Headache and Facial Pain

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Introduction

• It is the most common neurologic complaint.

• The diagnosis usually made by proper history only.

• In most patients a proper diagnosis cannot be made.
Differential Dx

- Migraine headache
- Tension headache
- Cluster headache
- Rhinogenic headache
- Trigeminal neuralgia
- Herpes zoster
- Tolosa-Hunt syndrome
- First bite syndrome
- Eagle Syndrome
- Giant cell arteritis
- Carotidynia
Types of headache

• Primary:
  – Tension headache
  – Migraine
  – Cluster headache

• Secondary:
  – Medication overuse
  – Closed angle glaucoma
  – Sinusitis
  – Increased ICP
Diagnosis

- History is the most important method of diagnosis
- Clinical examination:
  - Mainly to R/O secondary headache
    - Retina exam
    - Neurological deficit
    - Sinusitis findings
- Investigations:
  - Should never be used to reassur the patient
Migarine

- Second most common form of headache
- Prevalence 10% of population
- 18% in women, 6% in men
- Peak age onset 20’s-30’s
- Recurrent episodes of severe, throbbing, unilateral headaches
Migraine

- Associated Symptoms:
  - Nausea, vomiting, photophobia, phonophobia

- Precipitating factors
  - Stress, lack of sleep, hormonal changes, diet, etc.

- Pathophysiology (Theories)
  - Vasospasm
  - Cortical Spreading Depression
Migraine Rx

• **Nonpharmacologic:**

• Avoid triggers

• ◦ Symptom Diary

• ◦ Dietary modifications

• ◦ Regularity in exercise, eating, sleeping

• **Photophobia/Phonophobia:**

• ◦ Lay down in a dark/quiet room
Migraine RX
Abortive

- Triptans/Ergot derivatives
  - Sumatriptan, rizatriptan,
  - ergotamine tartrate
- If used >2d/wk can cause
  - ergot-induced headache
- S/E-nausea, angina
- Fioricet
  - acetaminophen, caffeine
- Fiorinal
  - ASA, caffeine
Migraine RX prophylactic

- Episodes >5/mo
  - Antihypertensives:
    - BB-Metoprolol, propranolol
  - Antidepressants
    - amitriptyline
  - Anticonvulsants:
    - Gabapentin, valproic acid
  - NSAIDs
  - BOTOX:
    - Chronic migraines
Tension headache

• Most common headache
• Affects 80% of population:
  • more common in women
  • Triggered by stress or anxiety
• Headaches are bilateral, with a tightening/band-like sensation, in the frontotemporal region, radiates to occipital region and trapezius muscles.
• Onset is gradual, pain is non-throbbing and constant.
Tension headache Rx

Nonpharmacologic
- Reassurance, muscle relaxation, stress management, biofeedback, physical therapy
- with thermal modulation or electrical stimulation.

Pharmacological
- Abortive:
  - Acetaminophen, ASA, caffeine, NSAIDs
  - Should not be taken >2 days/week
- Prophylactic:
  - Reserved for patients with frequent headaches >2/wk
  - Amitriptyline-first line
  - Topiramate, valproate, venlafaxine
Cluster headache

• Less common than migraine or tension headaches
• Men>Women (3:1)
• Middle age
• Headaches are unilateral, excruciating, and located around the eyes or in the maxilla.
• Associated with unilateral lacrimation, rhinorrhea, and injected conjunctiva, +/- ptosis and miosis.
• No aura or nausea.
• Pain lasts minutes - ~2-3 hours
Cluster headache Rx
Abortive

- Inhalation of 100% O₂ x 10 minutes
- Triptans
  - Sumitriptan 6 mg subcutaneously, relief in 15 min
  - Zolmitriptan PO, relief in 30 min
- Dihydroergotamine IM or IV, relief in 30 min and 10 min respectfully
- All of the above work by central vasoconstriction
- Intranasal 4% lidocaine may also be effective.
Primary headache

<table>
<thead>
<tr>
<th></th>
<th>Tension</th>
<th>Migraine</th>
<th>Cluster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Bilateral</td>
<td>Uni/ Bilat</td>
<td>Unilateral, around the eye</td>
</tr>
<tr>
<td>Pain quality</td>
<td>Pressing / tightening</td>
<td>Pulsating</td>
<td>Variable</td>
</tr>
<tr>
<td>Pain intensity</td>
<td>Mild to moderate</td>
<td>Moderate to severe</td>
<td>Sever to very severe</td>
</tr>
<tr>
<td>Effect on activity</td>
<td>Not aggravated b routine activities</td>
<td>Aggravated by daily activity, lead to avoidance</td>
<td>Restlessness or agitation</td>
</tr>
<tr>
<td>Duration of headache</td>
<td>30 min-continuous</td>
<td>4-72 hours</td>
<td>15-180 min</td>
</tr>
</tbody>
</table>
## Primary headache

<table>
<thead>
<tr>
<th>Other symptoms</th>
<th>Tension</th>
<th>Migraine</th>
<th>Cluster</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>None</td>
<td>Photophobia</td>
<td>Red or watery eye</td>
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<tr>
<td></td>
<td></td>
<td>Sound sensitivity</td>
<td>Nasal congestion or runny nose</td>
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<td></td>
<td></td>
<td>Nausea</td>
<td>Swollen eyelid</td>
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<td></td>
<td></td>
<td>Vomiting</td>
<td>Forehead and facial sweating</td>
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<td></td>
<td></td>
<td>Aura</td>
<td>Constricted pupil or dropping eyelid</td>
</tr>
</tbody>
</table>
Secondary headache

• Evaluate people who present with headache and any of the following features, and consider the need for further investigations and/or referral:
  – worsening headache with fever
  – sudden-onset headache reaching maximum intensity within 5 minutes
  – new-onset neurological deficit
  – new-onset cognitive dysfunction
  – change in personality
  – impaired level of consciousness
  – recent (typically within the past 3 months) head trauma
Secondary headache

- headache triggered by cough, valsalva (trying to breathe out with nose and mouth blocked) or sneeze
- headache triggered by exercise
- orthostatic headache (headache that changes with posture)
- symptoms suggestive of giant cell arteritis
- symptoms and signs of acute narrow-angle glaucoma
- a substantial change in the characteristics of their headache.
Secondary headache

- Consider further investigations and/or referral for people who present with new-onset headache and any of the following:
  - compromised immunity, caused, for example, by HIV or immunosuppressive drugs
  - age under 20 years and a history of malignancy
  - a history of malignancy known to metastasize to the brain
  - vomiting without other obvious cause.
Secondary headache

Medication overuse headache

• headache developed or worsened while they were taking the following drugs for 3 months or more:
  – triptans, opioids, ergots or combination analgesic medications on 10 days per month or more or
  – paracetamol, aspirin or an NSAID, either alone or in any combination, on 15 days per month or more.
Secondary headache

- Sinusitis
- Anemia
- Hypertension
- Glaucoma
- Temporal arteritis
- Sleeping disorders
- Increase intracranial pressure
- Brain Tumors
Rhinogenic headache

- Headache or facial pain secondary to mucosal contact points in the nasal cavity in the absence of inflammatory sinonasal disease, purulent discharge, nasal polyps, nasal mass, or hyperplastic mucosa:
  - septal deviation contacting nasal wall
  - septum to middle turbinate
  - septum to inferior turbinate
  - concha bullosa
  - superior turbinate pneumatization
  - any other visualized mucosal contact point
Rhinogenic headache

- Most common diagnostic method used to identify possible surgical candidates has been application of topical anesthetics and decongestants to intranasal contact areas during a headache.
- Improvement of headache after decongestion test may predict the surgical success (FESS) in patients with rhinogenic headaches.
Giant Cell Arteritis

- Presents as new-onset, constant localized temporal headache:
  - Pain is moderate to severe, burning, throbbing
  - Pain can be unilateral or bilateral
  - Associated symptoms: jaw claudication, weight loss, generalized fatigue, low grade fevers, malaise and extremity pain.

- Visual symptoms:
  - Involvement of ophthalmic artery causes anterior ischemic optic neuropathy
  - Blurring, scotomata, and sudden blindness.
  - Blindness ~20% of patients
Giant Cell Arteritis

- Most commonly in patients >50 y/o, (average age is 79)
  - women:men 2:1
- Highest incidence in Scandinavians or Americans of Scandinavian descent
- Associated with Polymyalgia rheumatica

Physical Findings
- Palpable thickened and tender scalp arteries with diminished or absent pulse.
- Fundoscopic examination
- Ischemic optic neuritis –slight pallor and edema optic disc, with scattered cotton-wool patches
Giant cell arteritis

Diagnosis

• ▪ ESR>50mm/hr
• ▪ Superficial Temporal Artery biopsy
• ▪ Segment should be at least 5 cm long
• ▪ Granulomatous inflammation with multinucleated giant cells

Treatment

• ▪ Prednisone 40-60 mg/day (initial) Then, 10-20mg/day x several months while checking ESR
Thank you