

Core Medical Knowledge Question & Critique

Question

A 22-year-old woman is brought to the emergency department for evaluation three hours after falling backward out of a chair and striking her head on a carpeted floor. She has tenderness over the back of her head but does not report loss of consciousness. Physical examination, including neurologic and musculoskeletal evaluation, shows no abnormalities except a 2-cm area of swelling and minimal abrasion overlying the left occiput. Which of the following is the most appropriate next step?

- (A) Anteroposterior and lateral x-ray studies of the skull
- (B) CT scan
- (C) Discharge and observation by family or friends
- (D) Hospital admission for observation
- (E) MRI

Critique

This question tests the examinee's ability to recognize a minor closed head injury and then determine the appropriate next step.

Option (A), anteroposterior and lateral x-ray studies of the skull, is incorrect. X-ray studies of the skull are not indicated unless the patient is younger than 1 year of age, has lost consciousness for three minutes or longer, or has one of the following findings on history, physical examination, or neurologic examination: preexistent shunt, skull penetration, scalp hematoma and/or depression, raccoon eyes, otorrhea and/or rhinorrhea, hemotympanum, Battle sign, altered mental status, or focal neurologic deficit.

Option (B), CT scan, is incorrect because this patient does not meet the criteria for CT scan. These criteria include: instability after multiple traumas, unreliable history or examination because of possible alcohol use or drug ingestion, loss of consciousness for longer than five minutes,

repeated vomiting or vomiting for more than eight hours after injury, post-traumatic seizures, progressive headache, physical signs of basilar skull fracture, or amnesia.

Option (C), discharge and observation by family or friends is the correct answer. Patients with minor head injuries can be discharged with observation instructions in the care of a reliable adult.

Option (D), hospital admission for observation, is incorrect because this patient does not meet the criteria for hospitalization. These criteria include: coma, underlying pathology such as coagulopathy and/or hydrocephalus, unreliable history or examination because of possible alcohol use or drug ingestion, documented loss of consciousness for longer than five minutes, severe and persistent headache, protracted vomiting, suspected child abuse, unreliable caregiver, altered mental status or seizures, and focal neurologic deficit.

Option (E), MRI, is also incorrect because this patient does not meet the criteria for MRI scan. These criteria are similar to the criteria for CT scan. In addition, MRI is not practical in emergency situations because the magnetic field of the scan precludes the use of monitors and life-support equipment needed in patients whose conditions are unstable.