Headache

Dr. Lamees Abd ALRaheem

M.B.CH.B F.I.C.M.S

Headache

Headache is the symptom of pain in the head parts whether in the face or the scalp.

Headaches are broadly classified as "primary" or "secondary".

Primary headaches

- Primary headaches are recurrent headaches
- no clear underlying disease or structural problems. For example, migraine.
- primary headaches may cause significant daily pain and disability, but are not dangerous.
- 90% of all headaches are primary headaches.
- Primary headaches usually first start when people are between 20 and 40 years old.
- The most common types of primary headaches is tension-type headaches.

Secondary headaches

- Secondary headaches are caused by an underlying disease

- Secondary headaches can be dangerous.
  Certain "red flags" or warning signs indicate a secondary headache may be dangerous.

Pathophysiology

- The brain itself is not sensitive to pain, because it lacks pain receptors.
- Headaches often result from traction to or irritation of the meninges and blood vessels. The pain receptors may be stimulated by head trauma or tumors and cause headaches.
- Primary headaches are more difficult to understand than secondary headaches. The exact mechanisms which cause migraines, tension headaches and cluster headaches are not known.

Pathophysiology of Primary Headache

- Migraines are currently thought to be caused by dysfunction of the nerves in the brain.
- Tension headaches are thought to be caused by activation of peripheral nerves in the head and neck muscles.
- Cluster headaches involve over-activation of the trigeminal nerve and hypothalamus in the brain, but the exact cause is unknown.

Migraine

- Migraine= criteria for diagnosis
  - Unilateral (affecting one side of the head)
  - Pulsating
  - Moderate or severe pain intensity
  - Worsened by or causing avoidance of routine physical activity
- + One or more of the following:
  - Nausea and/or vomiting;
  - Sensitivity to both light (photophobia) and sound (phonophobia)

- **Epidimiology**

Worldwide, migraine affects nearly 15%. It is more common in women than men

- **Triggers**

Migraine may be induced by triggers, like hunger, sleep deprivation, certain food, hormonal factors like oral contraceptives smoking, and others.

- **Treatment** There are three main aspects of treatment:

Trigger avoidance, acute symptomatic control, and medication for prevention.

- **Medications** the anticonvulsants and the beta blockers propranolol
- **Analgesics** Recommended initial treatment for those with mild to moderate symptoms are simple analgesics such as nonsteroidal anti-inflammatory drugs (NSAIDs) or the combination of paracetamol , aspirin, and caffeine.
- Paracetamol, either alone or in combination with metoclopramide, is another effective treatment with a low risk of adverse effects

6 common migraine triggers

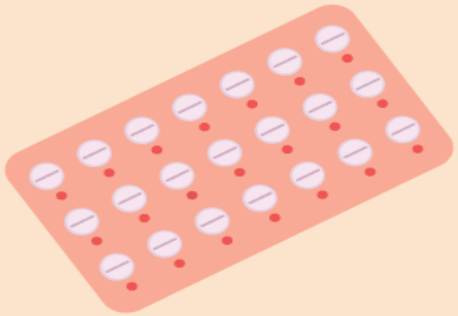
healthdirect

Missing meals

Eating certain foods and drinks

Changes in sleep patterns

Weather changes



Hormonal changes

Stress and strong emotions

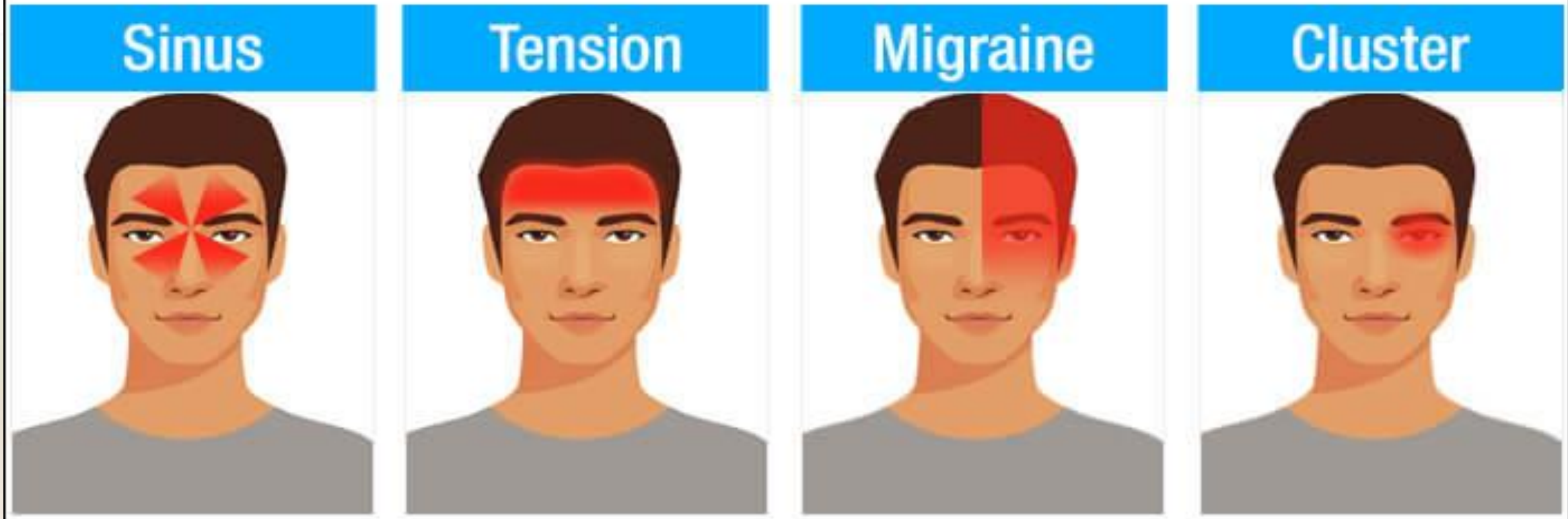
Tension headache

- **Tension headache**, also known as **stress headache**, or tension-type headache (TTH)
- is the most common type of primary headache. The pain affecting both sides of the head as a band of pressure.
- Tension-type headaches account for nearly 90% of all headaches

Cluster headache

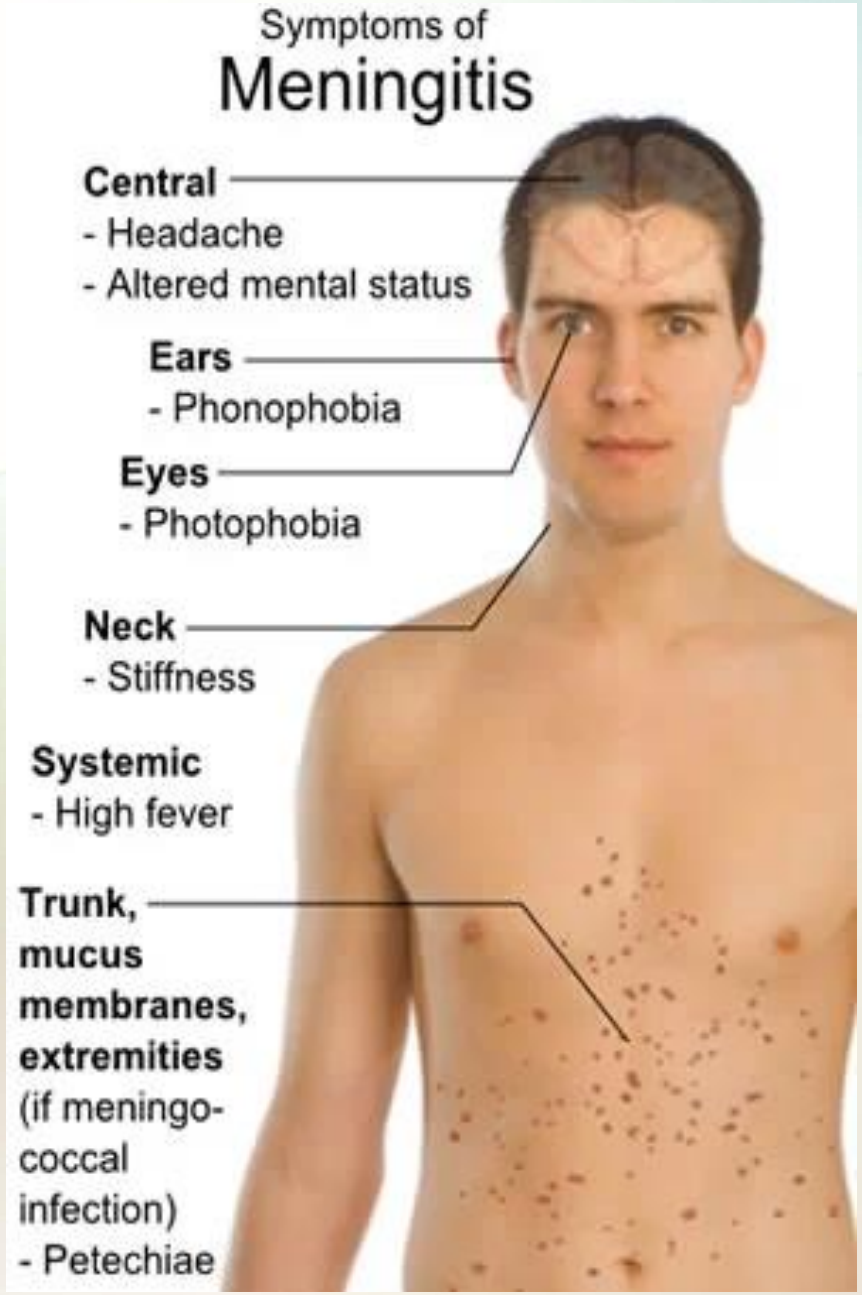
- **Cluster headache** (**CH**) is a neurologicaL disorder characterized by recurrent severe headaches on one side of the head, typically around the eye. There is often accompanying eye watering, nasal congestion.
- The cause is unknown. Risk factors include a history of exposure to tobacco smoke and a family history of the condition.
- Diagnosis is based on symptoms.
- **management** includes lifestyle changes such as avoiding potential triggers.
- Treatments for acute attacks include oxygen or a fast-acting triptan.
- The condition affects about 0.1% of the general population

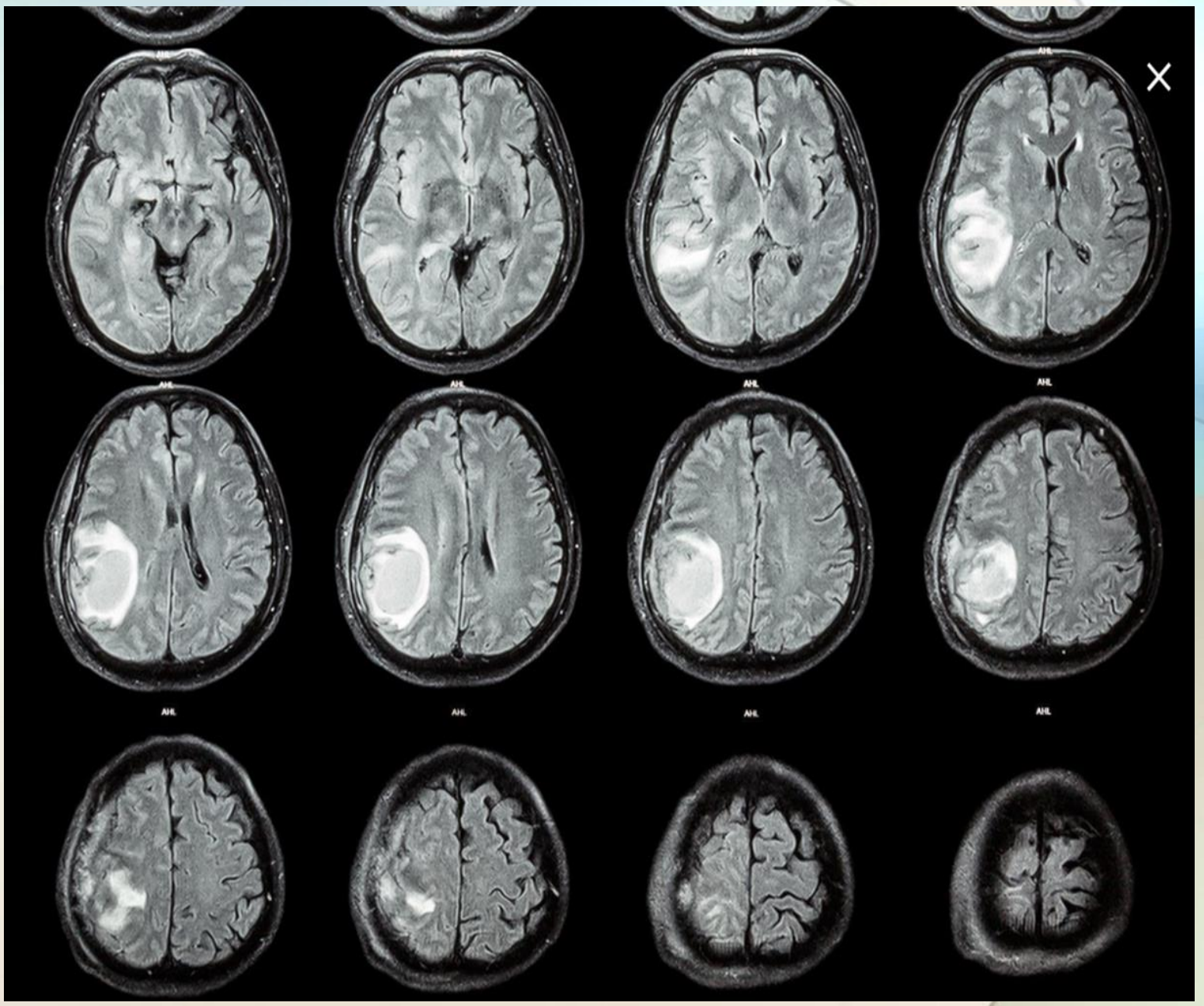
Headache Type



Causes of secondary headaches include the following:

- Meningitis: inflammation of the meninges which presents with fever and stiff neck.
- Bleeding inside the brain (intracranial hemorrhage)
- Subarachnoid hemorrhage (acute, severe headache, stiff neck without fever)
- Rupture of …aneurysm, arteriovenous malformation
- Brain tumor: dull headache, worse with exertion and change in position, accompanied by nausea and vomiting.
- Temporal arteritis: inflammatory disease of arteries common in the elderly (average age 70) with fever, headache, weight loss, jaw claudication
- acute closed angle glaucoma (increased pressure in the eyeball): headache that starts with eye pain, blurry vision.
- Traumatic headache include fractures and bleeding from trauma .
- Headache or facial pain attributed to disorder of the neck, eyes, ears, nose, sinuses, teeth, mouth or other facial or cervical structure
- Headache attributed to psychiatric disorder


Symptoms of
Meningitis
Central
- Headache
- Altered mental status
Ears
- Phonophobia
Eyes
- Photophobia
Neck
- Stiffness
Systemic
- High fever
Trunk, mucus membranes, extremities (if meningo-coccal infection)
- Petechiae

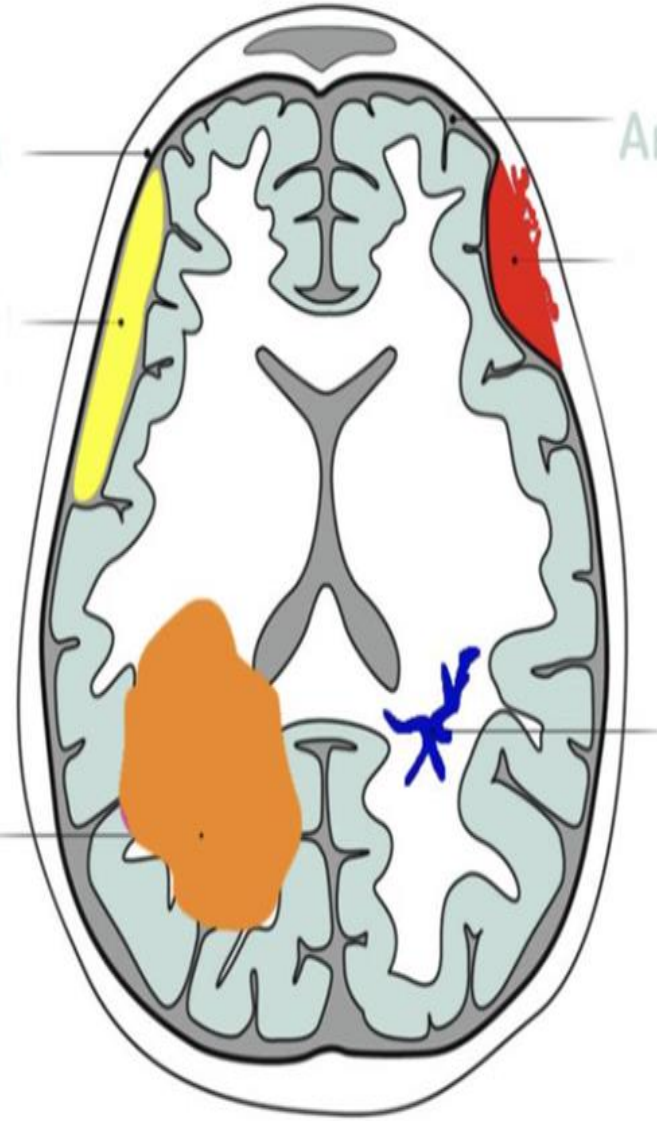


Subdural hemorrhage

- Chronic: 2-14 days after head injury Symptoms are subtle over time confusion and ataxia
-Acute: within 48 hours headache and focal deficits

Intracerebral Hemorrhage

-Rapid deterioration and focal deficits
-When blood pools in tissue of brain there are many causes
-Treat elevated blood pressure and limit expansion of bleed



Epidural hemorrhage

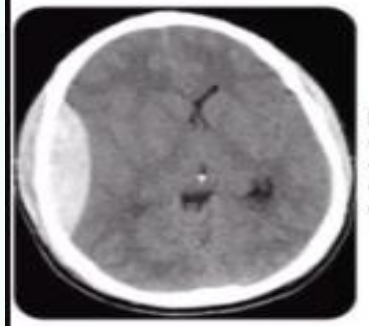
- Tear of ARTERY after a skull fracture
-acute very rapid mental changes
- brief loss of consciousness
-contralateral hemiparesis or ipsilater pupil dilation

Subarachnoid Hemorrhage

-usually caused by aneursyms or AV malformations
-"Worst headache of my life"
- Alerted LOC,
-Nausea, vomiting, nuchal rigidity

Cerebral Hemorrhages

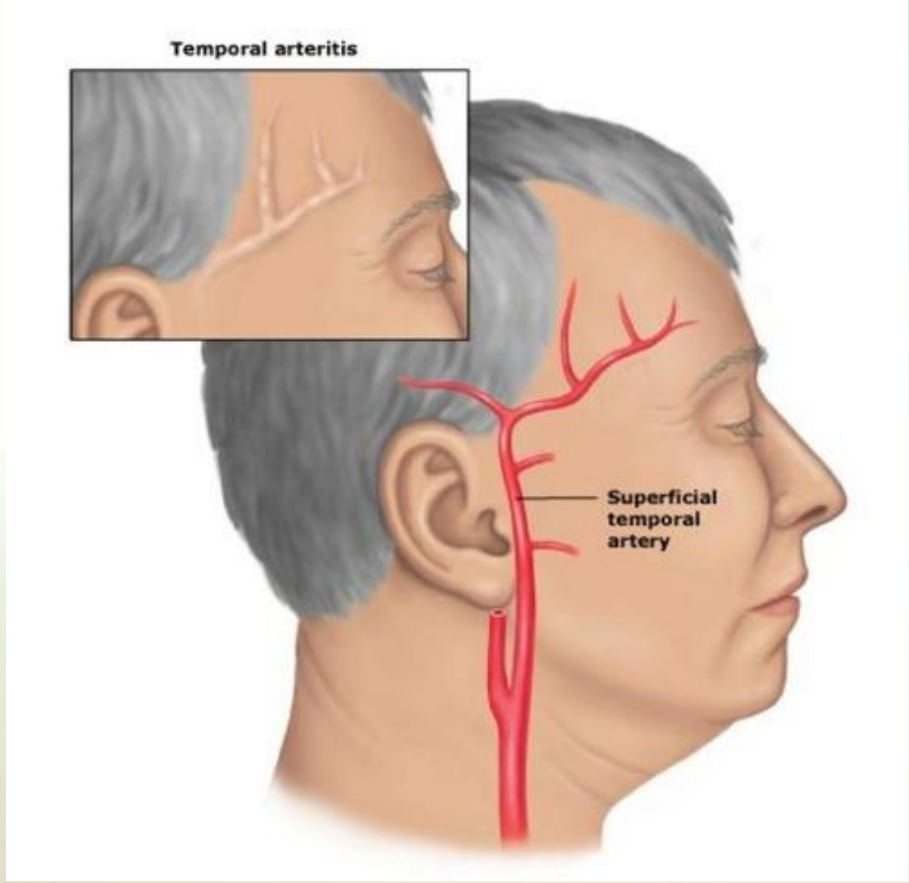
Subdural hematoma
- Crescent-shaped
- Blood collection between dura and arachnoid matte
- Tear in **bridging veins**
- Alcoholics and elderly are prone

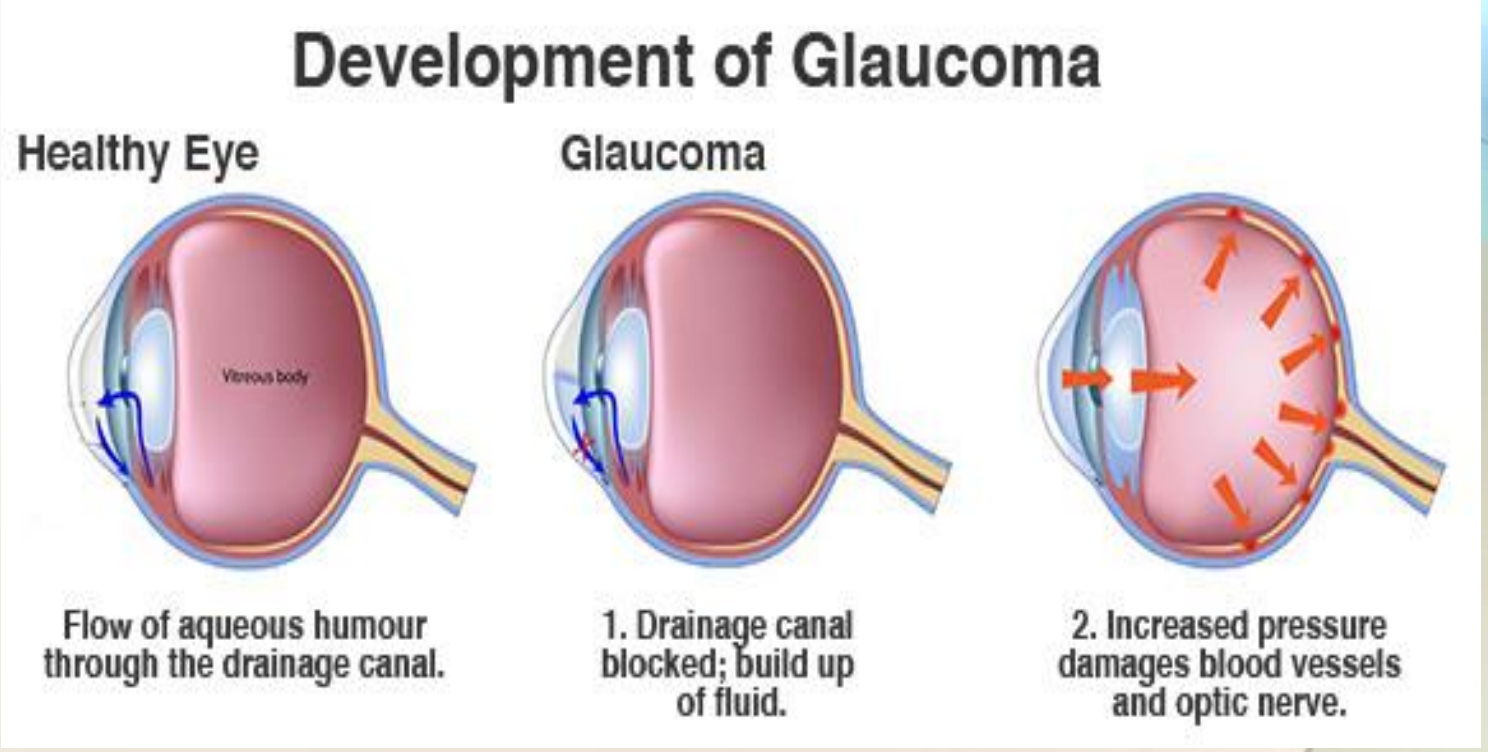


Epidural hematoma
- Biconvex (lens) shaped
- Blood between dura and skull
- Tearing of **middle meningeal artery**
- Adolescents and young adults (trauma)

Subarachnoid hemorrhage
- Blood in circle of Willis, cisterns, and fissures
- Rupture of **berry aneurysm**
- Polycystic kidney disease (risk factor)

Intracerebral hemorrhage
- Blood in parenchyma and ventricles
- Hypertensive vasculopathy
- Territory of **penetrator arteries**


Temporal arteritis
Superficial temporal artery


Development of Glaucoma
Healthy Eye
Glaucoma
Vitreous body
Flow of aqueous humour through the drainage canal.
1. Drainage canal blocked; build up of fluid.
2. Increased pressure damages blood vessels and optic nerve.

The red flags for identifying a secondary headache

- Systemic symptoms (fever or weight loss)
- Systemic disease (HIV infection, malignancy)
- Neurologic symptoms or signs like Fit or weakness or unilateral parasthesia or change in personality.
- Onset sudden (thunderclap headache)
- Onset after age 40 years
- Previous headache history (first, worst, or different headache)
- Severe headache following head trauma
- Headache triggered by cough, exertion

Neuroimaging

Old headaches

- Most old, chronic headaches do not require neuroimaging.
- If a person has the characteristic symptoms of a migraine, neuroimaging is not needed as it is very unlikely the person has an intracranial abnormality.
- If the person has neurological findings, such as weakness, on exam, neuroimaging may be considered.

Neuroimaging

New headaches

- All people who present with red flags indicating a dangerous secondary headache should receive neuroimaging. The best is Non-contrast computerized tomography (CT) scan is usually the first step in head imaging as it is readily available in Emergency Departments and hospitals and is cheaper than MRI.
- Non-contrast CT is best for identifying an acute head bleed.
- Magnetic Resonance Imaging (MRI) is best for brain tumors and problems in the posterior fossa, or back of the brain. MRI is more sensitive for identifying intracranial problems


THANK
YOU!