Struck From Behind: Posterior Circulation Strokes

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Chief Concern

• General Illness
• Dizzy, nausea, vomiting
History

60-year-old female

Sudden onset of dizziness

Nausea and violent vomiting

Mild headache

Off balance and can’t walk

World oscilating when eyes open

Started suddenly 1.5 hrs ago
What is Posterior Circulation?

www.accessmedicine.com

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Posterior Strokes: What’s the problem?

- Disabling stroke with NIH 0
- Misdiagnosed 2.5x
- Vague symptoms
- Missed by stroke scales
- 20% all strokes
Pathophysiology

Cardioembolic

Plaque Rupture

Vertebral artery dissection
Symptoms

- Dizzy
  - Trigger
  - Movement

- Nausea
  - 27% posterior strokes
  - Usually with other findings

- Sensory
  - “negative” symptoms
  - “positive” symptoms

- AMS
  - Involuntary movements
  - Gaze limits
  - HA / dizzy before
Symptoms

**Headache**
- Similar or different?
- Neck pain?
- Rotational forces?

**Language**
- “Thick”
- “Heavy”

**Visual**
- Double vision
- World oscillating
- Field cut
Visual Field Deficits

1. Total blindness of right eye due to complete lesion of right optic nerve
2. Bipolar hemianopia due to midline chiasmal lesion
3. Right nasal hemianopia due to lesion involving right perichiasmal area
4. Left homonymous hemianopia due to lesion or pressure on right optic tract
5. Left homonymous inferior quadrantanopia due to involvement of lower right optic radiations
6. Left homonymous superior quadrantanopia due to involvement of upper right optic radiations
7. Left homonymous hemianopia due to lesion of right occipital lobe

Normal
Hemianopsia
Think stroke with any sudden onset of neuro symptoms!
Crucial Information: Time Last Known Well

- **tPa Window**: 3 hours (up to 4.5)
- **Intervention Window**: Up to 24 hours
Crucial Information: Anticoagulants

- Warfarin (coumadin)
- Apixaban (eliquis)
- Clopidogrel (plavix)
- Rivaroxaban (xarelto)
- Ticagrelor (brilinta)
- Dabigatran (pradaxa)
Examination

- Laying on couch vomiting
- Motor and sensory in extremities/face normal
- Truncal ataxia
- Rotatory nystagmus
- No speech deficits
Physical Exam

Including:
• Complete cardio and neuro exam
• ECG
• Blood glucose
Ataxia / Movement
Extraocular Movement

Normal

For deficit affecting the RIGHT eye:

- CN III Palsy
  - Lateral deviation
  - Downward deviation
  - Ptosis

- CN IV Palsy
  - Upward deviation

- CN VI Palsy
  - Medial deviation

Look Right  Look Straight  Look Left
Nystagmus
Exam: Speech

• Cincinatti:
  • “You can’t teach an old dog new tricks”
• NIH
• “Pawtucket”
Assessment

• Concern for posterior circulation stroke
Treatment
Evaluation

Continue to monitor for deterioration
Disposition: Stroke Center

Primary Comprehensive
Case Resolution

- Arrived at hospital 2 hours after symptoms
- Immediate CT – negative for bleeding
- Patient received tPa
- Additional imaging no LVO
- Admitted for further testing
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“Dr. Myers, may I be excused? My brain is full.”