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Opinion

Recognizing Vertigo May not be Easy

Abdurrahman Sönmezler*

Department of Neurology, Adana Sehir Hospital, Turkey

***Corresponding Author:** Abdurrahman Sönmezler, Department of Neurology, Adana Sehir Hospital, Turkey.

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Vertigo is an issue that needs to be emphasized because it affects a large part of the society, causes loss of workforce, and sometimes is a symptom of life-threatening diseases. The differential diagnosis of peripheral and central vertigo should be made and they should be directed to the relevant specialists. Different complaints of patients such as non-specific dizziness and imbalance can be perceived as vertigo. The etiology of vertigo, like its symptomatology, is very broad. It may develop as peripheral causes, central causes, psychiatric disorders, systemic causes, drug side effects or multifactorial causes. Vertigo is a nonspecific term that patients use to describe a variety of symptoms. The most common symptoms that can be referred to by patients as vertigo are dizziness, unsteadiness, and presyncope. Vertigo defined as the sensation of motion independent of gravity, the illusory sensation of rotational or translational motion. Vertigo is a movement illusion that arises due to sudden tonic neural activity imbalance of the vestibular system, in which the person expresses that his/her environment or himself/herself is spinning. Vertigo mostly in the horizontal plane, but all three of the space it is a false sense of displacement that can also occur in the plane of. The feeling that things are spinning around the person or when the patient closes his eyes, patient feels himself spinning around things So it's a kind of illusion of movement The vestibular system should be examined in a patient with a rotational history. In this case the labyrinth, VIII. cranial nerve, vestibular nucleus, vestibular thalamus, vestibular cortex should be examined. However, a multidisciplinary approach other than the vestibular system will be required in a patient with dizziness. The complaints of the patients should be carefully evaluated and the distinction between vertigo and dizziness should be made. Disorders that cause vertigo are classified as central disorders and peripheral disorders.Central disorders include the brainstem and cerebellum, while peripheral disorders include the vestibular nerve and labyrinth. Peripheral vertigo tends to cause bothersome symptoms. But it is rarely life threatening. Conditions that cause central vertigo have less bothersome symptoms and a slower onset than peripheral vertigo but they are usually more serious. If the patient has had a true attack of vertigo, it should be investigated whether it is peripheral or central. The eyes, muscles, joints, and vestibular labyrinths constantly transmit information about the position of the body to the central nervous system. The vestibular apparatus is located in the petrous part of the temporal bone in the inner ear. The vestibular apparatus consists of three semicircular canals and two structures called the utricle and saccule. Semicircular canals and utricle connect to each other with endolymph. A disease of the inner ear can alter the resting flow of movement-stimulated endolymph in one ear. This change is perceived as an asymmetrical response and vertigo occurs. In general, acute unilateral peripheral disorders have a sudden onset with severe and debilitating symptoms that gradually subside or completely resolve within 6 to 12 weeks due to central compensation.In contrast, central disorders typically have an insidious onset and are characterized by milder symptoms of longer duration. Besides hearing loss, neurological deficits are rarely associated with peripheral vestibular disorders. In contrast, weakness, dysarthria, and hypoesthesia are often associated with central disorders. The most striking clinical symptom associated with vertigo is nystagmus. Acute unilateral peripheral disorders are characterized by horizontal jerky nystagmus suppressed by visual fixation after the first 24 to 72 hours.Be benign paroxysmal positional vertigo (BPPV) is a temporary cause of vertigo associated with nystagmus, which becomes evident with head movements, and is caused by a mechanical disorder of the inner ear. The most widely accepted hypothesis to explain BPPV is known as

canalolithiasis. According to this hypothesis, BPPV results from inappropriate activation of the semicircular canal by the presence of free-moving particles or otoconia and is typically found unilaterally and most frequently in the posterior semicircular canal. In central disorders, nystagmus can occur in any direction, does not tire and is not suppressed by visual fixation.Although vertical nystagmus is a descriptive finding for central vertigo, it may not always be present.In central vertigo, nystagmus is usually related to the direction of gaze and is rarely a finding associated with peripheral vestibular disorders. In positional vertigo, the nystagmus is torsional, usually there is fatigue, that is, with repetitions of the provocative manoeuvre, the and nystagmus dissipate after three to four hours and are usually not able to be suppressed by visual fixation. Cupulolithiasis is a peripheral vestibular disease with tireless nystagmus that can be confused with central disorders.

If we consider central vestibular disorders; vertebrobasilar insufficiency is one of the common causes of vestibular disorder in middle-aged and older patients. Vertebrobasilar insufficiency may cause vertigo alone or may be associated with dysphagia, speech difficulties, bilateral visual disturbances, and double vision. Patients with vertebrobasilar occlusive disease have extremity weakness, ataxia, and oculomotor ororopharyngeal cranial nerve palsies, and vertigo is a common finding. Vertigo, diplopia, nystagmus, nausea and ataxic gait may be seen in patients with cerebellar infarction. In cerebellar lesions, the patient falls towards the lesion side and nystagmus is observed towards the lesion side. Signs and symptoms of vertebral artery dissection include headache and vertigo, and unilateral Horner's syndrome may be seen. Wallenberg syndrome, caused by unilateral dorsolateral medullary infarction, is manifested by vertigo, hoarseness, ataxia, Horner's syndrome, accompanied by a loss of pain and warmth sensation in the ipsilateral face but contralaterally in the trunk and limbs. The blood supply to the lateral medulla is provided by the posterior inferior cerebellar artery. Most patients with Wallenberg's syndrome have occlusion of the ipsilateral vertebral artery that supplies the posterior inferior cerebellar artery. Demyelinating disease may present with vertigo lasting a few hours, days, or weeks and is usually non-recurring. Multiple sclerosis is a relatively rare cause of central vertigo.

Migrainous vertigo is the second most common cause of recurrent vertigo and occurs in approximately 10% of all patients with migraine headaches. Vertigo can be a prodromal symptom of migraine, or it can be seen as a symptom equivalent to an aura or headache period. Migraine headaches are often accompanied by vestibular symptoms such as vertigo, motion sickness, and gait instability. The etiology of migraine-related vertigo is still unclear. Migraine-related vasospasm can also damage the inner ear, causing symptoms such as sudden sensorineural hearing loss and consequent tinnitus.Patients during acute attacks usually shows nystagmus and Romberg's sign. Auditory symptoms are rarely present, but vague ear fullness is quite common. Clinical manifestations can be highly variable, thus making definitive diagnosis difficult, especially given the fact that there is often no associated headache. As a concept vestibular migraine or migraine- related vertigo is the most common cause of episodic vertigo. Symptoms include photophobia, phonophobia, nausea, and headache, in addition to episodes of vertigo. Diagnosis is primarily based on clinical history, as pathognomonic findings by testing are unreliable. Vestibular migraine has a female predominance ranging from 75% to 94% of individuals with vestibular migraine. On average, individuals develop symptoms of vertigo 8.4 years after the first onset of migraine, age of onset typically ranges from 37 to 53.2 years. Migraine headaches typically begin earlier in life but decrease in frequency later in life. Vestibular migraine, also known as migraine-related vertigo, is a pathology characterized by spontaneous or positional vertigo attacks lasting from a few seconds to a few days, accompanied by migraine symptoms.To date, there are few studies to support the hypothesis that vestibular migraine does not exist as a separate migraine disease and that the onset of vertigo is a consequence of dyspeptic symptoms in people with migraine. In essence, according to studies, migraine patients with dizziness, tinnitus and hearing loss should not be diagnosed with vestibular migraine. In the light of new studies, the necessity of reviewing and clarifying the definition of vestibular migraine is on the agenda.

Cerebellopontine angle tumors are rare but potentially are important causes of vertigo. These tumors more commonly produce ataxia and imbalance; however, it is believed to produce vertigo by a variety of mechanisms, including compression of the cerebellum or brainstem, invasion of the bony labyrinth, compression of the membranous labyrinth, or neoplastic transformation of the vestibular nerve itself.Various paraneoplastic syndromes have been associated with vertigo, possibly through an autoimmune mechanism [1-3].

Benign Paroxysmal Positional Vertigo(BPPV) is the most common cause of recurrent vertigo, Meniere Disease(Endolymphatic hydrops) is relatively rare, Labyrinthitis, Vestibular Neuritis, Perilymphatic Fistula, Superior Semicircular Canal Dehiscence Syndrome are Peripheral Vestibular Disorders.

Trauma can cause peripheral or central vertigo, depending on the mechanism of injury. Head trauma can lead to several mechanisms, including fracture of the temporal bone, creation of epileptogenic foci, induction of post-traumatic migraine, and alteration of the vertebrobasilar circulation.

Conservative therapy is the basis of vertigo treatment and includes vestibular rehabilitation and repositioning maneuvers (Epley's maneuver) as well as a wide variety of pharmacological agents.

Surgical treatment of vertigo has a wide spectrum. However, this treatment issue was not included in our article.

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