Internal Medicine Clerkship
Case Discussions

Headache
Student Guide

Objectives:

1. Identify characteristics and relevant review of systems that define headache including acuity, neurologic symptoms, and constitutional symptoms.
2. Assess past medical history for risk factors and predisposing conditions including causative medications and history of malignancy.
3. Identify key physical exam findings that suggest an underlying etiology including papilledema, fever, and neurologic deficits.
4. Identify and interpret key laboratory and imaging tests and list indications, benefits, test characteristics, risks, and costs of testing that determine underlying etiology including CT without contrast, MRI, and ESR.
5. Develop and prioritize a differential diagnosis including common diagnoses and non-to-miss diagnoses:
    a. Consider common diagnoses including migraine and tension headaches.
    b. Consider not-to-miss diagnoses including subarachnoid hemorrhage, hypertensive emergency, and meningitis.
    c. Consider causes of new-onset headache including intracranial hemorrhage and giant cell arteritis.
    d. Consider causes of chronic headache including tension headache and analgesic overuse.
6. Describe a rational and evidence-based approach to treating a patient with headache and identify treatments based on etiology including abortive and prophylactic therapy for migraine or cluster headache and restrict non-prescription medications for withdrawal headaches.

Clinical Case:

64 with history of migraines, hypertension, hyperlipidemia, and lumbar disc disease presents to clinic with complaint of headache. She reports a history of migraines when she was younger but has not experienced these since she went into menopause. This headache started one day ago and has been intermittent but has not gone away. She describes the pain as usually over both sides of her head and sometimes also in the back of her neck. It feels like a throbbing sensation. She does have allergies, and these have been flaring recently. She has smoked a half pack a day for forty-five years. The patient admits that she is worried she could have a brain tumor.

Questions:

1. Describe the difference between primary and secondary headaches. List common causes of headache.

2. What other questions would you ask to help differentiate a serious from a more benign new onset headache?

3. Given her history of migraines, what are other typical signs and symptoms of migraines you may ask her about? What are the typical phases of a migraine?

4. How are acute migraines typically treated? What are prophylactic treatments for chronic migraines? What are non-pharmacologic strategies for treatment?

5. What areas of your physical exam would you focus on?

Physical Exam:

Vitals:	BP 147/89 HR 90 RR 18 O2 sat: 99% BMI 32
HEENT:	Normal and negative for papilledema, no tenderness over the frontal and maxillary sinuses
Resp:	Clear to auscultation bilaterally
CV:	RRR, no murmurs
Abd:	+ central obesity, noted striae, NABS, soft, NTND
Ext:	No peripheral edema
Neuro:	Unremarkable except for 1+ patellar reflexes bilaterally.

The patient is reporting disequilibrium with getting on and off the table and is having trouble finding her words during the conversation.

Questions:

6. What is your primary concern at this point and what would you do for the patient?

7. If the patient was febrile on exam what might else you be worried about? Are there additional physical exam findings you would look for?

8. How would you respond to the patient's concern that she could have a brain tumor as the cause of her symptoms?

The patient's CT brain is negative. Her basic laboratory evaluation, chest x-ray, and EKG are also negative. She is given a dose of ketorolac with improvement and is sent home.

Three days later she returns to clinic with the same headache complaint. She is also describing some pain in her neck and shoulders but thinks this is related to lying in the hospital bed in the emergency room. In addition, she thinks she has noticed some intermittent blurry vision which she attributes to not sleeping well due to the headache.

Questions:

9. Do her current symptoms suggest a different etiology of her headache at this point?

10. What tests would you order if you were worried about temporal arteritis? Discuss the sensitivity, specificity, and likelihood ratios of these tests. How would you treat her if this condition was high on your differential?

The patient obtains an ESR which is normal. On additional questioning, patient does note that she has been under a lot of stress recently. Her husband has been ill, and she has also had to provide more help with childcare for her grandchildren. These responsibilities have necessitated additional lifting and physical activity. She is wondering if this could be contributing to her ongoing headache.

Questions:

11. What is highest on your differential at this time, and how would you treat her?

The patient begins treatment with acetaminophen, restarts her yoga program for relaxation, and starts a walking program. She sends a message two weeks later and notes that her headaches have become less frequent, and she is now sleeping better. Her low back has continued to aggravate her, so she has stayed on the acetaminophen daily to help with pain relief.

The patient returns to clinic six months later. She has had a recurrence of her headaches. She notes that she has the headache after she wakes up, but it does not wake her up from sleep. She still takes her acetaminophen in the morning for her back pain. This seems to help her headache, but it has a tendency to return by the early evening, and often she has to take another dose of acetaminophen for it to go away. She has no neurologic symptoms, vision changes, other pains, or systemic symptoms. She has maintained her exercise and yoga routines and reports her stress is significantly better.

Questions:

12. What is likely happening with the patient now and how would you treat her?

Updated 4/12/24 MRE

References:

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