12:45 – 1:30 pm

The Dizzy Patient

SPEAKER
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Presenter Disclosure Information

The following relationships exist related to this presentation:

► Aasish Didwania, MD: No financial relationships to disclose.

Off-Label/Investigational Discussion

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Learning Objectives

- Review the four major causes of dizziness
  - Highlighting Vertigo
- Use the history and exam to help determine the etiology
  - Highlighting benign paroxysmal positional vertigo (BPPV)
- Outline the treatment for BPPV

How do you know where you are in 3-dimensional space?

- Vision
  - Horizon
  - Rotation
- Labyrinth (inner ear)
  - Linear acceleration
  - Angular acceleration
- Sensation
  - Proprioception
  - Somatic (touch)

Example

You are sitting in a stationary train, looking out the window at an adjacent train.

The other train begins to move and for a moment you are uncertain which train is moving.

Why?

Misperception of Motion

- Vision suggests motion is occurring
- Inner ear (vestibular system) hasn't registered motion
- Somatic sensation (back against the seat) hasn't registered motion
- The discrepancy between sensory modalities is disconcerting, and constitutes vertigo

Types of Dizziness

- **Disequilibrium**
- **Pre-syncope**
- **Vertigo**
- **Psychogenic**

I. Disequilibrium

- Proprioception
- Pathological syndromes

I. Disequilibrium:

Classifying Common Position Sense Disturbances

- Decreased Reflexes
- Variable Reflexes
- Increased Reflexes

I. Disequilibrium: Decreased Reflexes

- Diabetic neuropathy
- Subacute combined degeneration
  - Pernicious anemia
  - Idiopathic vitamin B-12 deficiency
- Hypothyroidism
- Chemotherapy (platinum; vinca alkaloids)
- Amyloidosis
- Tabes dorsalis
- Peripheral sensory neuropathy

I. Disequilibrium: Variable Reflexes

- Cerebellar disease
- Paraneoplastic syndromes
- Intoxication
  - Alcohol — Barbiturates
  - Mercury — Gasoline
  - Lithium — Solvents, Glue
- Infection
  - HIV
  - TB

I. Disequilibrium: Increased Reflexes

- Cervical Spondylosis
- Spinal Cord Tumor
  - Metastasis
  - Multiple myeloma
  - Primary CNS lesions

II. Pre-Syncope

- Hypotension
  - Orthostasis
  - Cardiovascular drugs
- Arrhythmia
- Anemia
- Hypoglycemia
- Hypocapnia
- Neurotransmitter interactions

II. Pre-Syncope

We do it! (ie, drugs)
- Vasoactive
- Opioids, tramadol, etc.
- Antidepressant
- Antianxiety
- Anticholinergic

It happens
- Aging autonomous nervous system
- Situations
- Anxiety
- Arrhythmia

Hyperventilation Test

III. Vertigo

Hallucination of motion

Anatomy
- Vestibular organ
- Vestibular nerve
- Vestibular nucleus

III. Vertigo: Classifying

- Lasting Days or Longer
- Lasting minutes to Hours
- Lasting Seconds to Minutes

III. Vertigo: Lasting Days or Longer

- Vestibular Neuritis
- Cerebellar Stroke
  - Postural instability
- Brain Stem Stroke
  - Neighborhood signs

III. Vertigo: Lasting Minutes to Hours

- TIA = Stroke
- Ménière's disease
- Partial Seizure
- MS
- Migraine
- Perilymphatic Fistula

III. Vertigo: Lasting Seconds

Benign Paroxysmal Positional Vertigo

BPPV

Typical BPPV History

Situation:

- Middle of the night when patient rolls over
- First thing in morning when gets out of bed
- Reclining chair (dentists or hair dressers)

Description:

- Spinning
- Starts seconds after position change
- Severe for 10-30 seconds
- Residual for several minutes
- Nausea is common
- Vomiting is unusual
- Recurs

Pearls for Treating Vertigo

When do you use drugs to treat BPPV?

- Don't
  - meclizine is not the antidote for vertigo

What do you do for a vertigo patient who doesn't have BPPV?

- Get a consult

IV: Psychogenic

The existential essence of dizziness

Classifying Psychogenic Dizziness

Somatoform Disorder	Affective Disorders	Malingering
⇩	⇩	⇩
Regular visits	SSRI Psychotherapy CBT	Challenging

Kroenke K et al. Ann Intern Med 1992
Yardley L et al. J Nerv Ment Dis 2001
Schmid G et al. J Neurol Neurosurg Psychiatry 2011

Summary: Dizziness Types

- Disequilibrium
- Pre-syncope
- Vertigo
- Psychogenic

Summary: Disequilibrium

I. Proprioception disorder
II. Check reflexes
  - Increased – cord compression
  - Decreased – peripheral neuropathy
III. Postural abnormality - cerebellum

Summary: Pre-Syncope

I. Cardiovascular
II. Often cause not determined
III. Always consider drug effect

Summary: Vertigo

I. Duration very helpful
II. Lasting seconds to minutes: BPPV
III. Treat with Epley maneuver
IV. Avoid drugs

Summary: Psychogenic

I. Somatoform disorder
II. Affective Disorders
III. Malingering

SUMMARY
CLINICAL PEARL

I. Always ask open ended initial question
II. Be quiet and listen
III. Never say the word "vertigo" until you are sure

Summary

DIZZY = VERTIGO

VERTIGO = MECLIZINE DEFICIENCY

Resources

- Kim J, Zee DS. Benign Paroxysmal Positional Vertigo. N Engl J Med 2014; 370:1138-1147.
- Baloh RW. Vestibular Neuritis. N Engl J Med 2003;348:1027-32.
- Post RE, Dickerson LM. Dizziness: A Diagnostic Approach. Am Fam Physician. 2010 Aug 15;82(4):361-368.