Common Symptoms, Uncommon Neurological Problems Part 1

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Disclosure

- I have nothing to disclose

Objectives

At the conclusion of this session, participants should be able to:

- Recognize that often common symptoms are the result of uncommon problems
- Identify that key history points make the diagnosis
- Further explain the pathophysiology of uncommon neurologic disease

1. All of the following statements about Neurologic disease states are true except:

- A. Signs and Symptoms can vary throughout the day
- B. They can be explained by diagnostic testing
- C. Physical exam findings can vary by examiner
- D. Symptoms can vary throughout the course of the disease

2. Vertical Nystagmus, abrupt onset of vertigo worse with movement but not dependent on direction, nausea, and tinnitus all suggest:

- A. Labrynthitis
- B. Benign Paroxysmal Positional Vertigo
- C. Central etiology such as stroke or tumor
- D. Vestibular Neuronitis

3. Variable Neurologic symptoms separated by space and time are the hallmark of what neurologic disease?

- A. Myasthenia Gravis
- B. Epilepsy
- C. Guillain Barre Syndrome
- D. Multiple Sclerosis

4. Ascending weakness without an initial sensory level, along with loss of deep tendon reflexes is most likely:

- A. Transverse Myelitis
- B. Guillain Barre Syndrome
- C. Myasthenia Gravis
- D. Spinal Cord Tumor

5. Work up for all patients presenting with a headache and blurred vision should initially include:

- A. MRI Brain
- B. Fundoscopic exam for papilledema
- C. Formal visual field plotting and acuity
- D. Lumbar puncture

6. If the Acetylcholine receptor antibody testing is positive, the next step would be imaging of the:

- A. Thyroid
- B. Thymus
- C. Pituitary gland
- D. Adrenal gland

7. Loss of peripheral vision in a headache patient should make the clinician suspicious for :

- A. Migraine
- B. Pseudotumor Cerebri
- C. Cerebrovascular disease
- D. Multiple Sclerosis

8. Patients with cervical trauma or manipulation are most at risk for dissection of which artery:

- A. Vertebral
- B. Basilar
- C. Retinal
- D. Middle Cerebral

9. Acute inflammatory demyelinating polyneuropathy can be seen after infection by:

- A. E. Coli
- B. Herpes Zoster
- C. HIV
- D. C. Jejuni

10. Hypereflexia, bilateral babinski signs, T 10 sensory level localizes to which part of the central nervous system:

- A. Left cerebral hemisphere
- B. Cervical spinal cord
- C. Thoracic spinal cord
- D. Lumbosacral spinal cord

Chief Complaint

- Reason for the visit
- Patients own words- careful with EMR (cutting and pasting) or having someone else take history
- EMR also leads to “Diagnosis Collecting”

History

- “If you take a good history, you should know what the diagnosis is within 15 minutes”
- “The patient will tell you what is wrong with them”
- “Sacred Seven”
- “Red Flags”

Neurology

- History
  - Very important, almost all you have to work with
  - Often vague symptoms and difficult for patients to express
  - Family or observers just as valuable
  - Language limits variation
- Physical Exam
  - Varies, sometimes throughout the day
  - Often depends on the examiner and patient cooperation
  - Patients try to “help you”

ED Provider to Hospitalist Handoff

- ED provider role
  - Can the patient go home?
  - Stabilize patient
  - Appropriate initial work up
  - Not always able to provide “neat package” for admission
- Hospitalist provider role
  - Most of patients start in ED
  - Get appropriate consultants involved, if needed
  - “Tell the story” of the admission for future care
  - Figure out what is REALLY going on


ACTUAL CASES
HISTORY ONLY

“My vision is Jumping”

45 yo AA male. Woke up at 6 am, with a severe headache, radiating into neck. No relief with Aleve. Went to work, where he is exposed to chemicals used in chrome plating. Often gets lightheaded and “dizzy” but today is different. “My vision was jumping up and down, I felt like I was drunk. My left ear started to ring, I became really nauseous and vomited.” Symptoms are worse with movement but not dependent on direction. No focal weakness, no sensory loss, no speech difficulties. No relief with Meclizine and Zofran in the ED.

Vertebral artery dissection with cerebellar stroke

45 yo AA male. Woke up at 6 am, with a **severe headache, radiating into neck.** No relief with Aleve. Went to work, where he is exposed to chemicals used in chrome plating. Often gets lightheaded and "dizzy" but today is different. **"My vision was jumping up and down," I felt like I was drunk.** My left **ear started to ring,** I became really nauseous and vomited." **Symptoms are worse with movement but not dependent on direction.** No focal weakness, no sensory loss, no speech difficulties. No relief with Meclizine and Zofran in the ED.

“The room is spinning”

65 yo c. male. States that whenever he is driving his car and looks right then left to pull out into traffic, he feels as if he is spinning. Also happens when he rolls over in bed to the left or bends forward and then straightens up quickly. Associated nausea, unsteady while walking “I feel drunk”. Symptoms extinguish after about five minutes. No weakness, sensory loss, vision loss, speech changes.

Benign Paroxysmal Positional Vertigo (Vestibular)

65 yo c. male. States that whenever he is driving his car and **looks right then left** to pull out into traffic, he feels as if he is **spinning.** Also happens when he **rolls over in bed to the left or bends forward and then straightens up quickly.** Associated nausea, unsteady while walking “I feel drunk”. **Symptoms extinguish after about five minutes.** No weakness, sensory loss, vision loss, speech changes.

“My tongue is numb, I have Vertigo, I can’t walk”

29 yo AA female. Two months ago develops acute onset vertigo, described as room spinning to left. Intermittent throughout the day, not worse with position changes. Saw ENT, diagnosed with vertigo, given Antivert which offered no relief. Three weeks ago, vertigo resolved. Now complains of tongue numb for the past week, initially thought due to burn from pizza. In addition, whenever she takes a shower or goes outside in the summer, she has trouble walking. Has been told by multiple providers over the years that she is dehydrated, should drink more and lose weight. Past history of Trigeminal Neuralgia, Depression, and Gastritis

Multiple Sclerosis

"My tongue is numb, I have Vertigo, I can't walk"

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“I am getting weaker every day”

50 yo female c. nurse. States “caught the same GI bug everyone else had, probably from a patient in the ICU where I work”. Associated N/V/D. The third day of feeling this way, her feet started to cramp. Saw PCP, told to eat more bananas and take B vitamins. Then she developed cramping in the calves, then thighs. Associated numb sensation starting in feet, and slowly over several days, felt it “travel up my body like entering a cold swimming pool”. Ten days later, she went on a trip to Asheville, and had difficulty getting in/out of car. Did not sleep well each night, had low back spasms/pain each morning which she thought was due to the bed. Was eating a sandwich and could not open her mouth wide enough to bite it. Walking into the ED today she tripped on curb and fell.

Guillain Barre Syndrome

50 yo female c. nurse. States “caught the same **GI bug** everyone else had, probably from a patient in the ICU where I work”. Associated N/V/D. **The third day of feeling this way, her feet started to cramp.** Saw PCP, told to eat more bananas and take B vitamins. **Then she developed cramping in the calves, then thighs. Associated numb sensation starting in feet, and slowly over several days, felt it “travel up my body like entering a cold swimming pool”. Ten days later,** she went on a trip to Asheville, and **had difficulty getting in/out of car. Did not sleep well each night, had low back spasms/pain each morning which she thought was due to the bed. Was eating a sandwich and could not open her mouth wide enough to bite it.** Walking into the ED today she tripped on curb and fell.

“My left chest hurts, I cannot move my left leg”

78 yo c. female. Walks into the ER with left thoracic pain radiating around from her back and stopping at midline. No associated rash or lesion. ER physician rules out MI, Aortic Dissection, AAA, and PE. Given Demerol for the pain and sent out to parking lot in a wheelchair. Patient unable to move left leg and get into car. Brought back into ED, Physician attributes this to “drowsiness from Demerol” and still sends her home. For the next two days, she cannot walk. Brought back to the ED. CT head and MRI brain negative for acute stroke/bleed. She states that she feels she is numb on the left to the level of her belly button, left leg is weak, and now right leg is getting weaker, her chest is painful on the right, and the pain is moving down into her leg. No incontinence of bladder and bowel.

Transverse Myelitis

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“I am weak all over, I am numb no one can tell me what is wrong”

22 yo c. female. Reports that she is weak all of the time, pain “everywhere”. 30-50 episodes of numbness “rotating” around body. Teeth ache every time she eats, sees double vision in right eye only, abdominal cramping, hyperventilates often. Legs feel rubbery, has “fallen out” or “passed out” in church, grocery store, and in movie theater. Has “freezing spells” since high school and states, “I can hear people talking to me but I cannot move”. Has been evaluated by rheumatology, two prior neurologists, and infectious disease at Carolinas Medical center in Charlotte. Past history- Fibromyalgia, IBS, Crohn’s, Seizures, Bipolar, Generalized Anxiety, Psoriasis, Migraines

Not an Organic Neurological Disease

"I am weak all over, I am numb, **no one can tell me what is wrong"**

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Past history- Fibromyalgia, IBS, Crohn's, Seizures, Bipolar, Generalized Anxiety, Psoriasis, Migraines

“My vision blurs”

52 yo c. male. States that he had sinus surgery last fall because of headaches and sleep apnea. Multiple doses of prednisone over several months and also Omincef and Avelox. Had repeat sinus surgery in January to remove a polyp. Two weeks post op, developed blurred vision of both eyes, headaches different from previous migraine in that they were bilateral, and a fall as a result of vision changes. Notes that he has gained about 45 pounds over the past year, told it was due to the steroids. Saw optometrist at Walmart, told he had “swollen eyes”. Denies any weakness, gait instability, tinnitus, or sensory loss. Past History of Migraine, elevated cholesterol, sinusitis

Pseudotumor Cerebri

"My vision blurs"

52 yo c. male. States that he had sinus surgery last fall because of headaches and sleep apnea. Multiple doses of **prednisone** over several months and also **Omincef and Avelox**. Had repeat sinus surgery in January to remove a polyp. Two weeks post op, **developed blurred vision of both eyes, headaches different from previous migraine in that they were bilateral, and a fall as a result of vision changes. Notes that he has gained about 45 pounds over the past year, told it was due to the steroids**. Saw optometrist at Walmart, told he had **"swollen eyes"**. Denies any weakness, gait instability, tinnitus, or sensory loss. Past History of Migraine, elevated cholesterol, sinusitis

“I can’t open my eyes or swallow”

73 yo c. female. History of Lichen Planus in her throat with chronic difficulty swallowing. Recent cataract surgery bilaterally. Pt states that “my tongue is getting in the way” when trying to talk or swallow. She has choked on pills recently. Feels exhausted when speaking for greater than a few minutes, and her husband tells her she looks tired because her eyelids are drooping. She is having horizontal double vision, primarily at night when she is watching television. She sleeps in the recliner at night because she is too tired to go into the bedroom and get ready for bed.

Myasthenia Gravis

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“I feel like I am stuck in that movie Groundhog Day”

67 yo c. Female. Went on vacation to San Francisco, a trip she makes twice a year with her husband. While there, she leaves the hotel to get muffins to bring back for her husband. She is gone for the entire day. She is found on the cable car. It turns out she has been riding the same cable car, getting off and on at the same stops all day. She does not realize this much time has gone by but feels like she is “in a loop” and everything is like “déjà vu” Police interviewed the cable car drivers whom she rode with, and they all said she kept asking for the same stop. The authorities were notified a “crazy person was on the car” when a driver from the trip 6 hours earlier picked her up and she did the same thing. Similar event three years earlier when she met her son for breakfast at local restaurant only to return 4 more times that day and order the same thing.

Transient Global Amnesia

"I feel like I am stuck in that movie **Groundhog Day**"

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1. All of the following statements about Neurologic disease states are true except:

- A. Signs and Symptoms can vary throughout the day
- B. They can be explained by diagnostic testing
- C. Physical exam findings can vary by examiner
- D. Symptoms can vary throughout the course of the disease

- Rationale- Neuro symptoms are often hard for the patient to describe, vary by disease and examiner, and rarely have a confirmatory diagnostic test

2. Vertical Nystagmus, abrupt onset of vertigo worse with movement but not dependent on direction, nausea, and tinnitus all suggest:

- A. Labrynthitis
- B. Benign Paroxysmal Positional Vertigo
- C. Central etiology such as stroke or tumor
- D. Vestibular Neuronitis

- Rationale- Vertical nystagmus is always a central pathology while horizontal or rotational suggests peripheral

3. Variable Neurologic symptoms separated by space and time are the hallmark of what neurologic disease?

- A. Myasthenia Gravis
- B. Epilepsy
- C. Guillain Barre Syndrome
- D. Multiple Sclerosis

- Rationale- Multiple sclerosis causes demyelination of the central nervous system and the location of the lesion dictates the symptoms

4. Ascending weakness without an initial sensory level, along with loss of deep tendon reflexes is most likely:

- A. Transverse Myelitis
- B. Guillain Barre Syndrome
- C. Myasthenia Gravis
- D. Spinal Cord Tumor

- Rationale- This is acute inflammation and resultant demyelination of the peripheral nervous system leading to motor weakness and loss of DTRs first, without sensory involvement.

5. Work up for all patients presenting with a headache and blurred vision should initially include:

- A. MRI Brain
- B. Fundoscopic exam for papilledema
- C. Formal visual field plotting and acuity
- D. Lumbar puncture

- Rationale- All headache patients should have a Fundoscopic exam to evaluate for raised intracranial pressure

6. If the Acetylcholine receptor antibody testing is positive, the next step would be imaging of the:

- A. Thyroid
- B. Thymus
- C. Pituitary gland
- D. Adrenal gland

- Rationale- 10-25% of patients with Myasthenia Gravis have a Thymoma.

7. Loss of peripheral vision in a headache patient should make the clinician suspicious for :

- A. Migraine
- B. Pseudotumor Cerebri
- C. Cerebrovascular disease
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- Rationale- Migraine can have diffuse, variable, visual disturbances, stroke would have a specific visual field cut, MS often is unilateral optic neuritis. PC classically has peripheral loss due to papilledema

8. Patients with cervical trauma or manipulation are most at risk for dissection of which artery:

- A. Vertebral
- B. Basilar
- C. Retinal
- D. Middle Cerebral

- Rationale- This is the only artery among the choices located in the neck. There are two, they are posterior, in the transverse process of the vertebrae, exiting at C2 level

9. Acute inflammatory demyelinating polyneuropathy can be seen after infection by:

- A. E. Coli
- B. Herpes Zoster
- C. HIV
- D. C. Jejuni

- Rationale- While not causative, there is a strong association with C. Jejuni and then development of AIDP

10. Hypereflexia, bilateral babinski signs, T 10 sensory level localizes to which part of the central nervous system:

- A. Left cerebral hemisphere
- B. Cervical spinal cord
- C. Thoracic spinal cord
- D. Lumbosacral spinal cord

- Rationale- Bilateral babinski signs eliminates the left hemisphere and LS, and the T10 level localizes to thoracic cord

Conclusion

- Zebras do exist and in Neurology, they are often very serious problems
- Patients have a limited variation of how they can describe symptoms
- History is everything, Physical Exam only confirms what you already know

Any questions?

- I will stay after each section to answer additional questions
- mikelddy01@gmail.com

References

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