has been advanced by the recent report of Sloane et al,<sup>16</sup> demonstrating an 18.2% 1-year prevalence rate of dizziness in those aged 60 years and older. Dizziness was associated with an index of multiple neurosensory deficits, an index of cardiovascular risk, depression symptoms, and perception of self as a nervous person. Dizziness was not associated with increased risk of death or institutionalization. Among the elderly, for whom dizziness is one of the most common symptoms causing a patient to seek medical attention, additional good primary care research is needed to help physicians develop more effective strategies for dealing with a common symptom.

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