Headache

Summary from Rosen's By Benjamin Trevias

Epidemiology

- ED Presentation: Tension headache (50%), Headache of unidentified origin (30%), Migraine-type pain (10%), and headaches from other potentially serious causes (8%)
- The most commonly encountered life-threatening cause of severe sudden head pain is subarachnoid hemorrhage (SAH)
    - It is estimated that 25 to 50% of SAH are missed on the first presentation to a physician.

Pathophysiology

- Brain parenchyma is insensitive to pain. Much of the pain is mediated by the 5th CN.
- Pain-sensitive areas of the head include the meninges, the blood vessels, and tissues lining the cavities within the skull.

Differential Diagnosis

- Critical Diagnoses
    - Subarachnoid Hemorrhage
    - Carbon Monoxide Poisoning
    - Temporal Arteritis
    - Bacterial Meningitis
    - Encephalitis
- Emergent Diagnoses
    - Shunt Failure
    - Tumor/Mass
    - Subdural Hematoma
    - Mountain Sickness
- Emergent Diagnoses continued
    - Glaucoma
    - Brain Abscess
    - Hypertensive Crisis
- Nonemergent Diagnoses
    - Migraine
    - Trigeminal Neuralgia
    - Post-lumbar puncture
    - Dental, TMJ
    - Tension
    - Febrile headaches

Signs and Symptoms

- Pattern/Onset- suddenness of onset/"worst ever" warrants a consideration of SAH. Onset on exertion.
- Location- Unilateral pain is more suggestive of migraine/localized inflammatory process in the skull. Occipital h/a's are associated with HTN. Temporal arteries, TMJ, dental infxns, sinus infxns are highly localized. Meningitis, encephalitis, SAH and severe migraine are more diffuse.
- Exacerbating/Alleviation- H/A's that come and go with the environment (Carbon Monoxide). H/A's on awakening are typical with brain tumors.
- Associated sx's/Risk Factors- Nausea and vomiting are nonspecific. Immunocompromised pt's can be at risk for unusual infectious causes.
- Prior History- Important to know if pt had prior work up for severe disease. Migraine, tension, and cluster tend to recur.
- General Appearance – Altered mental status, severe nausea/vomiting
- Vital Signs- HTN with normal HR/bradycardia, tachycardia, unexplained fever
- HEENT- Tender temporal arteries, meningismus
- Fundi-loss of venous pulsations or presence of papilledema- Increased CSF, subhyaloid hemorrhage, acute red eye (severe ciliary flushing) and poorly reactive pupils, enlarged pupil with 3rd nerve palsy
- Neurologic- Lateralized motor/sensory deficit, acute cerebellar ataxia

Work-up

- Brain CT can miss 6 to 8% of patients with SAH, especially patients with minor (grade I) SAH, who are most treatable. The sensitivity of CT for identifying SAH is reduced by nearly 10% for symptom onset greater than 12 hours and by almost 20% at 3 to 5 days.
- Abnormal mental status, signs of increased intracranial pressure, papilledema, focal findings on neurologic examination, or any other indication suggestive of a focal intracranial mass lesion requires CT before lumbar puncture.

Empiric Management

- Mild-Mod: Oral NSAID. If you suspect intracranial infections; empiric antibiotics before CSF.
- Opioids generally are not first-line management for any type of headache pain, except when ICH (including SAH) is thought to be present, conditions for which opioid analgesia is effective and beneficial.

Disposition

- Appropriate analgesia and follow-up, unless evaluation has determined a serious underlying condition