Week 6 CEA Pre-Diagnostic Case Study Discussion - Part 1

Step 1: Select a chief complaint that meets the following criteria:

- Related to the body system from your lowest scoring CEA content area- which was integumentary
- Commonly seen in clients in primary care settings.
- Not covered in this term's iHuman virtual patient encounter.

Step 2: Create an original case study using the criteria outlined below, focus on a Chief Complaint, NOT an individual diagnosis.

Include the following sections:
Application of Course Knowledge: Answer all questions/criteria with explanations and detail.
Include the following elements in your initial case study post:

a. **Client Information and Social History**: Include the client's name or initials, date of birth, chief complaint, demographics, any client allergies, and at least three social history elements (e.g., substance use, marital status, living conditions, social support, etc.).
b. **Assessment Data**: Include the chief complaint, history of present illness, and associated physical exam findings.
c. **Past Medical and Surgical History**: Include at least three significant pieces of the client's past medical and/or surgical history.
d. **Risk Factor Analysis**: Analyze associated risk factors and demographics contributing to the chief complaint.

Initial Post

Hello Dr. Davis and class,

Patient Information

- **Chief Complaint:** Frontal headache
- **HPI:** M. S. is a 31-year-old female present with complaints of a headache located across her forehead and both sides of her forehead. She further reports her headache as moderate, dull, pressure pain ongoing since x 6 days ago. Additionally, she has been undergoing severe emotional stress regarding relationship problems with her boyfriend as well as work-related stress as a restaurant chain regional manager. Combined stresses have caused her to suffer insomnia for the last month in which she obtains 3-4 hours of sleep nightly. She reports a lack of interest in eating as she, "Doesn't have time and is always on the go" and admits to poor daily water intake. Furthermore, she denies cold or flu symptoms, recent illness, fever, chills, dizziness, auras, nausea/vomiting, or night sweats.
- **Demographic:** Caucasian
- **Current Medications:** Daily Multivitamin gummies PO QD and etonogestrel (Nexplanon) 68 mg subdermal contraceptive insertion left bicep.
- **PMHx:** Generalized Anxiety Disorder, GERD

- **PSHx:** Appendectomy age 8-years-old
- **Familial Hx:** Mother and sister are prone to tension migraines.
- **Social Hx:** Non-smoker, denies recreational/IV drug use, drinks 2-3 cocktails 3-4x weekly with coworkers to help decompress after shifts
- **Allergies:** NKDA

Risk Factors Associated with Chief Complaint: Stress, insomnia, alcohol misuse, dehydration, poor daily nutritional intake, SD contraceptive, hx of GAD, genetic predisposition to tension headaches.

3 Common Differential Diagnoses Associated with Chief Complaint (Prevalence/Pathophysiology/Clinical Presentation/Rationale):

1. **Tension-type Headache (TTH):**
    - ***Prevalence-*** As per Onan et al. (2023), the prevalence of tension-type headaches among U.S. adults is reported to be as high as 43% resulting from several genetic and environmental factors.
    - ***Pathophysiology-*** According to Onan et al. (2023), the exact mechanism of the pathology is not fully understood. However, TTHs are believed to be caused by peripheral myofascial nociception in episodic cases and by central sensitization in chronic cases. The transition from episodic to chronic TTH involves both peripheral and central mechanisms (Onan et al., 2023). In addition, clinical manifestations of TTH are correlated in patients with sleep disturbances, psychiatric comorbidities, and mental distress disorders further attributing to overall autonomic dysfunction and thus resulting in the onset of TTH (Onan et al., 2023).
    - ***Clinical Presentation-*** Mild to moderate head wrapping pain without visual/auditory disturbances typically lasting from 1 hour to 1 week and resolves with reduction/mitigation of triggering factors.
    - ***Rationale-*** Diagnosis of TTH is determined by the presence of cardinal symptoms including a band-like pressure, dull pain located bilaterally on the head without nausea, vomiting, and visual or auditory disturbances (Onan et al., 2023). Notably, the patient's given risk factors of female sex, familial disposition to TTH per her mother and sister histories, poor nutritional status, lack of optimal sleep, and psychological factors such as poor stress management as evidenced by her coping mechanism with alcohol misuse are all contributable and convincing reasons for her presenting symptoms. Therefore, it is appropriate to suggest she is suffering from an acute onset of TTH in contrast to the other corresponding differentials.
2. **Migraine w/o aura:**
    - ***Prevalence-*** According to Onan et al. (2023), the prevalence of migraines without auras are three times higher among women in comparison to men at approximately 33% of U.S. women in America. Furthermore, migraine

prevalence peaks in late teens-early 20s with an additional peak during a woman's highest reproductive years, although, symptoms are exacerbated during menopause (Onan et al., 2023).

- ***Patho-*** As per Onan et al. (2023), the direct pathophysiological causation of migraines is not yet fundamentally understood, although, there are several driven theories involving the trigeminovascular system. However, it is well understood that certain factors significantly play a role in migraine impact: 80% emotional stress, 65% hormones, 57% lack of proper diet/eating, 53% weather disturbances, and 50% poor sleep (Onan et al., 2023).
- ***Clinical Presentation-*** According to the International Classification of Headache Disorders (ICHD), migraines without auras are characterized by sudden onset of moderate to severe throbbing pain located in either the frontal, temporal, or retro- orbital areas, although typically unilateral, and lasting 4-72 hours (Onan et al.,
  2023). Additionally, this specific type of migraine involves photophobia and phonophobia accompanied by nausea or vomiting symptoms (Onan et al., 2023).
- ***Rationale-*** Similarly to tension-type headaches, migraines are characterized by young adult-age onset typically resulting from psychological risk factors and especially from hormonal-driven factors including contraceptive use, menopause, and puberty (Onan et al., 2023). While this patient presents with similar headache characterizations and notably has an implanted subdermal slow-release contraceptive (a high factor), it is unlikely that she is suffering from migraines without aura in that the prevalence of TTH is predominantly higher in women aged twenties to early thirties, while in contrast, migraines would be more likely if she were thirty-five years or older. Additionally, it is noteworthy to mention that her risk factors are highly attributable to triggering TTH symptoms as opposed to migraine without aura symptoms. Lastly, the patient does not qualify as part of the diagnostic criteria in that she does not exhibit a minimum of 2 characteristic symptoms and her headache has lasted greater than the usual 72 hours of migraine with auras. Therefore, this differential is highly unlikely for this patient case.

3. **Acute Sinusitis:**

- ***Prevalence-*** According to Rosenfeld et al. (2020), acute sinusitis is one of the most diagnosed conditions amongst American adults, resulting in over 30 million cases annually.
- ***Patho-*** Per Rosenfeld et al. (2020), sinusitis results from blocked drainage pathways obtained from infections of viral, bacterial, fungal, or allergen origin. Furthermore, such blockage leads to mucus buildup, causing facial pain, pressure, congestion, and postnasal drip, while also promoting bacterial growth (Rosenfeld et al., 2020).
- ***Clinical Presentation-*** is characterized by pressure and pain across the forehead, cheeks, and bridge of the nose followed by rhinorrhea and rhinitis with notable bilateral turbinate hypertrophy (Rosenfeld et al., 2020).