Acute vertigo in A&E

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Why differentiating peripheral from central?

• Acute decisions
  – Surgical: ventricular shunt, craniectomy; Matthew et al JNNP 1995;59:287-292
  – Thrombolysis and recanalization therapy

• Good rehab outcome (“ENG criteria, BPPV excluded, Braz J ORL 2008 ;74:241-7”)
  – Peripheral lesion 52%
  – Central lesion 21%
Clinical signs, magnetic resonance imaging findings and outcome in 77 cats with vestibular disease: a retrospective study

Arianna Negrin DVM, PhD, Giunio B Cherubini DVM, Dipl. ECVN, MRCVS, Chris Lamb MA, VetMB, MRCVS, Dipl. ACVR, Dipl. ECVI, Livia Benigni DVM, CertVDI, Dipl. ECVI, MRCVS, Vicky Adams BSc, DVM, MSc, PhD, MRCVS, Simon Platt BVM&.S, Dipl. ACVIM (Neurology), Dipl. ECVN, MRCVS

1Department of Animal Medicine

Medical records of 77 cats that had clinical signs of vestibular disease and
“Stroke victim died on Christmas Day after paramedics diagnosed him with ear infection”
Daily Mail, 24 March 2011
7 days post op. R labyrinthectomy

Fixation ↑ Darkness

28 days post op.

...the magic process of Vestibular Compensation
Vertiginous syndromes

- **Single episode**
  - (eg vestibular neuritis; stroke)

- **Episodic (or recurrent) vertigo**
  - (eg bppv; migraine; Meniere’s disease)

- **Chronic dizzy/off balance**
  - Poorly compensated vestibular lesion
  - Gait disorder (examine gait!)
Single episode
(= acute vertigo)

- Hearing spared:
  - Vestibular neuritis (or neuronitis or viral labyrinthitis)

- Hearing involved:
  - Viral infection (e.g. Ramsay Hunt)
  - Vascular (labyrinthine stroke)
AICA infarct = vertigo + deafness
Single episode

• Hearing spared:
  – *Vestibular neuritis* (or neuronitis or viral labyrinthitis)

• Hearing involved:
  – Viral infection (e.g. Ramsay Hunt)
  – Vascular (labyrinthine stroke)
L vestibular neuritis – R beating nystagmus

Looks peripheral, looks like vestibular neuritis but… can you do anything else to confirm this impression?
Head Thrust Test

Brain scan needed in acute vertigo:

- Intact head impulse test
- New onset (occipital) headache
- Any central symptoms or signs
- Acute deafness
• Acute vertigo middle age man
• Headache – Red flag!
• Normal head thrust – Red flag!!
...and normal head thrust – red flag!
• Acute vertigo
• L deafness – Red flag
• Acute vertigo
• Tingling L face – Red flag!
• Nystagmus direction? – Red flag!!
Treatment of vestibular neuritis
(the process of vestibular compensation)

7 days post op.  R labyrinthectomy

Fixation ↑ Darkness

28 days post op.
Treatment of vestibular neuritis

- Promote compensation (self rehab)
- Antie-emetics / vestibular sedatives – 2-3 days max!
- Steroids – probably not!
### Diagnoses in A&E for Possible Vestibular Neuritis
(12 months – Charing Cross Hospital)

<table>
<thead>
<tr>
<th>Neuro-otology Diagnosis</th>
<th>n</th>
<th>%</th>
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<tbody>
<tr>
<td>1- BPPV – usual ‘posterior canal’ type</td>
<td>29</td>
<td>32</td>
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<td>2- Vestibular Neuritis / Labyrinthitis</td>
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<td>3- History of acute vestibulopathy but normal assessment</td>
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<td>5- Anxiety</td>
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<td>6- Presyncope</td>
<td>4</td>
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<td>7- Stroke or Vascular Brainstem events</td>
<td>4</td>
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<tr>
<td>8- BPPV – ‘horizontal canal’</td>
<td>2</td>
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<td><strong>TOTAL</strong></td>
<td>90</td>
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Positional manoeuvre ... and treatment
BPPV: Treatment

Dizzy?:
BPPV

Dizzy on standing?:
Orthostatic hypotension
Gait disorder
BPPV

Dizzy?:
Orthostatic hypotension
Gait disorder

Dizzy?:
BPPV

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HINTS to diagnose stroke in the acute vestibular syndrome: three-step bedside oculomotor examination more sensitive than early MRI diffusion-weighted imaging.


HINTS: a 3-step bedside oculomotor examination:
- Head-Impulse
- Nystagmus
- Test-of-Skew

→ more sensitive for stroke than early MRI in acute vestibular syndrome.
Declaration of interest