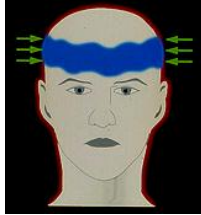




## Criteria for office diagnosis of episodic tension-type headache

- Headache pain accompanied by two of the following symptoms:
  - Pressing/tightening (non-pulsating) quality
  - Bilateral location
  - Not aggravated by routine physical activity
- Headache pain accompanied by both of the following symptoms:
  - No nausea or vomiting
  - Photophobia and phonophobia absent or only one present
- Fewer than 15 days per month with headache
- No evidence of organic disease

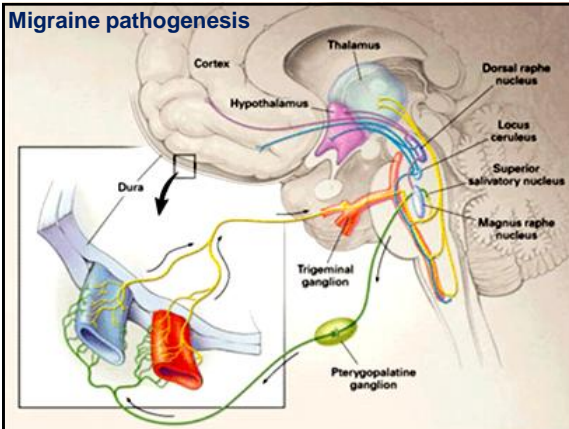


## Migraine

### Pearl:

Migraine is a “sick headache” producing recurrent, throbbing, unilateral or bilateral headache which the patient only finds relief by lying down in a dark cool room without any noise.

## Migraine pathogenesis



## Criteria for office diagnosis of migraine without aura

- Two of the following:
  - Unilateral headache pain location
  - Headache pain has pulsating quality
  - Nausea
  - Photophobia and phonophobia
- Both of the following:
  - Similar pain in the past
  - No evidence of organic disease

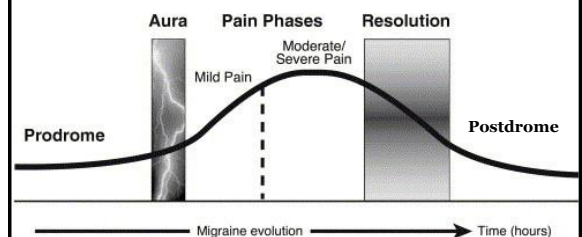


## Criteria for office diagnosis of migraine with aura

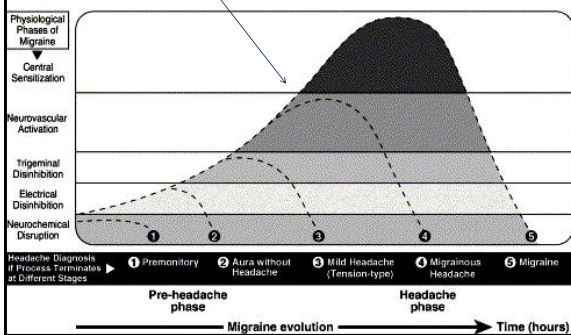
- Headache pain is preceded by at least one of the following neurologic symptoms:
  - **Visual**
    - Scintillating scotoma
    - Fortification spectra
    - Photopsia
  - **Sensory**
    - Paresthesia
    - Numbness
    - Unilateral weakness
    - Speech disturbance (aphasia)
- No evidence of organic disease



## Migraine with Aura 5 Phases



## Cutaneous Allodynia



## Migraine With Aura Variants

- **Hemiplegic Migraine** - **Do not treat with ergots or triptans as they may cause strokes**, rather, use calcium channel blockers (Verapamil).
- **Basilar Migraine**
  - Mean age of onset 7 years old
  - Primarily in **females**
  - Most common of the variants

## Complications of Migraine

- Chronic migraine
- **Status Migrainosus**
- Persistent Aura with infarction
- Migrainous infarction
- Migraine triggered seizures
- Ophthalmoplegic migraine
- Ophthalmic migraine

## General guidelines for successful migraine management

- Achieve a diagnosis in which you are confident
- Work to establish a good doctor-patient relationship
- Educate patients and their families about the pathogenesis and natural history of migraine and what can realistically be expected from treatment.
  - Reassure patients that migraine is not a symptom of serious organic or psychological disease.
  - Ask patients to keep a daily log of their migraine symptoms (including duration and severity), factors that seem to trigger them, and treatments used.
- Explore the possibilities for non-pharmacologic treatment
- Aggressively treat until an effective therapy is found.

## Pharmacological Treatment

- **Abortive**
  - Triptans, Midrin, ergot derivatives, etc.
- **Symptomatic**
  - Fiorinal, antiemetics, and mild narcotics may be necessary for aborting the acute headache.
  - Care must be taken and the medications used only on a short term basis (eg. 1x per month)
  - Once diagnosis is confirmed then abortive and prophylactic therapy should reduce the need for additional symptomatic therapy

## Pharmacological Treatment

- **Prophylactic**
  - Choose the initial agent on the basis of concurrent conditions, if any, if an agent fails, choose another.
  - Use mono-therapy if possible
  - Explain therapeutic expectations and potential side effects to the patient.
  - Increase the dose to efficacy or toxicity expectations.
  - Prescribe medications for “breakthrough” attacks

## Status Migrainous

- Headache is similar to previous migraine without aura attacks
- Headache is unremitting for > 72 hours
- Severe intensity
- Not attributed to another disorder
- Treat with the Raskin Protocol

## Raskin Protocol

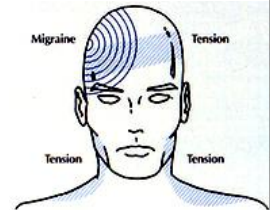
- Metoclopramide or prochlorperazine 10 mg IV over the course of 60 seconds
- Wait 5 minutes to allow distribution
- \*DHE 0.5 mg IV over the course of 60 seconds
- Wait 3 – 5 minutes
- May repeat 0.5 mg IV if no relief
- This protocol may be repeated every 8 hours up to 4 – 6 days (maximum 3 mg/day)
- SQ or IM use: 1 mg may be used without antiemetic and may be repeated every 8 hours, but for longer-term use, suggest once a day.
- Follow with dexamethasone - 4 to 12 mg IV

## Main Criteria for the Diagnosis of Late-Life Migrainous Accompaniments

- TIA symptoms > 50-years of age
- History of migraine with aura when younger
- Episodes last 15 to 25 minutes
- Generally benign course
- Normal angiography (excludes thrombosis)
- Symptoms
  - Scintillations or other visual display in the spell: next in order:
  - Paresthesias
  - Aphasia
  - Dysarthria
  - Paralysis

## When to consider a mixed diagnosis

If a patient presents with the typical symptoms of migraine accompanied by the bilateral muscle contraction component of a tension headache, a mixed diagnosis is usually appropriate.



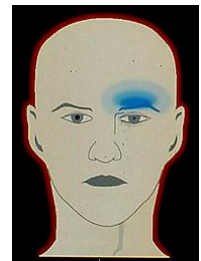
## Medication Overuse Headache

### Diagnostic criteria:

- Headache present >15 days/month
- Regular overuse for > 3 months of a medication (**Amount depends on drug**)
- Headache has developed or markedly worsened during medication overuse
- Headache resolves or reverts to its previous pattern **within 2 months** after discontinuation of overused medication.

## Criteria for office diagnosis of Cluster Headache

- Severe unilateral orbital, supraorbital, and/or temporal pain lasting 15 to 180 minutes
- At least one of the following on the headache side:
  - Conjunctival injection
  - Facial sweating
  - Lacrimation
  - Miosis
  - Nasal congestion
  - Ptosis
  - Rhinorrhea
  - Eyelid edema
- No evidence of organic disease



## Other Primary Headaches

- Primary Stabbing Headache
- Primary Cough Headache
- Primary Exertional headache
- Primary Headache associated with sexual activity
- All precipitated with Valsalva
- All sensitive to Indomethacin (Indocin)

## Secondary Headaches

Symptoms and Signs of Examination

- Abnormal vital signs (fever, hypertension)
- Altered consciousness or cognition
- Meningeal irritation ("stiff neck")
- Chronic malaise, myalgia, or arthralgia
- First headache after 50 years of age
- Tender, poorly pulsatile cranial arteries
- Sensory loss in face or limbs



- Progressive visual disturbance
- Papilledema or hemorrhage of the ocular fundus
- Pupils unequal and/or poorly reactive
- Visual field deficit
- Weakness, clumsiness, or loss of balance
- Reflex asymmetry or abnormal plantar response

## Secondary Headache Syndromes

Attributed to:

- Mass lesions
- Head or neck trauma
- Infection
- Vascular disorders
- Non vascular disorders
- Sinus disease
- Cranial Neuralgias

## Arnold Chiari Malformation Headache



## Temporal Arteritis

A Neurological Emergency

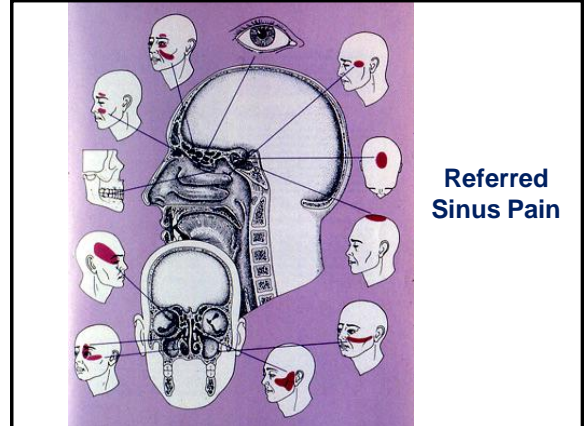
- Inflammatory disorder
- Thickened tender non-pulsatile temporal Artery
- Elevation of ESR
- Granulomatous (giant cell) inflammation
- High-dose corticosteroids (Prednisone)

## Headaches due to Low CSF Pressure – Due to Leaking CSF

- Usually due to
  - Spinal Tap Headache
  - Postoperative (craniotomy) Headache
  - Open head trauma
- Treatment
  - Strict bed rest and hydration
  - Blood patch if due to lumbar puncture
  - Surgery if due to Post op or trauma

## Pseudotumor cerebri

- Increased pressure
- Women affected 8 times > than men
- Dull, non-throbbing headache, worse in morning, Valsalva maneuver
- Blurred vision, enlarged blind spots
- Small slit-like ventricles
- Weight reduction



## Cranial Neuralgias

- **Trigeminal Neuralgia**
  - Face
  - Associated with MS in young
- **Glossopharyngeal Neuralgia**
  - Throat
  - Associated with neoplasm

## Trigeminal neuralgia (tic douloureux)

- V2 and V3 divisions
- Trigger zones
- Women over 40
- Differentiated from atypical trigeminal neuralgia; younger individuals
- Carbamazepine (Tegretol)
- Surgery (microvascular decompression)

## Glossopharyngeal Neuralgia

- Not as common as Trigeminal Neuralgia
- Location: ear, base of tongue, tonsillar fossa, beneath angle of jaw
- Triggers present
- Careful evaluation indicated – due to the possibility of cancer.

Questions?

## Question

- Symptomatic trigeminal neuralgia often occurs with which of the following medical problems?

## Case 1

- A 60-year-old woman develops paroxysms of sharp stabbing pain in her right malar area and upper lip, gums, and teeth. Each attack lasts a few minutes and is comparable in abruptness and severity to pain produced by a tooth being drilled. It is precipitated by brushing the teeth and by eating, so that over several weeks she has lost nearly 10 pounds. The pain never spreads beyond the region described, and between attacks she is symptom free except for fear of recurrence, which occurs many times throughout the day. Low potency analgesics do not prevent the attacks.
- During examination, brief convulsive movements of her face and jaw accompany an attack of pain, and the physician is able to trigger the pain by lightly rubbing her face with a tongue blade. The neurological examination is otherwise normal.

## Case 2

- A 22-year-old dance instructor routinely developed headaches on the weekend. The headache was almost always limited to the right side of her head and was centered about the right temple. She would know that a headache was coming because of changes in her vision that preceded the headache by 20 to 30 minutes. She would see scintillating lights just to the left of her center of vision. This visual aberration would expand and interfere with her vision. The blind spot that it created would appear to have a scintillating margin. As the blind spot cleared, the headache would start. It rarely lasted more than an hour, but it was usually associated with nausea and vomiting.

## Case 4

- A 76-year-old man complained of dull, left-sided head pain with some radiation of the discomfort to the right side of the head. He had no nausea or vomiting with the pain, but had lost 10 pounds over the previous 2 months. His erythrocyte sedimentation rate was 102 mm/hr, and he was mildly anemic. An extensive investigation for malignancy revealed no signs of lymphoma, carcinoma, or leukemia.

## Case 5

- An obese 27-year-old woman complains of daily headache, worse in the morning, for one year. She has episodes of transient visual obscuration affecting each eye, and also complains of pulsatile tinnitus. Examination is notable for bilateral papilledema. There are no other abnormalities.

## Case 6

- For several years a 30-year-old woman has had headaches preceded by visual symptoms. Every few weeks she experiences a small paracentral scotoma, evident with either eye closed, that slowly expands into a C shape convex to the periphery of her vision. Shimmering angles then develop on the enlarging outer edge and become both luminous and colored as the now jagged border slowly moves toward the periphery of the involved half of the visual field. After about 20 minutes, the scintillation disappears over the horizon of the peripheral vision. At this point headache appears over the contralateral occiput, rapidly becoming throbbing and severe and accompanied by nausea, vomiting, photophobia, and phonophobia. The headaches have never awakened her from sleep, and resting in a darkened room lessens their severity. Untreated the headaches usually last several hours. When temporally related to emotional stress, the attacks more often follow rather than occur during the stressful period. For many years the patient's mother has had similar symptoms. The neurological examination is normal.

## Case 7

- A 45-year-old male presents with a daily headache. He describes two attacks per day over the last 3 weeks. Each attack lasts about an hour and awakens the patient from sleep. The patient has noted associated tearing and reddening of the right eye as well as nasal stuffiness. The pain is deep, excruciating, and limited to the right side of the head. The neurologic examination is non-focal.

## Case 8

- A 23-year-old female patient who is having daily chronic headaches and is taking 8 over the counter Excedrin tablets daily for the past 6 weeks. Her headaches are generalized and she is beginning to be nauseated during the day. The patient advises you her headaches began when enrolled in school while working nights in a convenience store. She states she has been stressed but denies depression. Her physical and neurologic examinations are normal.