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Vertigo

Many older people experience dizziness or imbalance, increasing the risk of falls and fractures. Dizziness is a broad term used by patients to describe a range of sensations including vertigo, gait ataxia and presyncope. Dizziness can be classified into four groups: vertigo (spinning sensation), disequilibrium (feeling of imbalance), light-headedness (sense of giddiness) and presyncope (sensation of feeling faint).

The National Aged Care Mandatory Quality Indicator Program (QI Program) requires quarterly reporting against falls. This article will focus on vertigo, a common cause of falls.

Definition

Vertigo is defined as the perception of falsely present or abnormal self-motion. It is a vestibular disturbance that can be difficult to recognise and diagnose. It can be either spontaneous or motion-induced (only when head is moving).

People often use the expression dizziness, whirling, spinning or a feeling of unsteadiness or falling. It is sometimes used to refer to feelings of giddiness, faintness, confusion, anxiety or insecurity. These sensations may have many causes or contributors.

Vertigo can be categorised into one of four main syndromes:
1. Acute Vestibular Syndrome
2. Recurrent Positional Vertigo
3. Recurrent Spontaneous Vertigo
4. Imbalance

Acute vestibular syndrome in people with a history of cardiovascular disease or risk factors require urgent attention for stroke workup and management.

Recurrent positional vertigo is often caused by benign paroxysmal positional vertigo (BPPV) and can be confirmed using position testing (e.g. Dix-Hallpike manoeuvre).

Recurrent episodic spontaneous vertigo attacks are usually due to Ménière's disease or vestibular migraine.

Imbalance requires a review for other symptoms of ataxia, peripheral neuropathy and cerebellar symptoms. Many musculoskeletal conditions may result in imbalance.

Signs and symptoms

Vertigo is an illusion of motion, commonly described as a spinning sensation. Sometimes people describe it as a sense of falling or pitching.

Symptoms may include:
- Nausea
- Retching
- Pallor
- Sweating

Hearing loss can occur, along with tinnitus. Some central signs may include gait ataxia, visual field loss, double vision (diplopia), sensory loss, limb weakness, slurred speech (dysarthria), difficulty swallowing (dysphagia), and uncontrolled repetitive eye movements (nystagmus).

Vestibular neuritis presents with imbalance and nystagmus but no hearing loss. It can be provoked by an upper respiratory tract infection.

People with recurrent episodic spontaneous vertigo attacks due to Meniere's complain of unilateral auditory symptoms of fullness, tinnitus and deafness. Nystagmus and hearing loss may also be evident.

People with BPPV experience unsteadiness or vertigo triggered by head movements, such as rolling in bed or reaching for items from the floor or high shelves. Diagnosis requires both symptoms and nystagmus.

Ménière's Disease presents with vertigo lasting 20 minutes to 12 hours, together with hearing loss and fluctuating aural symptoms of tinnitus or aural fullness.

Vestibular migraine presents with attacks of spontaneous vestibular symptoms together with features of migraine, including either headache with migrainous qualities, visual aura or photophobia and phonophobia. Other less common signs include tinnitus, nystagmus and occasionally deafness.

Management – acute vertigo

Vertigo caused by acute unilateral loss of vestibular function (e.g. vestibular neuritis) is mostly self-limiting. It usually improves over hours to days, without any need for medication or other interventions. In severe cases of vestibular neuritis, a short course of prednisolone, up to 75mg for 5 days, may be necessary.

Some people still have motion-induced dizziness after the acute vertigo resolves. Symptomatic treatment may be indicated for a short time, usually up to 48 hours. Anti-emetics such as prochlorperazine (*Stemetil*) or promethazine (*Phenergan*) are first-line therapy. If not resolved with these medications, then diazepam (*Valium*) or ondansetron (*Zofran*) for up to 2 days may be used. Injectable agents may be necessary if the patient is vomiting. Prolonged use for symptoms of vertigo is not recommended due to the risk of neurological adverse effects. Long-term use can cause tardive dyskinesia, drug-induced parkinsonism or dependence.

Management – BPPV

BPPV is treated with repositioning manoeuvres. Medications may relieve nausea and vomiting associated with BPPV but do little for the vertigo.

Management – Ménière's disease

Treatment of Ménière's disease includes salt restriction and to avoid caffeine. Thiazide diuretics such as hydrochlorothiazide (*Dithiazide*), alone or in combination with amiloride (*Moduretic*), may be tried as prophylaxis. Betahistine (*Serc*) has been used, although evidence is lacking. Betahistine commonly causes headache, nausea and dyspepsia

Management – vestibular migraine

Triptan therapy (eletriptan, naratriptan, rizatriptan, sumatriptan, zolmitriptan) may relieve vertigo due to vestibular migraine in some patients. Symptomatic treatment with anti-nauseants and anti-emetics may be required. Drugs used for migraine prophylaxis can reduce the frequency and severity of vestibular migraine. Prophylaxis may be needed for episodes more than twice a month. Medicines used for migraine prophylaxis include tricyclic antidepressants, gabapentinoids (pregabalin, gabapentin), propranolol, candesartan, topiramate, and SSRI or SNRI antidepressants. The choice of medication may depend on other conditions, adverse effects and contraindications for use.

Management – tinnitus

Tinnitus often accompanies different types of vertigo. Tinnitus is often described as a ringing, buzzing or hissing sound in the ears or head. NSAIDs, aspirin and antidepressants can aggravate tinnitus and should be avoided. High dose loop diuretics such as furosemide and bumetanide, can cause tinnitus, vertigo and hearing loss. Macrolide antibiotics such as erythromycin and azithromycin can cause tinnitus, dizziness or hearing loss in a dose-related manner. Vertigo and tinnitus may also be triggered by some chemotherapies such as methotrexate, cisplatin, carboplatin and vincristine.

No good evidence supports drug therapy (e.g. antidepressants, benzodiazepines, antiepileptics) for tinnitus, other than for associated anxiety and depression. Cognitive behavioural therapy (CBT) can reduce tinnitus-related distress. Talking and sound therapies, relaxation and mindfulness therapies, education and group support may be needed if tinnitus is bothersome or distressing. Masking techniques may help.

Depression can affect the severity or tolerance of tinnitus; and tinnitus can trigger depression. Depression often overlaps with anxiety disorders, so should be treated appropriately.

Untreated hearing loss is associated with an increased risk of cognitive decline and dementia, social isolation, depression and irritability. DVA funds a range of hearing services and tinnitus treatments for eligible Veteran Care holders.

Summary

Vertigo is a common and distressing condition. Classically, vertigo presents as a sensation of movement of the environment which people describe as a spinning sensation. Treatment should be directed to the specific causes of vertigo. Antiemetics may be required for symptomatic management of acute vertigo in the short-term. lifestyle changes including salt restriction and avoiding caffeine and alcohol are recommended. Assessment and management of the patient's risk of falls is important in vertigo.

References

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