Vestibular Migraine: Endemic Dizziness in the Otolaryngology Clinic

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TAO Annual Conference
May 17th, 2019

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Disclosure

- Associate physician at Dallas Ear Institute
- Associate member of the Center for Acoustic Neuroma
- No financial relationships

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Introduction

- Vestibular migraine is the second most common cause of vertigo
- Lifetime incidence of vestibular migraine is 3.2%
- The relationship between migraine and vertigo frequently observed in neurology and otolaryngology specialists
- Mostly occur independent of headache
- Up to 50% of patients affected by migraine report at least occasional dizziness or vertigo
- Studies indicate that patients with migraine have more vertigo than tension headache and headache-free controls
- Also known as migrainous vertigo, migraine associated vertigo, migraine-associated balance disturbance, atypical migraine, basilar migraine, etc.

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Symptoms

- Rocking or floating vertigo
- Headache or equivalent (ear/sinus pressure, neck ache)
- Episodic vertigo, constant vertigo, positional vertigo
- Brain fog
- Photophobia
- Phonophobia
- Visual aura
- Motion sickness
- Caloric testing may be very stimulating for them

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Pathophysiology

- Not truly established
- Spreading depression theory
- Vascular theory
- Ion channel theory
- Poor sleep
- Caffeine, EtOH, chocolate, dairy, etc.
- Stress/anxiety
- Family history
- Pediatric vestibular symptoms predict adult migraines

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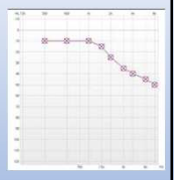
Differential

- Meniere's disease: episodic vertigo (30min-several hours), fluctuating hearing loss (typical LF), tinnitus, and aural fullness
- Vestibular neuritis: constant, steadily decreasing vertigo (can be severe) lasting hours, days, sometimes weeks, without aural symptoms
- Labyrinthitis: Vertigo (can be severe) lasting hours, days, sometimes weeks with associated SNHL
- BPPV: positional vertigo (brief-seconds) with positive Dix-Hallpike maneuver



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Diagnosis

- There are no biomarkers for vestibular migraine
- Hyperintense periventricular T2 lesions on MRI are associated with migraine
- Clinical criteria help make the diagnosis standardized

1. Vestibular migraine

A. At least 5 episodes with vestibular symptoms of moderate or severe intensity, lasting 5 min to 72 hours.
B. Current or previous history of migraine with or without aura according to the International Classification of Headache Disorders (ICHD)[9]
C. One or more migraine features with at least 50% of the vestibular episodes:
   - o headache with at least two of the following characteristics: one sided location, pulsating quality, moderate or severe pain intensity, aggravation by routine physical activity
   - o photophobia and phonophobia,
   - o visual aura
D. Not better accounted for by another vestibular or ICHD diagnosis[9]

2. Probable vestibular migraine

A. At least 5 episodes with vestibular symptoms of moderate or severe intensity, lasting 5 min to 72 hours
B. Only one of the criteria B and C for vestibular migraine
C. Not better accounted for by another vestibular or ICHD diagnosis[9]

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Treatment of acute attack

- Antiemetics
  - Phenergan
  - Zofran
- Vestibular suppressants
  - Dramamine
  - Meclizine
  - Valium
- Abortive migraine medications (triptans, NSAIDs) are ineffective

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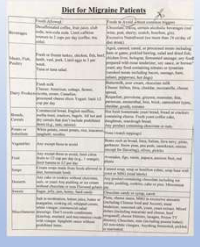
Prophylactic treatment

- Conservative
  - Migraine diet - 15-25% of patients improve with diet alone
  - Sleep hygiene
  - Avoidance of bright lights, loud sounds, strong perfumes and other triggers



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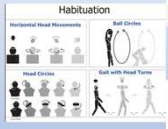
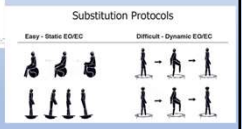
Prophylactic treatment

- Vestibular rehab
  - Helps with anxiety
  - Decreases visual dependence
  - Improves confidence in balance system
  - Unknown if it reduces severity or duration of balance attacks





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Prophylactic treatment

- Pharmacologic
  - Stabilize cortical activity
  - Restore nociceptive dysmodulation
  - Relaxes cerebral vasculature
  - Calcium channel blockers
  - Beta blockers
  - Anticonvulsants
  - Antidepressants
  - Often takes stepwise approach to be successful
  - Patient acceptance of diagnosis is helpful
  - Class of medication chosen by patient comorbidities

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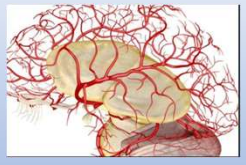
Prophylactic treatment

- Propranolol
  - Beta blocker
  - Relaxes blood vessels in the brain
  - Use if concurrent HTN without asthma
  - 80 mg/day PO divided q6-8hr initially; may be increased by 20-40 mg/day every 3-4 weeks; not to exceed 160-240 mg/day divided q6-8hr
  - Fatigue



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Prophylactic treatment

- Verapamil
  - Calcium channel blocker
  - Relaxes blood vessels in the brain
  - Use in HTN but beta blocker contraindicated
  - 120 mg slow release daily, titrate to 240 mg as needed
  - Lightheadedness and headache

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Prophylactic treatment

- Topiramate
  - Anticonvulsant
  - Sodium channel blocker
  - Calcium channel blocker
  - GABA receptor activity
  - Stabilizes cortical activity
  - Use if obese
  - 25 mg daily, titrate up by 25 mg per week until reaching max of 50 mg BID
  - Word finding difficulty

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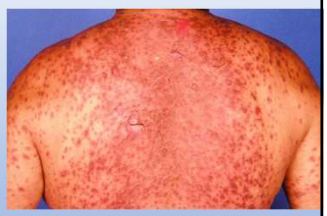
Prophylactic treatment

- Lamotrigine
  - Anticonvulsant
  - Sodium channel blocker, neurotransmitter modulator, stabilizes cortical activity
  - Use if no headache, only dizziness
  - 25 mg daily, titrate up by 25 mg per week until reaching max of 300 mg
  - Tremor, rash, SJS, suicidal ideation



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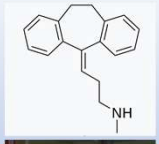
Prophylactic treatment

- Nortriptyline or Amitriptyline
  - Antidepressant
  - Neurotransmitter modulation
  - Use if anxiety or insomnia
  - 10 mg qhs, titrate to 25 or 50 mg qhs
  - Sedation and dry mouth



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My Experience

- Patient presents with floating or rocking vertigo and brain fog
- No current headache
- History of migraines

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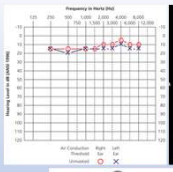
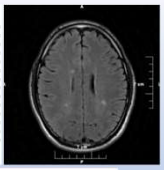
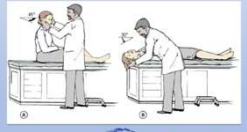
My Experience

- Audiogram is normal
- Balance exam is normal
- MRI with T2 hyperintense periventricular lesions







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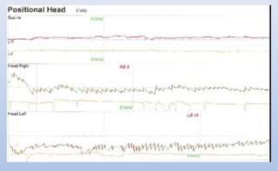
My Experience

- Start with diet and migraine prophylactic best suited to their comorbidity (nortriptyline typically)
- VNG if no improvement
- Neurology, second medication, VRT as needed



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Thank You

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References

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