Management of Vestibular Disorders in The Elderly Patient

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PAR Spire Day 15 Sept 2012
Vestibular Dizziness

Peter Rea
- Introduction
- Balance Services
- Physiology
- Key Questions
- Chronic Imbalance
- Vestibulopathy
- Multi-system balance disorder
- Recurrent Vertigo
- Meniere’s Disease

Anil Banerjee
- Recurrent vertigo (cont)
- BPPV
- Acute Vestibular Neuritis

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Dizziness in the elderly:
Why this is important

- (30% of the population consult with giddiness by age 65)
- Dizziness and postural instability affects 50% of the elderly
- Commonest reason to visit GP in over 75’s
- Reported by half of patients falling and fracturing femur
Introduction: Initial thoughts

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“Physiological nystagmus”

- Initial thoughts:

3 Key points:

1. The history
2. Eye movements
3. Thinking outside the box
Leicester Balance Services

- The Leicester Balance Centre LRI – 5,500 appointments / year (NHS)
- Specialist team
- Management of acute and chronic dizziness and imbalance
- All ages
- The London Road Clinic for pp’s
Physiology in the elderly: Changes to 2 key postural reflexes

**VOR** (vestibulo-ocular reflex)
- Stabilizes the image on the retina
- “Plastic” (VRT)
- Both vestibular and ocular function deteriorate with age

**VSR** (Vestibulo-spinal reflex)
- Stabilizes head and maintains posture
- Reduced sensation
- Reduced muscle bulk
- Increased reflex times
- New hip / ankle strategies
Key Vestibular Disorders In The Elderly
Key question in the history

Is the dizziness:
- Chronic
- Acute
- Recurrent Acute

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Chronic vestibulopathy
Multi-system balance disorder
Vestibulopathy

- The commonest cause of chronic imbalance
- Secondary to an inner ear insult
  - Vestibular neuronitis
  - Labyrinthitis
  - Trauma
  - Vascular
  - Aging
  - Menieres
  - Drugs
Myriad of symptoms

- Dizziness
- Cotton wool in head
- Walking on cotton wool
- Eyes not keeping up with head
- Forgetfulness
- Fatigue
- Mood change
- Blurred vision

- Nausea
- Headache
- Neck ache
- “Not with it”
- Hung-over feeling
- Drunken feeling
The consequences

- The ‘plane analogy
- Failure of central Compensation
- VOR slower to adapt in elderly
- Visual preference
Tools of Investigation I

- Computerised Dynamic Posturography

Assesses:
- Relationship vestibular, proprioceptive, and visual inputs to balance
- COG
- Reflex latencies
- Musculo-skeletal deficits
Investigations II

- Video-nystagmography
- Electrocochleography
- Rotating chair
Vestibular rehabilitation

- Facilitates central compensation of vestibular hypofunction by exercises tailored to the specific deficit
- Slower in the elderly (12-18 months)
- Tailored programs much more effective
Multisystem dizzy syndrome

Most commonly a mixture of:

- Vestibular hypofunction both central and peripheral
- Peripheral neuropathy
- Arthritis / joint replacements
- Poor vision
- Peripheral and / or central cardiovascular pathology
- Medication
- Loss of confidence / depression
- Age

*The role of the Falls clinic, syncope service, and team work*

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Recurrent Acute Dizziness

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How to approach episodic dizziness

- “The Big 4”
- “The 12 P’s of Paroxysmal dizziness”
The Big Four

1. BPPV
2. Migraine
3. Meniere’s Disease
4. Recurrent Vestibular Neuritis
How to spot rarer causes
The 12P’s of paroxysmal dizziness

1. Positional
2. Postural
3. Phono/photophobia
4. Pressure
5. Paroxysmia
6. Peripheral sensation
The 12P’s of paroxysmal dizziness

1. Positional  
   BPPV (OR 15)*, Arnold Chiari, (VBI)

2. Postural  
   BP

3. Phono/photophobia  
   Migraine (OR 41)*

4. Pressure  
   PLF / SSCCDS

5. Paroxysmia  
   Vestibular paroxysmia (and episodic ataxia type 2)

6. Peripheral sensation
The 12P’s of paroxysmal dizziness

7. Psychological
8. Palpitations
9. Preference
10. Pills
[11. Periods ]
12. Poor Hearing
The 12P’s of paroxysmal dizziness

7. Psychological Hyperventilation
8. Palpitations
10. Pills

[11. Periods Migraine (OR 8.5*)]
12. Poor Hearing Meniere’s (OR 6)*

What do they have in common?

- Marilyn Monroe
- Alan Shepard
- Charles Darwin
- Julius Caesar
Meniere’s disease
Epidemiology

- Age: Typically 30-50 but *does often* occur in elderly
- ♂ ≈ ♀
- 10% bilateral at onset
- 30% more develop it later in opposite ear (some claim up to 50% at 20 years)
- Family history in 10%
- Prevalence:
  - Approx. 1:500
Clinical History

- **Vertigo** lasting 10 minutes – 4 hours (or more)
- + nausea, vomiting +/- diarrhoea
- +/- associated **tinnitus**, **aural fullness**, and **hearing loss**
- All symptoms including hearing loss **may** then recover
- Remission of weeks or years or complete
- 50% progress to permanent hearing loss
- May last many years
- May end with Tumarkin “drop attacks”
American Academy Diagnostic Criteria

- **Possible:**
  Episodic vertigo of MD type without documented HL
  (cf migraine…)

- **Probable:**
  1 definitive vertigo attack.
  Documented HL.
  Ipsilateral tinnitus or fullness. Other causes excluded.

- **Definite:**
  2 or more definitive vertigo attacks of 20 mins or more. Documented HL.
  Ipsilateral tinnitus or fullness. Other causes excluded.

- **Certain:**
  Definite plus histology (!)
But remember…

- 40% of MD patients also have migraine
- 20% get BPPV
- Most have some vestibulopathy
- All will have an emotional response
Treatment “ladder”

- Watch and wait
- Reassurance
- Dietary change
- Vestibular rehabilitation and hearing aids
- Medication
- Grommet insertion
- The Meniett Devise
- Intra-tympanic steroids
- Intra-tympanic Gentamicin
- Endolymphatic sac surgery
- Labyrinthectomy / nerve section
Intratympanic Gentamicin

Benefits

- Quick outpatient procedure
- Well tolerated
- Cheap
- Complete vertigo control all methods 82%
- Effective vertigo control all methods 96%

- But I use with caution in the elderly

(See You Tube: Meniere’s)
Intra-tympanic Dexamethasone

- “90%” can be adequately controlled without the need for resorting to surgery
- Particularly helpful in the elderly or bilateral disease
- …We have excellent treatments for Meniere’s
Conclusions

- The multidisciplinary approach that can be required, and the many interacting pathologies make this a challenging and exciting speciality

- Simple diagnoses and treatments can make a big difference
Further Experience

- Clinic Visits
  The Leicester Balance Centre, LRI

- The Leicester Balance Course
  October 10-12\textsuperscript{th}
  Here at the Tigers
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