How To approach headache ?!

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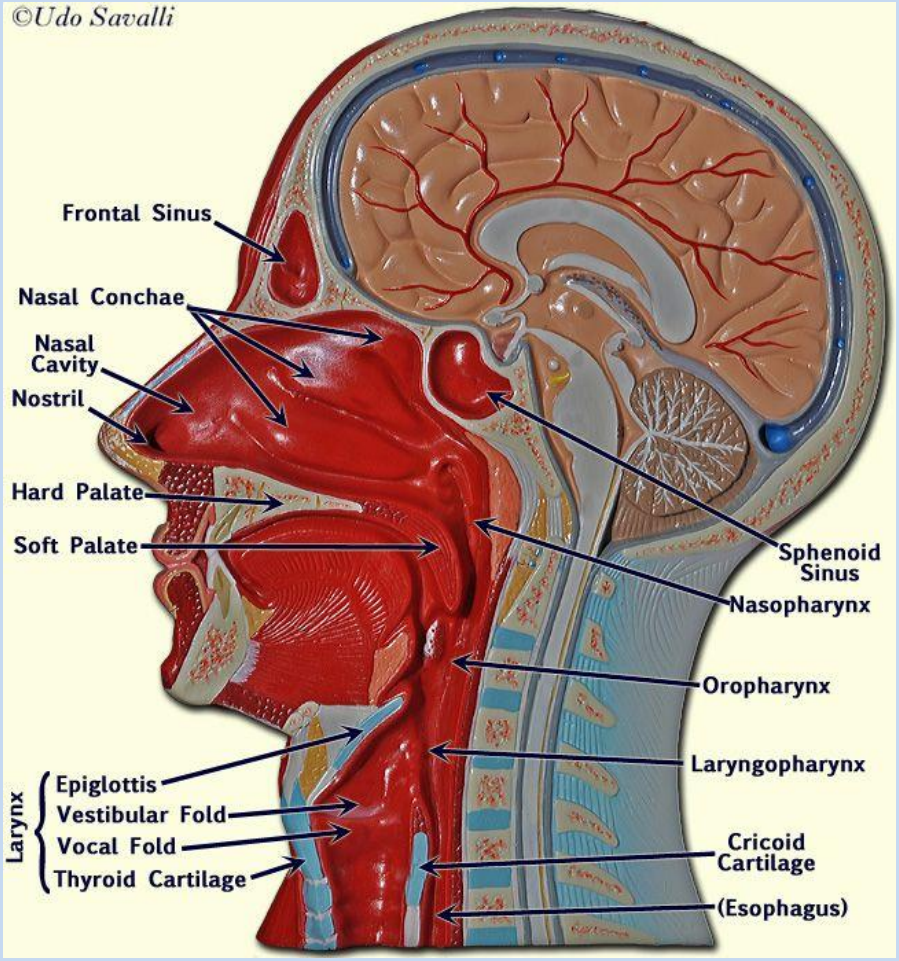
Headache ?!!


©Udo Savalli
Frontal Sinus
Nasal Conchae
Nasal Cavity
Nostril
Hard Palate
Soft Palate
Sphenoid Sinus
Nasopharynx
Oropharynx
Laryngopharynx
Larynx
Epiglottis
Vestibular Fold
Vocal Fold
Thyroid Cartilage
Cricoid Cartilage
(Esophagus)

Classification

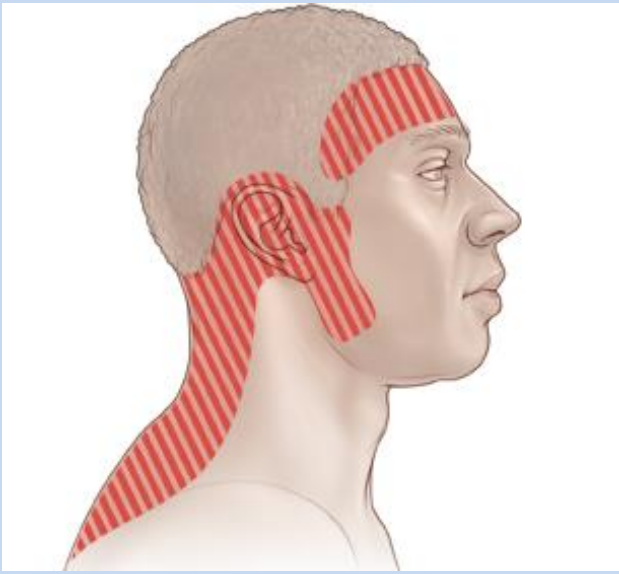
Primary headaches

1- Migraine
2-Tension headache
3-Cluster headache

Secondary headaches

1- Head trauma
2. Vascular disorders .
3- Temporal arteritis , sinusitis.
4- HTN , systemic ilness .
5- Nonvascular intracranial disorder .

Tension-type headache



A. At least 10 previous headache episodes .

B. Headache lasting from 30 minutes to 7 days .

C. At least two of the following pain characteristics:

1. Pressing or tightening quality
2. Mild or moderate intensity
3. Bilateral location
4. No aggravation by walking stairs or similar routine physical activity

D. Both of the following:

1. No nausea or vomiting
2. Photophobia and phonophobia are absent, or one but not the other is present.

- **Tx :** (OTC) analgesics .

Migraine headache

A. At least five attacks .

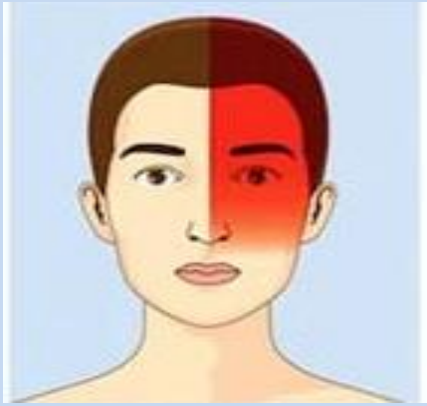
B. Headache lasting 4 to 72 hours

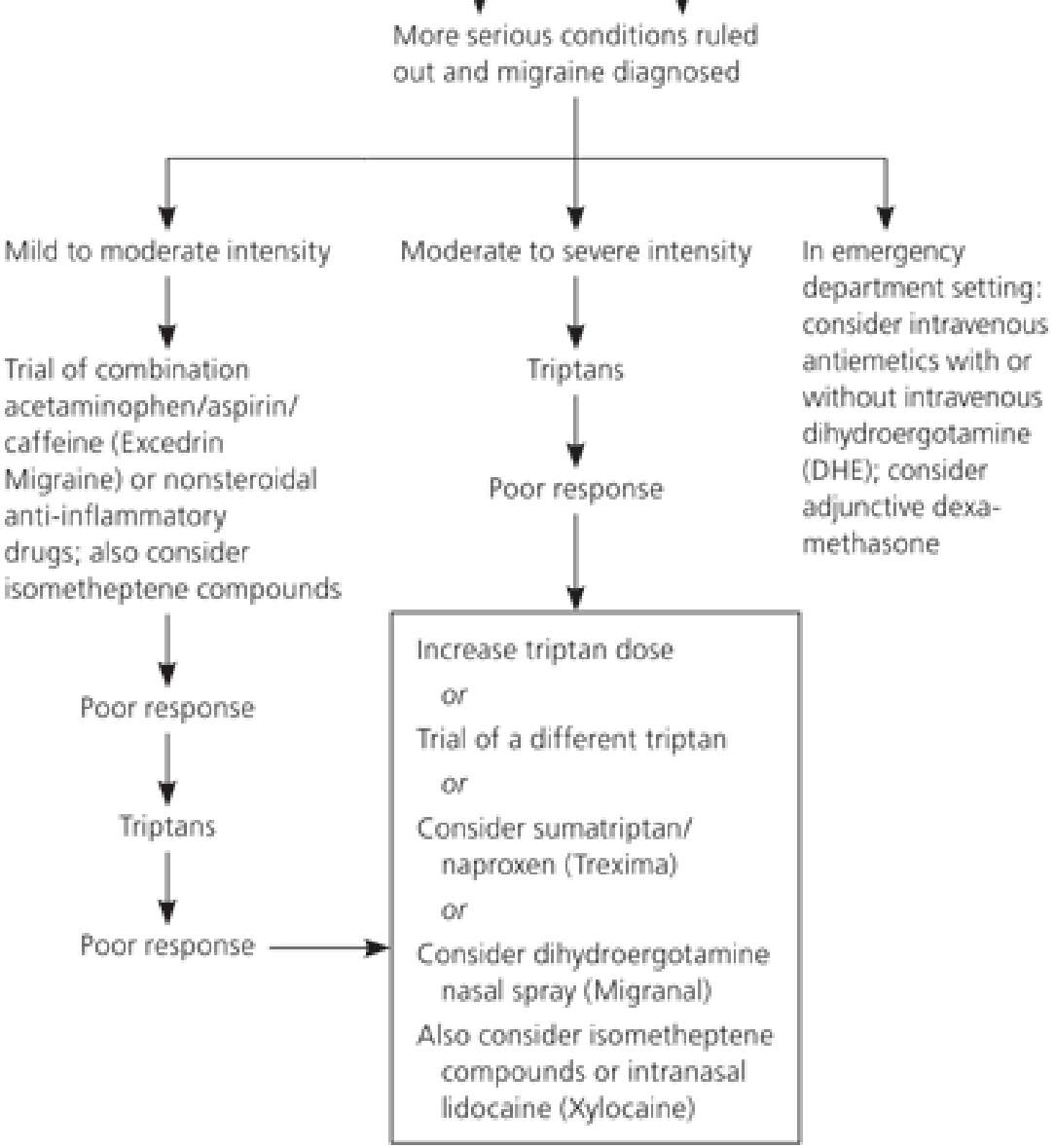
C. At least two of the following pain characteristics:

1. Unilateral location
2. Pulsating quality
3. Moderate or severe intensity
4. Aggravation by walking stairs or similar physical activity

D. **During headache, at least one of the following**:

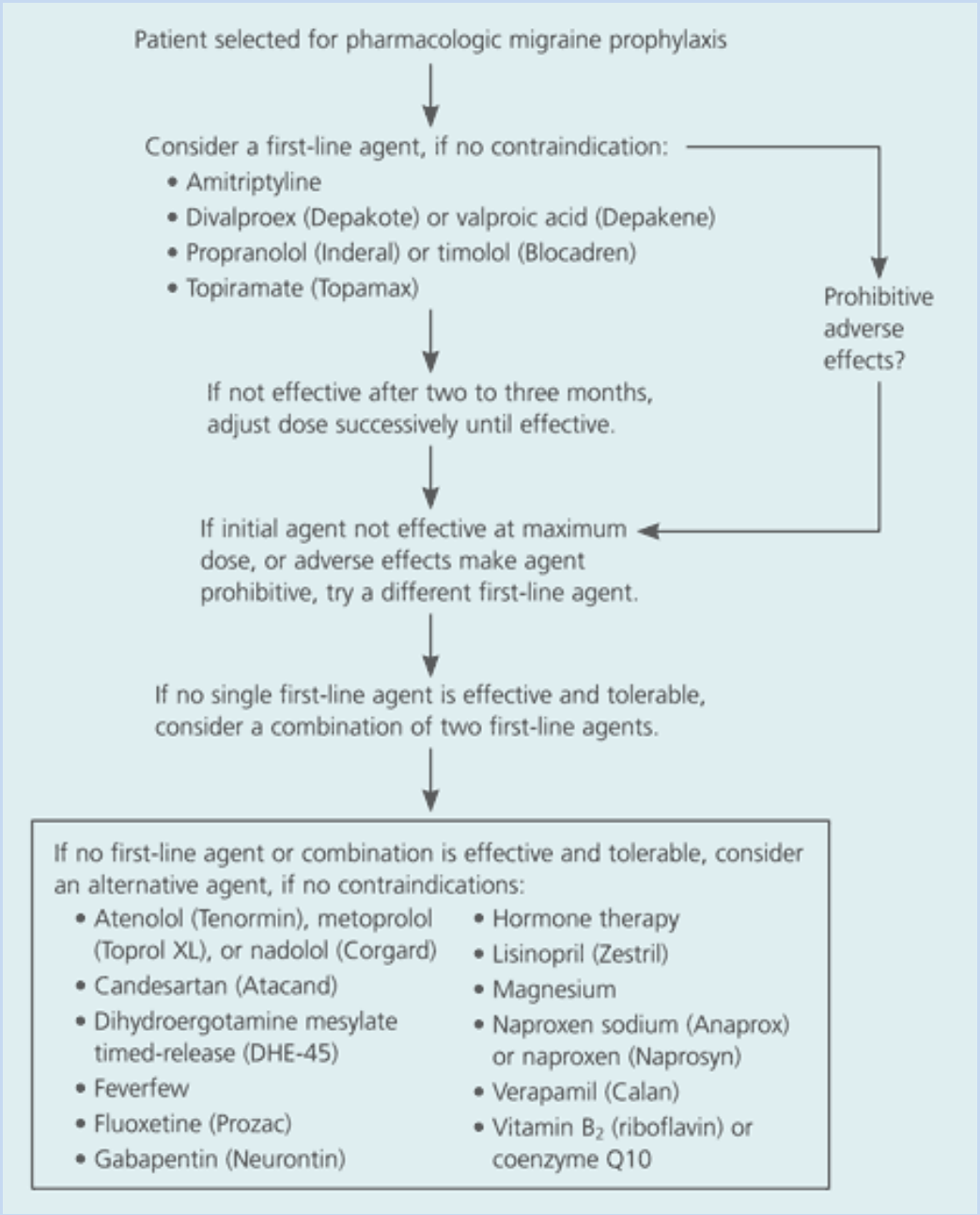
1. Nausea and/or vomiting
2. Photophobia and phonophobia





NOTE: *Abortive migraine therapy should be used as soon as possible after symptom development for maximum benefit; if abortive therapy is unsuccessful or used more than twice weekly, consider adding prophylactic therapy. Patients with nausea and vomiting may require nonoral medication. For all medications, consider patient comorbidities and contraindications.*

Migraine Prophylaxis



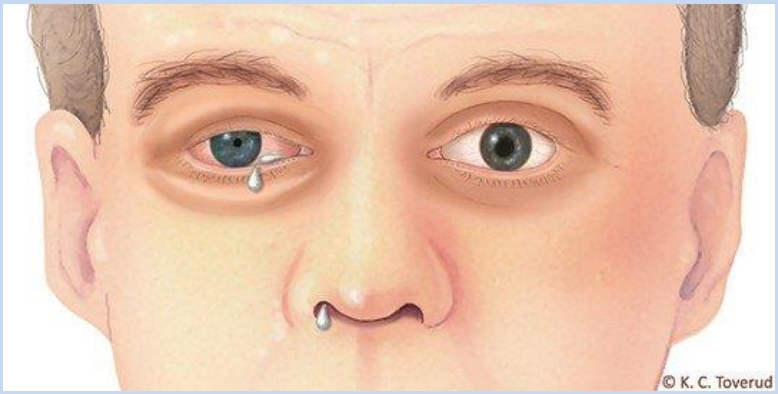
Cluster Headache

A. At least five attacks .

B. Severe unilateral orbital, supraorbital and/or temporal pain lasting 15 to 180 minutes .

C. Headache associated with at least one of the following signs on the pain side:

1. Conjunctival injection
2. Lacrimation
3. Nasal congestion
4. Rhinorrhea
5. Forehead and facial sweating
6. Miosis
7. Ptosis
8. Eyelid edema



D. Frequency of attacks: one attack every other day to eight attacks per day

- **Tx :**

1- **Acute treatment** :

A . Oxygen .

B . Sumatriptan injections / nasal sprays .

2- **Preventive treatment :**

A . Verapamil .

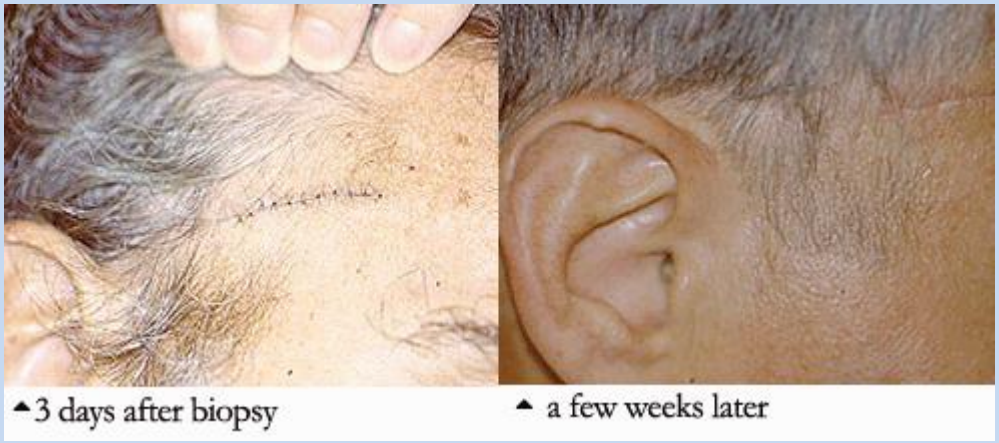
B. Methysergide .

C. Lithium .

D . Corticosteroids .

Temporal arteritis

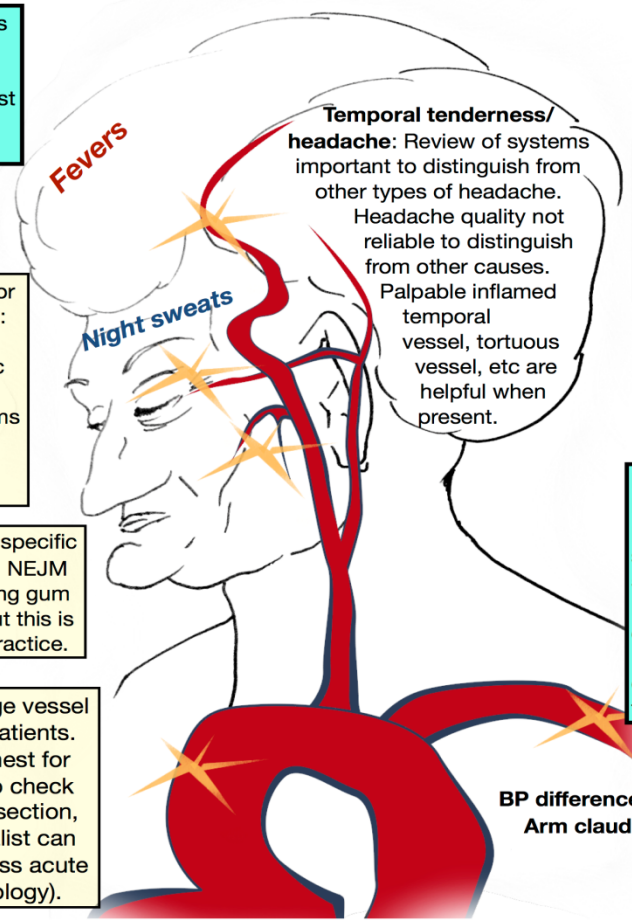
Diagnostic criteria	
If a patient possesses ≥3 criteria, GCA is diagnosed:	1. Patient age >50 years
	2. New-onset headache
	3. Temporal artery abnormality (tenderness to palpation or decreased pulsation, unrelated to atherosclerosis of cervical arteries)
	4. Elevated ESR ≥50 mm/h
	5. Abnormal TAB



▲3 days after biopsy ▲ a few weeks later

Giant-Cell Arteritis

Epidemiology: Increases with age, peak in 8th decade of life. Northern European descent highest prevalence, followed by southern European.



Temporal artery biopsy: Try to obtain, even if steroids already initiated. Biopsy stays positive for up to a month.

Vision loss: Temporary or permanent. Mechanism: usually ischemia to vascular supply to optic nerve. Consult ophtho urgently if these symptoms present. Indication for higher steroid doses compared to without.

Jaw claudication: More specific than sensitive if present. NEJM article describes "chewing gum test" to bring this out, but this is not yet part of routine practice.

Polymyalgia Rheumatica: Pain / proximal weakness, shoulders and hips. 50% of patients have both. Which one comes first varies. PMR can present during steroid taper for GCA, for example.

Aortic Aneurysm: Large vessel involvement 25% of patients. +/- CTA vs MRA of chest for biopsy proven GCA to check aorta for stenosis, dissection, and aneurysm (specialist can decide; not urgent unless acute signs for aortic pathology).

Key Lab Finding: High ESR, often >100
Lab findings sometimes present:
- Anemia
- Thrombocytosis
- Transaminitis

Anorexia/Fatigue:
Feelings of illness will not be subtle. Symptoms will be significant and uncomfortable.

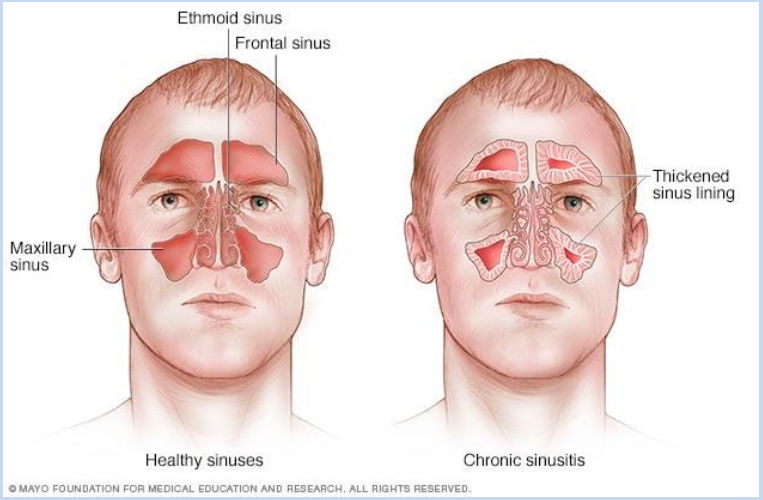
Treatment: Steroids have been the mainstay. 1mg/kg/day or 60mg prednisone. Very long taper. Higher doses in acute setting if eye involvement. PMR alone treatment is lower dose: 15-20mg/day prednisone start.
Steroid sparing: Mixed data on agents such as methotrexate. New IL-6 inhibitor **Tocilizumab** is effective in reducing total steroid requirements.

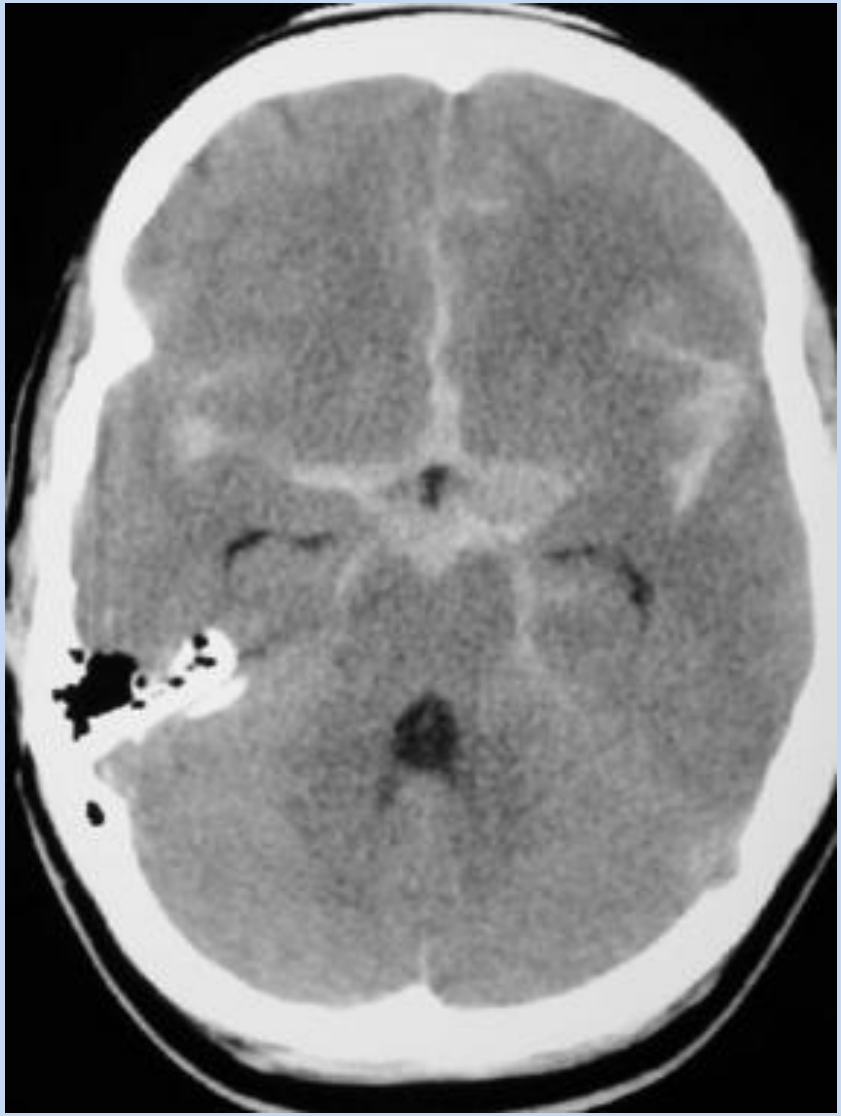
Sinusitis

Headache attributed to rhinosinusitis	A. Frontal headache accompanied by pain in one or more regions of the face, ears, or teeth, and fulfilling criteria C and D B. Clinical, nasal endoscopic, CT or MRI, or laboratory evidence of acute or acute-on-chronic rhinosinusitis* C. Headache and facial pain develop simultaneously with onset or acute exacerbation of rhinosinusitis D. Headache or facial pain resolve within 7 days after remission or successful treatment of acute or acute-on-chronic rhinosinusitis

*Clinical evidence may include purulence in the nasal cavity, nasal obstruction, hyposmia or anosmia, and fever; chronic sinusitis is not validated as a cause of headache or facial pain unless it relapses into an acute stage.

CT, computed tomography; MRI, magnetic resonance imaging.





THE RED FLAG LIST

Look for a diagnosis other than a headache disorder when these findings are present.

Rapid onset of symptoms

Consider arterial dissection, TIA, SAH, sinus venous thrombosis, hypoglycemia, or seizure. Order CT angiography, brain MRI with and without contrast, fingerstick glucose level, lumbar puncture, and EEG.

Thunderclap headache

Reaching maximum pain intensity in less than 1 minute may allude to SAH, hemorrhagic stroke, RCVS, or pituitary apoplexy. Order urgent head and neck CT and CT angiography (CTA).

Presence of neurologic symptoms and signs

Consider arterial dissection, stroke, giant cell arteritis, or glaucoma. Order head and neck and brain MRI and MR angiography (MRA), plasma ESR and CRP, and ophthalmologic evaluation.

Prominent neck pain with or without fever

Consider meningitis. Order standard blood chemistry and cell counts. Consider lumbar puncture and CSF analysis.

Age at onset > 50

Consider giant cell arteritis, intracranial tumors (metastasis), or hypertension. Order plasma ESR and CRP, and brain MRI with and without contrast. Check blood pressure.

Worsening with positional changes or Valsalva maneuver

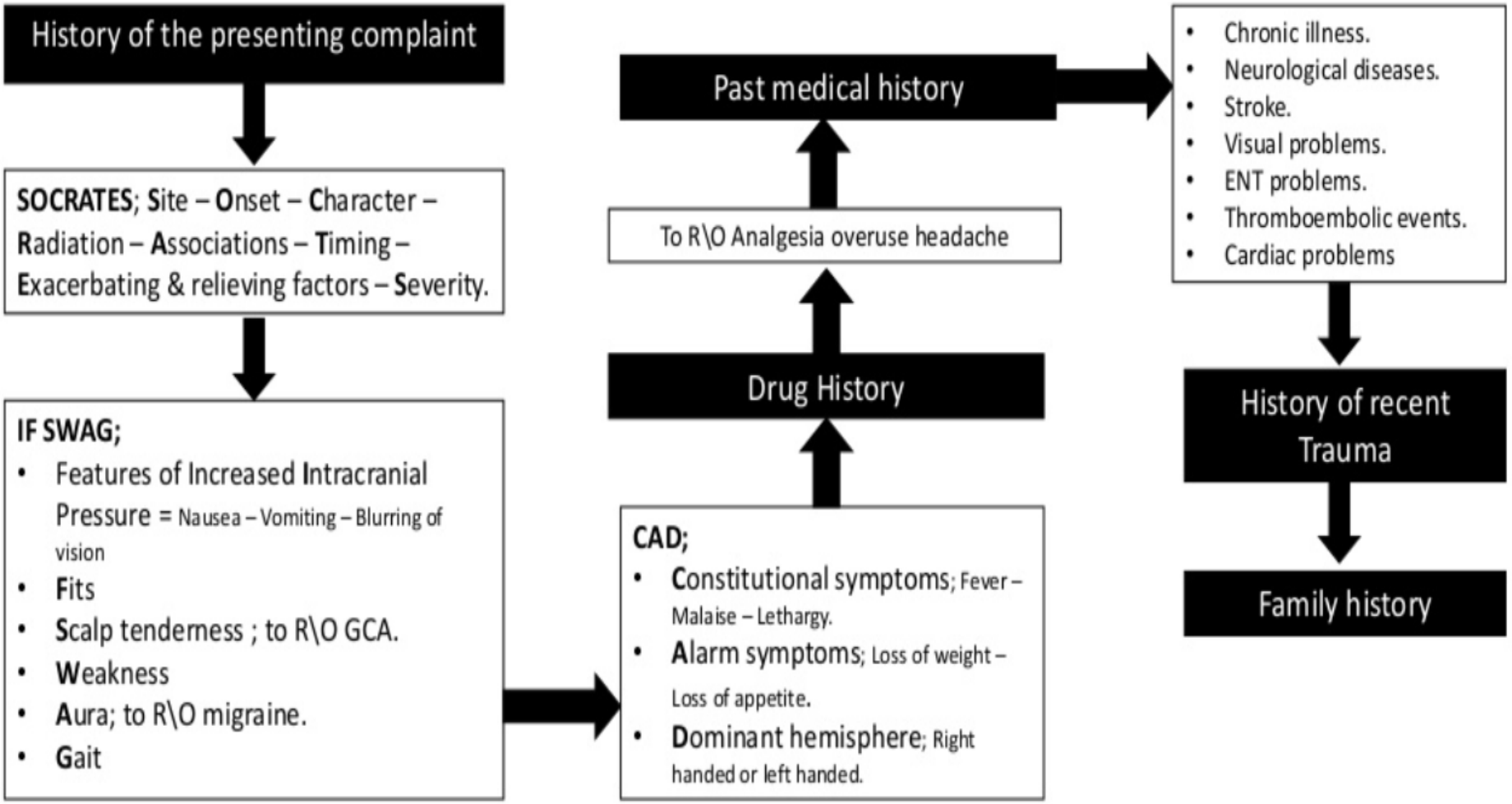
Consider IIH, sinus venous thrombosis, intracranial mass, or CSF leak. Order ophthalmologic evaluation, brain and spine MRI with and without contrast, lumbar puncture, and CT myelography.

New or worsening headache in patient with history of migraine

Consider medication overuse, hypertension, intracranial mass, or medication side effects. Consider pill counting/diary and medication taper. Check blood pressure. Order brain MRI, standard blood chemistry and cell counts, and thyroid function testing. Review all medications.

Abbreviations: CRP, C-reactive protein; CSF, cerebrospinal fluid; ESR, erythrocyte sedimentation rate; IIH, idiopathic intracranial hypertension; RCVS, reversible cerebral vasoconstriction syndrome; SAH, subarachnoid hemorrhage; TIA, transient ischemic attack.

Headache; Clinical Approach – History



Headache; Clinical Approach – Examination

Abbreviated Mental Score

- Orientation.
- Receptive Language.
- Expressive Language.

Complete examination of the eye

Assessment of gait

Tell the examiner that you would like to complete your examination by doing;

- Complete cranial nerves examination.
- Complete peripheral nerves examination.
- Chest examination.
- Examination of the abdomen.

Investigations

- **Laboratory :**

- Random use of laboratory testing in the evaluation of acute headache is not warranted.

1- CBC when systemic or intracranial infection is suspected .

2- ESR when temporal arteritis is a possibility.

- **Neuroimaging** :

- Neuroimaging is not usually warranted in patients with primary headaches .

1- CT scanning is recommended to identify acute hemorrhage.

2- MRI studies are recommended to evaluate the posterior fossa.

- **Lumbar Puncture**

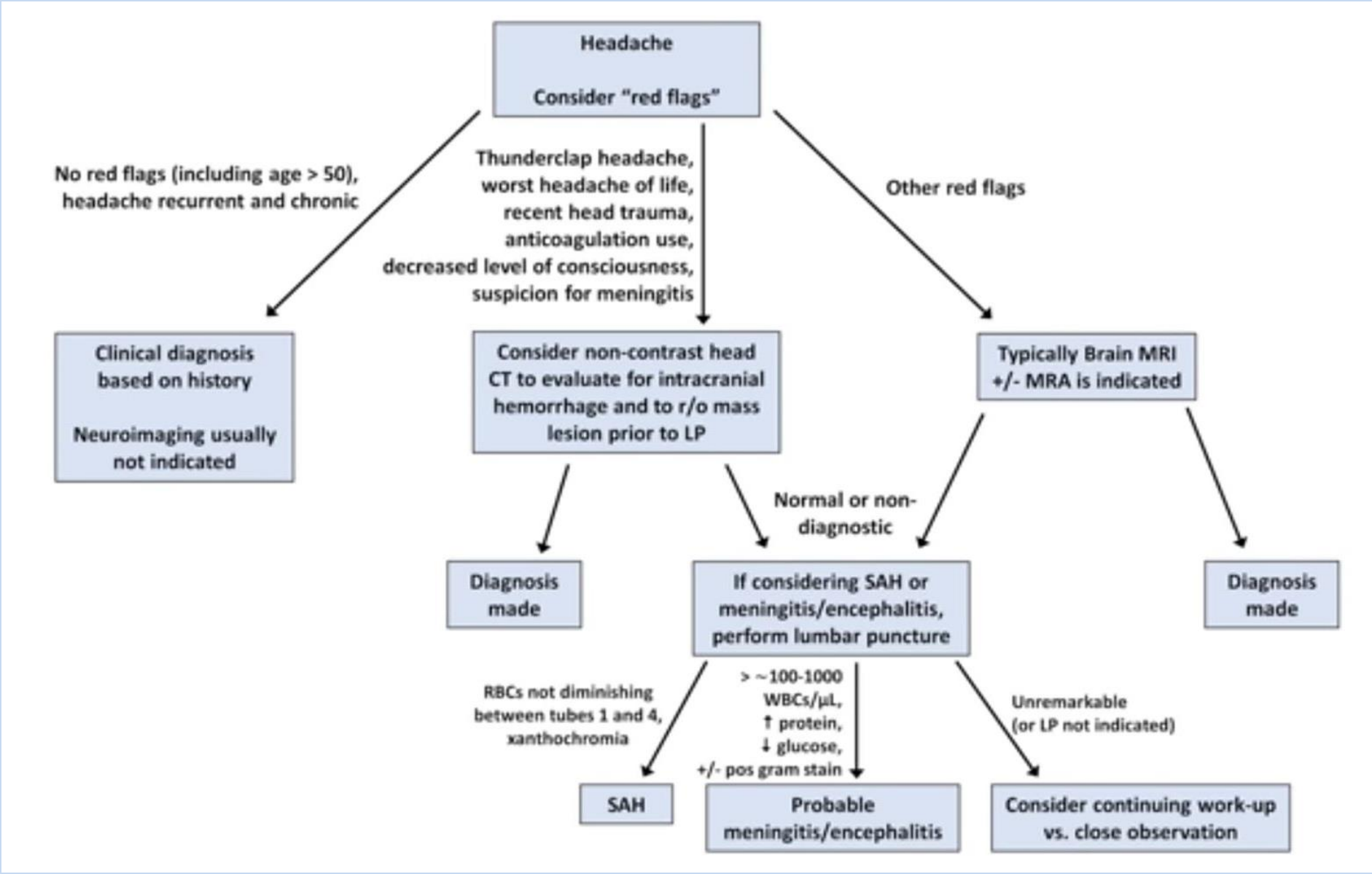
1- CT scanning without contrast medium, followed by LP if the scan is negative, is preferred to rule out SAH within the first 48 hours.

2- LP is useful for assessing the CSF for blood, infection and cellular abnormalities.

3- Headaches are associated with low CSF pressure (e.g. posttraumatic leakage of CSF) and elevated CSF pressure (e.g. idiopathic intracranial HTN and CNS space-occupying lesions) .

Treatment

Therapy	Drug Category	Class/Examples	Notes
Preventive Therapy	*Antidepressants*	Tricyclics – amitriptyline, nortriptyline	• Amitriptyline: best substantiated therapy for CTTH and CM • AEs: anticholinergic effects, QT prolongation, risk of serotonin syndrome, sedation
		SSRIs – fluoxetine, sertraline, citalopram	• Varying evidence regarding benefits of therapy • AEs: psychiatric effects, increased suicidal thoughts, sexual effects, induction of mania, risk of serotonin syndrome
		SNRIs – duloxetine, venlafaxine	• More effective than SSRIs (but more AEs); less effective than other antidepressants • AEs: risk of serotonin syndrome; venlafaxine: intense withdrawal symptoms
		Tetracyclics – mirtazapine	• AEs: weight gain
Acute Theray	*Antihypertensives*	β-blockers (cardio- and non-selective) – propranolol, metoprolol, timolol, nadolol, atenolol, bisoprolol	• Caution in patients with asthma, bradycardia, peripheral vascular disease • May help with postural orthostatic tachycardia syndrome
		Calcium channel blockers – verapamil	• Best for migraine with aura • AEs: constipation, bradycardia, heart block
	Anticonvulsants	Anticonvulsants – topiramate	• One of the best options in many HA types • AEs: dysesthesias, weight loss, angle closure glaucoma-type problems, renal stones, cognitive effects
	Muscle relaxants	α-2 agonist – gabapentin, tizanidine	• AEs of gabapentin: somnolence, dizziness, edema, weight gain, • AEs of tizanidine: hallucinations, liver function abnormalities, dizziness
	Simple Analgesics	Aspirin, acetaminophen, ibuprofen, naproxen	• Limit to <14 days/month
	Targeted Pharmacotherapy · *Used for more severe HAs* · *Limit to <10 days/month*	Ergots	
		Triptans	• Should not be taken within 24 hours of other triptan or ergots
		Ketorolac	• Injectable or nasal • Do not give on the same day as NSAID or ASA (can be taken with APAP or APAP-caffeine products)
		Hydroxyzine	
		Antiemetics – prochlorperazine, promethazine, metoclopramide	• Ondansetron is also effective, however lacks dopaminergic antagonist properties (antimigraine effects)


Headache
Consider "red flags"
No red flags (including age > 50), headache recurrent and chronic
Thunderclap headache, worst headache of life, recent head trauma, anticoagulation use, decreased level of consciousness, suspicion for meningitis
Other red flags
Clinical diagnosis based on history
Neuroimaging usually not indicated
Consider non-contrast head CT to evaluate for intracranial hemorrhage and to r/o mass lesion prior to LP
Typically Brain MRI +/- MRA is indicated
Normal or non-diagnostic
Diagnosis made
If considering SAH or meningitis/encephalitis, perform lumbar puncture
Diagnosis made
RBCs not diminishing between tubes 1 and 4, xanthochromia
> ~100-1000 WBCs/µL, ↑ protein, ↓ glucose, +/- pos gram stain
Unremarkable (or LP not indicated)
SAH
Probable meningitis/encephalitis
Consider continuing work-up vs. close observation

me: ma i got a headache

mom: cause you be on that phone all day