

## MED 341: Case-Based Learning (CBL)

### Approaches to a patient with Migraine & Other Common Headaches

#### Student Handout

##### Part 1:

Fatima is a 23-year-old Saudi female presented to the clinic complaining of headaches. They started about 5 years ago, but they are increasing in intensity, duration, and frequency. Her past medical, surgical, family and allergic history are unremarkable. No medication apart from paracetamol. She is a non-smoker and is a university student. Single.

1. **Mention different causes of headaches?**
2. **What do you want to know more about this patient?**

##### Part 2:

Fatima's headaches are diffuse, mostly unilateral, pulsatile, throbbing, last for 1-2 days. They are 7 out of 10 in severity and interfere with daily activity. She preferred to stay in a dark and quiet room. She quit classes 3 times this month. Headache improves partially with paracetamol. They are worse around the menstrual period. She sees a moving object during the headache, sometimes colorful. She feels nauseous and would like to vomit.

3. **What would you like to do next? What will you be looking for?**

##### Part 3. Physical examination.

Fatima was sitting on the chair comfortably. Not in pain or distress.

No meningeal signs

BP: 110/70 mmHg. HR: 70 b/m. SpO<sub>2</sub>: 99% RA. RR: 14. Temp: 36.2

Cognitive and language are within normal.

Cranial nerves: fundus, no papilledema. No diplopia. Otherwise normal.

Motor, sensory, coordination, and gait are all normal.

Cardiac, respiratory, gastrointestinal are within normal.

4. **What is the most likely diagnosis? Why?** Are you concerned about a space-occupying lesion, tumor, hemorrhage?
5. **What are the types of migraine headaches?**
6. **What is the pathophysiology of migraines?**
7. **How would you manage this patient?**
8. **Would you give her a prophylactic agent?** Give examples of classes.

**Part 3.** The patient refused to take medications. A few months later, she came to the ER with a sudden severe headache that reached a peak at the onset. This is the worst headache in her life. It felt different than her usual migraines. She also felt neck pain and facial numbness.

9. **How would you describe her headache?**
10. **What are the red flags for headaches?**

**Intended Learning Outcomes (ILOs):**

- At the end of this lecture, the student will be able to:
  1. Able to take a history from a patient with a headache
  2. Explain the abnormal findings (if any) in the history and clinical examination.
  3. Recognize the differences between primary and secondary headaches
  4. Recognize red flags for headaches that indicates serious causes
  5. Enlist the differential diagnosis of the headache according to the symptoms experienced by the patients.
  6. Describe any further investigations required.
  7. Discuss concepts of treatment of migraine headache
  8. Devise a management plan for this patient at the time of attacks of headache and afterward (i.e., prophylactic and long term )
  9. Discuss the classification, modes of action, and side effects of the following drugs:
    - a. Abortive: (NSAIDs, Triptans, Ergot, metoclopramide, or prochlorperazine, Opiates. codeine
    - b. Preventive medications:
      - i. Antidepressants (TCAs, SSRIs, SNRIs, etc.)
      - ii. Antihypertensives (beta-blockers, calcium channel blockers, ARBs, etc.)
      - iii. Antiepileptics: topiramate, valproic acid
      - iv. Vitamins and supplements: vitamin B, magnesium
    - c. Non-pharmacological, lifestyle, and behavioral interventions.
    - d. Discuss the role of stress, overexertion, hunger, and certain foods and drinks in triggering the headache in such a case.
  10. Analyze the pathophysiology of migraine

**Instruction to the students:**

Please read the case carefully, individually, or in the group before you come to the “Case-based learning” session. Look at the objectives and try to fulfill them. Prepare for the case well by referring to some suggested reading list. The tutor in the CBL session will ask you to go through the case and answer some of his stimulating questions to ensure that you have achieved the objectives.

**Suggested readings**

- Kumar textbook of medicine
- Extra. International Classification of Headache Disorders 3rd edition. <https://ichd-3.org/>