Does Discussing Migraines Give You a Headache?

Philip Eskew, DO, JD, MBA

Proactive MD – VP of Clinical Development & General Counsel

01/23/2021

Headaches

- Primary or Secondary?
  - a. First or worst headache
  - b. New headache in a patient over 50 years of age
  - c. Headache in individual with HIV
  - d. Abrupt onset or awakens patient from sleep
- Focused Physical Exam
- Vital signs (untreated hypertension? CV assessment)
- Neurological examination (atypical migraine can have CVA-like symptoms)
- Fundoscopic examination (normal optic disc?)
- Simple Eye Exam (maybe they need glasses?)
- Palpation of the head, neck, and upper thoracic regions
  - Tension headaches are common in those that spend long periods of time in cervical flexion

Secondary “Red Flags” include:

- 1. Significant change in pattern or character of headache
- 2. First or worst headache
- 3. Abrupt onset, or awakens patient from sleep
- 4. Abnormal physical or neurological examination
- 5. Neurological symptoms lasting >1 hour
- 6. New headache in patient >50 years of age
- 7. Headache in immunosuppressed individual
- 8. Headache suggestive of increased intracranial pressure (onset with straining, positional change, cough)

Secondary Headache Differential

- TRAUMA Acute post-traumatic headache, Subdural hematoma (acute or chronic), Orbital trauma/facial fracture
- VASCULAR Subarachnoid hemorrhage, Stroke, Arteriovascular malformation
- INFLAMMATORY Temporal arteritis or other arteritides, Trigeminal neuralgia, Pseudotumor cerebri
- INFECTIOUS Herpes encephalitis, Cysticercosis, Fungal, Bacterial encephalitis/meningitis, Sinus infection
- MALIGNANCY Primary or metastatic tumor
- METABOLIC Hypotension or hypertension, Hypoglycemia, Hypovolemia, Hypoxia, Hypercapnia
- TOXIC Acute intoxication, Substance withdrawal
- MECHANICAL Malformation of facial/cranial or cervical anatomy

Cluster Headaches

- Severe unilateral orbital, supraorbital and/or temporal pain for 15-180 minutes untreated
- Headache is associated with at least one of the following signs, ipsilateral to the pain:
  - Conjunctival injection
  - Lacrimation
  - Nasal congestion
  - Rhinorrhea
  - Forehead or facial swelling
  - Miosis
  - Ptosis
  - Eyelid edema
- Frequency of attacks is from 1 every other day to 8 per day

Cluster Headaches

- Pain peaks approximately 5-10 minutes after onset, agents with rapid onset of action are the treatment of choice for acute treatment.
- 100% oxygen delivered via face mask at 7 liters per minute has been shown to relieve pain in up to 75% of patients, but the pain sometimes returns when the oxygen is discontinued.
- Sumatriptan SC (but not PO) has been shown to be more effective than dihydroergotamine in aborting cluster headaches (though both are effective).
- Suppression of the cluster headaches is preferable to relying on acute treatment only. Short term treatment with prednisone while titrating a prophylactic agent to a maintenance dose is effective in 75% of patients.
- Verapamil is the treatment of choice for preventive therapy. Lithium has also been shown to be effective.

Tension Headaches

- Nonpulsatile, bilateral
- Not associated with nausea or vomiting
- The headache may last for minutes to days
- Pain can extend from the forehead or temples to the occiput & neck
- Episodic or chronic

- Treat with suboccipital inhibition

Rectus Capitus Posterior Minor – Dural Pain

- Although rectus capitis posterior minor is a small muscle, its relations and location make important.
- The muscle overlies the posterior atlantooccipital membrane and is directly connected to it by a soft tissue attachment.
- The atlantooccipital membrane is connected to the surrounding dura mater via myodural bridges.
- Studies have shown that various changes of the rectus capitis posterior minor specifically (hypertrophy, tension, atrophy, trauma) can irritate the highly sensitive dura mater by acting via the myodural bridges. Resultant pain can manifest as chronic headaches.

Chronic Daily Headaches

- AKA: analgesia-rebound headaches / medication overuse headaches
- Many potential sources:
  - caffeine containing compounds, barbiturates, ergots, triptans,
  - narcotics, aspirin, acetaminophen, and NSAIDs

- Treatment – Stop everything and suffer through it for 2-10 days
  - You might be able to use a new medication to break them…

Migraines – Many Types

- Migraine with aura (involves changes in vision, sensation, or speech)
- Migraine without aura (85% of migraine patients)
- Brainstem aura
- Retinal migraine
- Hemiplegic migraine
- Menstrual migraine
- Chronic migraine
- Abdominal migraine

Migraine without Aura

- Headache lasts 4 to 72 hours (untreated or unsuccessfully treated)
- Headache has at least 2 of the following:
  - Aggravation by or causing avoidance of routine physical activity (e.g., walking)
  - Moderate or severe pain
  - Pulsating quality
  - Unilateral location
- During headache, at least 1 of the following:
  - Nausea and/or vomiting
  - Photophobia and phonophobia
  - Not attributed to another disorder
  - History of at least 5 attacks fulfilling above criteria

Migraine with Aura

- Aura consisting of at least 1 of the following, but no motor weakness:
  - Fully reversible dysphasic speech disturbance
  - Sensory symptoms that are fully reversible, including positive features (e.g., pins and needles) and/or negative features (e.g., numbness)
  - Visual symptoms that are fully reversible, including positive features (e.g., flickering lights, spots, lines) and/or negative features (e.g., loss of vision)
- At least 2 of the following:
  - Homonymous visual symptoms and/or unilateral sensory symptoms
  - At least 1 aura symptom develops gradually over 5 minutes, or different aura symptoms occur in succession over 5 minutes
  - Each symptom lasts at least 5 minutes, but no longer than 60 minutes
  - Headache fulfilling criteria for migraine without aura begins during the aura or follows aura within 60 minutes
  - Not attributed to another disorder
  - History of at least 2 attacks fulfilling above criteria

Migraine (and headache) Triggers

- Monosodium glutamate (migraine)
- Tyramine rich foods (migraine) (see National Headache Foundation handout)
- Nitrates (migraine)
- Nitroglycerin (cluster headaches)
- Caffeine (migraine OR tension-type headache)
- Chocolate (migraine)
- Alcohol (migraine OR cluster headache)
- Menstruation (migraine)
- High altitude (migraine OR tension-type headache)
- Exercise (migraine)
- Stress (tension-type OR migraine)

Acute Migraine Treatment

- Avoid barbiturates or opioids due to rebound & abuse potential
- Avoid Butterbur extract
  - AAN has updated guidance – while it seems to be effective for migraine prevention, it may contain chemicals called pyrrolizidine alkaloids (PA) that can cause liver damage.
- Triptans are ok on a limited basis
  - Avoid with CAD patients, watch for serotonin syndrome if SSRI pt, progression to daily HA
- Prochlorperazine & chlorpromazine
  - Effective migraine pain relief independent of relief of nausea or vomiting.
- Aspirin, acetaminophen, NSAIDs (take early for milder symptoms)
- Magnesium, riboflavin (vitamin B2), and coenzyme Q10
  - Mg especially with menstrual migraines or migraines with auras
- Ergotamines (rarely used) Parenteral dihydroergotamine should be avoided for 24 hours after a triptan has been administered.
- Acetaminophen and metoclopramide are the only treatments for migraine that are considered safe in pregnancy.

Avoid Opioids & Butalbital

- Do not use opioids or butalbital for migraine except as a last resort.

  American Academy of Neurology

- Do not prescribe opioid or butalbital-containing medications as first-line treatment for recurrent headache disorders.

  American Headache Society

- Do not recommend prolonged or frequent use of over-the-counter pain medications for headache.

  American Headache Society

Acute Migraine Treatment Cautions

- To avoid medication overuse headache, use of NSAIDs or acetaminophen should be limited to fewer than 15 days per month.
- When used for the acute treatment of migraine, opioid and barbiturate use is associated with the progression from episodic to chronic migraine and medication overuse headache.
- Response or failure to respond to one triptan does not predict the outcome of treatment with another triptan. If patients are unresponsive to a triptan and their pain persists, a second dose is unlikely to provide additional benefit.
- Two thirds of triptan taking patients complain of adverse events – commonly warm body sensations, flushing, tightness, tingling, and pressure. Due to vasoconstrictive properties triptans are contraindicated in patients with CV disease.

Migraine Prevention

- Indicated if > 4 migraines per month
- Sleep quantity and quality (avoid caffeine)
- Exercise 3 to 5 times a week for 30 to 60 minutes
- Diary of migraines and how you respond to treatment
- Stress-relieving techniques, such as cognitive behavioral therapy (CBT), mindfulness, and relaxation.
- Low Tyramine Diet

Migraine Prevention Treatment Options

- **Propranolol** (Inderal) 80 to 240 mg per day, in three or four divided doses
  - Timolol 20 to 30mg daily
  - Metoprolol 50mg BID (up to 100mg BID)
  - Atenolol 50mg daily (up to 100mg daily) (second line)
- **Divalproex** (Depakote) 250mg to 500mg PO BID
- Nortriptyline or Amitriptyline 25 to 150mg once (hopefully) daily (evening)
- Venlafaxine 37.5 to 150mg once daily
- **Topiramate** (Topamax) titrate up gradually, often 50mg PO BID
- 2nd line: ACE, ARB, trimagnesium dicitrate 600mg daily, B12 400mg daily

Migraine Prevention Treatment Pointers

- Start with the lowest effective dose and titrate every two to four weeks until therapeutic effect or until patient develops adverse effects (most often fatigue).
- Successful treatment is defined as a 50% reduction in the number of headache attacks or days.
- If headaches are controlled for at least six to twelve months, consider slowly tapering and discontinuing therapy.

Thank You