A Case of Dizziness - a practical guide

Dr Jackie Taylor
Consultant Geriatrician, Honorary Clinical Senior Lecturer
Glasgow Royal Infirmary
Consultancy work for Servier, Bayer, Vifor, Novartis
What is dizziness?

- “Dizziness has no specific medical meaning”
- “The term dizziness is imprecise”
- “Dizziness is a term used to describe a range of sensations”
- Dizziness means different things to different people
- It is common and multifactorial
- Associated with depression, poor QoL, falls

30% people >65 will consult GP at some point with dizziness
A case of dizziness.......  

- Present typical case  
- Examine common aetiologies  
- Simple framework for assessment and management
Mrs X

• 81 year old lady
  • HF REF
  • IHD
  • AF
  • Hypertension
  • Type 2 diabetes
  • CKD
  • TIAs
  • OA
  • Osteoporosis
  • Previous breast Ca

• “feeling awful”
  • Dizzy
  • Fatigue
  • Depressed
Mrs X

• Drug history
  • Ramipril 7.5mg
  • Bisoprolol 2.5mg
  • Frusemide 80mg+40mg
  • Spironolactone 12.5mg
  • Warfarin
  • ISMN 20mg bd
  • Simvastatin 40mg
  • Gliclazide 80mg bd
  • Alendronate 70mg/week
  • Adcal D3 bd
  • Letrozole 2.5mg
  • Carbamazepine 200mg bd
  • Cocodamol 30/500 2x4
  • Citalopram 20mg
  • Nitrazepam 5mg nocte

• Social history
  • Lives alone
  • Independent PADLs
  • HH x2 /week
  • Non smoker
  • Occasional alcohol
More about the dizziness.............

Can you describe the dizziness?

I just feel, you know, dizzy!

But what do YOU mean by dizziness?

It’s hard to explain, I’m just dizzy!

• Duration?
• Description........?
• Precipitating/relieving factors?
• Positional element?
• On standing?
• Worse in morning?
• Rotational element?
• Hearing loss?
• Blackouts?
• Falls
• Other associated symptoms eg palpitations, nausea, vomiting
• PMH
Dizziness

Vertigo, Pre syncope, Disequilibirum

- Recurrent attacks
- Positional
- Prolonged spontaneous vertigo

- Cardiovascular
- Orthostatic
- Metabolic disorders
Extracting the history

- Do you feel if you or the world is spinning?
- Do you feel as though you are going to faint?
- Do you feel unsteady on your feet?

Mrs X’s dizziness
- Worse on standing especially in morning
- Feels lightheaded/faint
- No rotational element
- 2 recent falls
Clinical Features

No peripheral oedema, not pale
OA C spine

CVS
• HR 62, AF
• BP 102/62 supine, 88/60 erect
• No murmurs
• Venous insufficiency

CNS
• No Parkinsonian features
• No nystagmus
• No cranial nerve signs
• Increased tone/reflexes in lower limbs
• Peripheral sensory neuropathy
• Unsteady gait
Diagnoses

1. Orthostatic hypotension
2. Peripheral neuropathy
3. ? CVD

Multifactorial dizziness

“...I grew up in the drug culture but now I get the same effect by standing up too fast.”
Orthostatic hypotension

**DEFINITION**
Persistent systolic/diastolic BP decrease of at least 20/10mmHg upon standing

**EPIDEMIOLOGY**
- Prevalence 6-35% depending on age and co-morbidity
- Associated with neurodegenerative diseases, frailty and CHF
- Frequent finding in hypertension and diabetes

**ASSOCIATIONS**
Presence of OH independently associated with:
- Increased risk of all-cause death (RR1.5)
- Increased risk of incident CHD(1.4)
- Increased risk of HF (2.25)
- Increased risk of stroke (1.64)
Overall risk greater in <65 year population

Ricci et al JACC 2015;66(7)848
Ricci et al Eur Heart J 2015;36(25)1609
Investigation and Management of Mrs X

Investigation
- FBC
- Renal function
- HbA1C
- ECG

<table>
<thead>
<tr>
<th>Investigation</th>
<th>Medication review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hb 118</td>
<td>Ramipril 7.5mg</td>
</tr>
<tr>
<td>Urea 12.4</td>
<td>Bisoprolol 2.5mg</td>
</tr>
<tr>
<td>Creat 115</td>
<td>Frusemide 80mg+40mg</td>
</tr>
<tr>
<td>eGFR 36 (42)</td>
<td>Spironolactone 12.5mg</td>
</tr>
<tr>
<td>ECG-AF, normal</td>
<td>Warfarin</td>
</tr>
<tr>
<td>QRS</td>
<td>ISMN 20mg bd</td>
</tr>
<tr>
<td></td>
<td>Simvastatin 40mg</td>
</tr>
<tr>
<td></td>
<td>Gliclazide 80mg bd</td>
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<td>Citalopram 20mg</td>
</tr>
<tr>
<td></td>
<td>Nitrazepam 5mg nocte</td>
</tr>
</tbody>
</table>

- ECG - AF, normal
- QRS
Management

Advice/education
Treat correctable factors
- Reduction of frusemide dose
- Reduce (or stop) nitrates
- Clarify need for carbamazepine
- Consider switch to paracetamol
- Wean off Nitrazepam
- Splitting doses/timing of doses

Other physical measures - compression
May need down titration of ACEI/BB/MRA

Medication review
- Ramipril 7.5mg
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- **Frusemide 80mg+40mg**
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Already on bone protection
- Falls prevention
- Physiotherapy and occupational therapy
- Comprehensive geriatric assessment
Other CV causes of dizziness to consider

- Arrhythmia, ventricular/supraventricular
- Sinoatrial disease/heart block
- Structural heart disease

Other investigations

- Ambulatory monitoring
- Event recorders
- Echo

Clinical or ECG features suggesting arrhythmia
- Symptoms during exercise or supine
- Palpitations preceding/during
- Hx SVT/VT
- Bifascicular block
- Sinus bradycardia/AV block
- Pre-excited QRS
- QT prolongation or shortening
Dizziness

Vertigo
- Recurrent attacks
- Positional
- Prolonged spontaneous vertigo

Pre syncope
- Cardiovascular
- Orthostatic
- Metabolic disorders

Disequilibrium
Vertigo

An illusion or hallucination of movement, usually rotation, either of oneself or the environment

28-32% of patients with dizziness

Peripheral vestibular problem
  • Benign paroxysmal positional vertigo
  • Meniere’s disease
  • Vestibular neuronitis
Benign Paroxysmal Positional Vertigo

• BPPV commonest cause of vertigo in general population
• Rotational dizziness brought on by head rotation or neck extension
• Diagnosed by Hallpike manoeuvre
• Treated using Epley manoeuvre
History and examination

Are there blackouts
- yes → Cardiac monitoring, CSM, syncope service
- NO → Vertigo, tinnitus, hearing loss
  - yes → ENT
  - NO → Are there symptoms during vigorous head/neck movement

- Yes during vigorous head/neck movement → Cervical spondylosis
- Yes measurement of E/S BP → Orthostatic hypotension
- Yes heel toe walking → Cerebrovascular disease
- Yes Hallpike Manoeuvre → BPPV

FALLS
- yes → Refer Geriatrician
- Doesn’t fit above → Refer Geriatrician
Summary

• “Dizziness” common and disabling condition
• Clues are in the history and examination
• Always consider OH and other CV causes in this population
• Careful medication review
• Often multifactorial, may need a multidisciplinary approach and involvement of ENT and Medicine for the Elderly
### Table 6—Diagnosis of cause of dizziness in 149 dizzy subjects

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>No of subjects</th>
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<tbody>
<tr>
<td>Central vascular disease</td>
<td>105</td>
</tr>
<tr>
<td>Cervical spondylosis</td>
<td>98</td>
</tr>
<tr>
<td>Anxiety or hyperventilation</td>
<td>48</td>
</tr>
<tr>
<td>Poor vision</td>
<td>23</td>
</tr>
<tr>
<td>Postural hypotension</td>
<td>14</td>
</tr>
<tr>
<td>Benign positional vertigo</td>
<td>6</td>
</tr>
<tr>
<td>Other</td>
<td>38</td>
</tr>
<tr>
<td>No diagnosis</td>
<td>6</td>
</tr>
<tr>
<td>More than one diagnosis</td>
<td>126</td>
</tr>
<tr>
<td>Neck disease and central vascular disease:</td>
<td></td>
</tr>
<tr>
<td>Both</td>
<td>68</td>
</tr>
<tr>
<td>Neither</td>
<td>14</td>
</tr>
<tr>
<td>Poor vision only</td>
<td>0</td>
</tr>
<tr>
<td>Anxiety or hyperventilation only</td>
<td>3</td>
</tr>
</tbody>
</table>
BPPV

Degenerative condition calcium carbonate particles in semicircular canals
Algorithm for evaluation of cause of dizziness in elderly patients in general practice.

Chronic dizziness in an elderly patient

- Test visual acuity
- Assess anxiety
- Take smoking history

- Are there blackouts?
  - Yes
    - Refer for 24 hour electrocardiography and carotid sinus massage
  - No

- Is there vertigo with tinnitus and hearing loss?
  - Yes
    - Refer to otolaryngologist
  - No

Are there symptoms/abnormalities during:

- Vigorous head and neck movement?
  - Yes
    - Cervical spondylosis
  - No

- Measurement of blood pressure while erect and supine?
  - Yes
    - Postural hypotension
  - No

- Heel to toe walking (if abnormal examine neuromotor system in limbs)?
  - Yes
    - Cerebrovascular disease
  - No

- Two minutes of voluntary overbreathing?
  - Yes
    - Hyperventilation
  - No

- Halpise manoeuvre (see text for details)?
  - Yes
    - Benign positional vertigo
  - No

- Is dizziness associated with falls?
  - Yes
    - Refer to geriatrician
  - No

Do findings fit diagnostic criteria?
  - Yes
  - Refer to geriatrician
  - No

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