An approach to vertigo in General Practice

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Introduction

Definition of Dizziness: is a perception of disturbed or impaired spatial orientation, but there is no false sense of motion.

Non specific term used by patients to describe a wide range of symptoms like:

- Imbalance
- Light-headedness
- Feeling faint
- Vertigo

In approximately half of these cases, the dizziness is due to vertigo.

Introduction

Definition of Vertigo: is a symptom, not a diagnosis. It refers to a false sensation of movement (spinning or rotation) of the person or their surroundings in the absence of any actual physical movement.
It can have central or peripheral causes, and determining the cause can be difficult (HINTS exam).

Objective: Provide a framework for assessing patients with vertigo.

Causes of vertigo

- **Peripheral Causes:** Inner ear or vestibular nerve issues.
  - **Common Peripheral Causes:**
    - Benign Paroxysmal Positional Vertigo (BPPV)
    - Vestibular Neuronitis (VN)
    - Labyrinthitis
    - Ménière's Disease
  - **Rare Peripheral Causes:**
    - Perilymphatic fistula
    - Semicircular canal dehiscence syndrome
    - Long standing syphilis

Causes of vertigo

- **Central Causes:** associated to CNS disturbances.
  - ❑Vestibular Migraine — the most common cause of central recurrent attacks of vertigo. Features of vestibular migraine can include ataxia, **visual disorders**, nausea and vomiting. It can be challenging to distinguish from other vertigo causes.
  - ❑Stroke and transient ischaemic attack
  - ❑Cerebellar tumour
  - ❑Acoustic neuroma
  - ❑Multiple sclerosis

Prevalence

- Most balance problems that present in primary care are not true rotatory vertigo:

  A 2018 systematic review showed that, of people presenting with symptoms of dizziness in the community, around 44% had vertigo of peripheral origin [Bösner, 2018].

- The most common causes of **true vertigo** symptoms in primary care are benign paroxysmal positional vertigo (BPPV), Meniere's disease, and vestibular neuronitis [BMJ Best Practice, 2022a].
- Vestibular migraine vs Meniere's disease ratio is 20:1.

Assessing a patient with vertigo

- Ensure the patient presents with true vertigo.
- 70% of the time of the consultation should be invested in history taking.
- Ask about:
  - Duration – onset – frequency
  - Aggravating factors
  - Associated symptoms
- Examine:
  - Ear
  - Neurological examination
  - Cardiovascular examination
- Specific clinical tests:
  - Romberg's test
  - Unterberger's test
  - Dix-Hallpike manoeuvre
  - Head impulse test
  - Alternate cover test (for skew deviation)
  - Smooth pursuit test.

Central causes

Diagnosis

- **Vestibular migraine:**
  - ❑ **Typical symptoms:**
    - Vertigo or motion intolerance
    - Visual disturbances/aura
    - Photophobia and/or phonophobia
    - Autonomic symptoms
    - Poor concentration/confusion/brain fog
    - Fatigue
    - Headaches (not present in 30%)
    - Aural fullness/ perceived hearing loss/ tinnitus
  - ❑ **Diagnostic criteria:**
    - 5 episodes of moderate/severe vestibular symptoms lasting for 5minutes to 72 hours.
    - Current or previous history of migraine.
    - One or more migraine features with at least 50% of the vertigo episodes:
      - Headache
      - Photophobia and/or phonophobia.
      - Visual aura

Central causes

Differential diagnosis

Symptoms	Vestibular Migraine	Ménière's Disease
Vertigo	Mild/ moderate. May be positional	Severe Rarely Positional
Duration	Seconds-days Often >24hs	15 min – 4 hours Up to 12 hours rarely
Headache	Common (70%)	Rare
Hearing loss	No fluctuation Non deteriorating	Fluctuating and deteriorating
Tinnitus	Bilateral and non obtrusive	Unilateral and obtrusive during attack
Visual changes and photophobia	Very common	Absent

Vestibular migraine

Management

- Reduce triggers like stress & anxiety.
- Improve sleep.
- Dietary management:
  - ❑Avoid:
    - ➢ Caffeine
    - ➢ Chocolate
    - ➢ Cheese
    - ➢ Alcohol
    - ➢ High sugar content food
- Medications:
  - ➢Simple analgesics
  - ➢Propranolol
  - ➢Triptans (help with headache but not effective for vertigo)
  - ➢Prochlorperazine

Peripheral vertigo

Diagnosis

	HISTORY	DIAGNOSIS
Patient presenting with true vertigo	• Vertigo symptoms lasts for seconds • Related to head movements • Dix Hallpike test +	BPPV
	• Vertigo symptoms lasts for minutes to hours and recur • Aural fullness sensation +/- tinnitus • Fluctuating hearing loss	? Ménière's disease
	• Vertigo symptoms lasts for days • Single severe attack • History of recent viral infection • No hearing changes	Vestibular neuronitis

Peripheral vertigo

Management

- **General Measures:**
  - Reassurance: Explain that most cases of peripheral vertigo are benign and self-limiting.
  - Provide symptomatic relief.
- **Condition-Specific Treatments:**
  - **Benign Paroxysmal Positional Vertigo (BPPV):**
    - **Eppley manoeuvre/Brandt Daroff exercises:** canalicular repositioning procedures are first-line treatments.
  - **Vestibular Neuronitis/Labyrinthitis:**
    - Offer short-term vestibular suppressant medications (prochlorperazine) for symptoms relief.
    - Encourage movement to promote central compensation.
    - Consider offering steroids (prednisolone 1mg/kg OD) for 7-10 days particularly if there is evidence of SNHL.
  - **Ménière's Disease:**
    - Dietary Modifications: reduce salt intake, avoid caffeine & alcohol.
    - Medications: betahistine 16mg TDS – consider prochlorperazine 5mg TDS or diazepam for acute vertigo attacks.

General measures management

- **Rehabilitation and long-term Care:**
  - ❑**Vestibular Rehabilitation Therapy (VRT):**
    - ➢ Engage patients in exercises designed to improve balance and reduce dizziness through vestibular adaptation. https://www.entuk.org/patients/conditions/93/cawthornecooksey_exercises
  - ❑**Lifestyle Adjustments:**
    - ➢ Encourage a safe environments to prevent falls
    - ➢ Recommend physical activity to enhance overall balance
    - ➢ Avoid stress and anxiety
    - ➢ Improve hydration
    - ➢ Dietary changes: avoid caffeine, chocolate, cheese, alcohol

Case 1

- Patient:
  - Maria S., 38-year-old female.
- Presenting Complaint:
  - “I woke up this morning and the room was spinning.”
- History
  - Onset: sudden onset of severe vertigo 12 hours ago.
  - Duration: constant vertigo, ongoing for the last 12 hours.
  - Associated Symptoms:
    - Nausea and vomiting.
    - Difficulty walking or standing due to imbalance.
  - Absent Symptoms:
    - No hearing loss.
    - No tinnitus.
    - No ear fullness.
  - Past Medical History:
    - Recovered from an upper respiratory tract infection one week ago.
  - Medications:
    - None regularly.
- Physical Examination
  - Vital Signs:
    - Normal.
  - Neurological Exam:
    - Horizontal spontaneous nystagmus (beating to the left).
    - Positive head impulse test on the right (impaired VOR).
    - No limb ataxia.
    - Negative Romberg sign when sitting; positive when eyes are closed standing.
  - Otoscopy:
    - Normal

Case 1

- Diagnosis
  - Provisional Diagnosis: Right-sided vestibular neuronitis.
  - Rationale: Acute onset of vertigo without auditory symptoms following a viral illness, and signs consistent with a peripheral vestibular deficit.
- Management
  - Acute Phase (first few days):
    - Vestibular suppressants: prochlorperazine.
    - Antiemetics: ondansetron or cyclizine.
    - Corticosteroids: prednisone.
  - Recovery Phase (after 3–5 days):
    - Stop suppressants to promote central compensation.
    - Begin vestibular rehabilitation therapy (VRT) and encourage movement to promote central compensation.

Case 2

- Patient:
  - John Doe.
  - Age: 58 years.
- Presenting Complaint:
  - Sudden episodes of dizziness, especially when turning in bed or looking up.
- History:
  - Onset: Started 2 weeks ago.
  - Symptoms: brief episodes of spinning sensation (vertigo) lasting less than 30 seconds.
  - Triggers: rolling over in bed, tilting head back (e.g., looking up to reach a shelf), bending over.
  - Associated symptoms: mild nausea during episodes, no hearing loss, no tinnitus, no neurological symptoms (e.g., weakness, numbness).
  - Past medical history: hypertension, mild osteoarthritis.
  - No recent head trauma or infection.
- Examination:
  - Neurological exam: normal.
  - Dix-Hallpike test: positive on right side — provokes vertigo and nystagmus (torsional and up-beating, lasting about 15 seconds).
  - Romberg test: slight instability with eyes closed, no falling.

Case 2

- Diagnosis:
  - Right posterior canal BPPV.
- Treatment:
  - Epley manoeuvre performed in clinic.
  - Advice: Avoid sleeping on the affected side for a few nights; follow-up if symptoms persist or worsen.
  - Prognosis: Good; most cases resolve with manoeuvres or spontaneously.

Case 3

- Patient:
  - Laura T., 45-year-old female.
  - Occupation: school teacher.
  - Medical History: hypertension (controlled with medication), no previous ear surgeries or trauma.
- Presenting Complaint:
  - "I've been having dizzy spells with ringing in my ears and pressure for the past few months".
- History of Present Illness:
  - Laura reports experiencing recurrent episodes of vertigo lasting between 20 minutes to several hours, occurring about 2–3 times per month. During these episodes, she feels nauseated and has even vomited once. She also notes:
    - A sensation of fullness in her left ear.
    - Tinnitus (ringing) in the left ear.
    - Fluctuating hearing loss on the left side, especially in lower frequencies.
    - Symptoms worsen with stress and salty foods.
    - Between attacks, she feels mostly fine but has noticed her baseline hearing is worsening over time.
- Physical Exam:
  - Otoscopy: Normal external and middle ear appearance.
  - Neurological Exam: Normal outside of vertigo episodes.
  - Romberg Test: Positive during acute episodes.
  - Audiogram: Shows sensorineural hearing loss in the left ear primarily in low frequencies.
- Diagnosis:
  - Meniere's disease — based on the clinical criteria:
    - Two or more episodes of spontaneous vertigo, each lasting 20 minutes to 12 hours.
    - Audiometrically documented hearing loss.
    - Tinnitus or aural fullness in the affected ear.
    - No other identifiable cause.

Case 3

- Diagnosis: ? Ménière’s disease.
- Treatment Plan:
  - Lifestyle modifications: Low-sodium diet, caffeine and alcohol reduction.
  - Medications:
    - Betahistine 16mg TDS long term.
    - Prochlorperazine/diazepam during acute vertigo attacks.
  - Hearing aids (as needed for progressive loss).
  - If symptoms persist or worsen: intratympanic steroid injections.

Referral pathways

Barnsley Hospital NHS Foundation Trust

Barnsley Hospital Quality in Care

Audiology Department

Guidance written/reviewed by:	Debbie Evans/Nicola Lindley
Date:	February 2024
Review Date:	February 2025
Guidance Name:	BPPV GP DIRECT REFERRAL https://www.thebsa.org.uk/wp-content/uploads/2023/10/OD104-48-Recommended-Procedure-Positioning-Tests-September-2016.pdf
Minimum Appointment Time:	30 minutes
Equipment:	Couch
Who can perform this test?	Specialist Practitioners Bands 6 with approved qualification in ENG/VNG testing and students under direct observation.
Authority for Issue	Debbie Evans – Head of Audiology

To reduce time that patients are waiting to see ENT the GP can refer direct to Audiology.

If the patient's symptoms relate to BPPV and consist of the following the GP can use the Choose and Book referral. Symptoms must be related to the following:

The patient must say **YES** to both of the following:

- Positional Vertigo e.g. when turning over in bed, when moving the head to look up/down.
- Sudden spinning vertigo with short duration less than 5 minutes

On receiving the referral, the clerical officer reads the letter to ensure the patient meets the above criteria, if so the patient's details are inputted onto AB with a set referral, the appointment is then made and appointment letter sent with correct information about the test.

If they have any other Audiological or Vestibular Symptoms patients are rejected and referred to ENT.

When to refer to ENT

- Vestibular neuronitis:
  - Symptoms do not improve at all within the fist 7-10 days or persist for longer than 6 weeks.
- Suspected Ménière's disease:
  - Refer to ENT services to confirm the diagnosis.
- BPPV:
  - Refer to balance specialist if a canalith repositioning procedure (for example the Epley manoeuvre) has been performed and repeated, and symptoms are still present.

Conclusion

- **Summary:** Importance of history and examination in diagnosis.
- **Takeaway:** Most peripheral causes are benign and can be managed as an outpatient.

- THANK YOU FOR YOUR ATTENTION