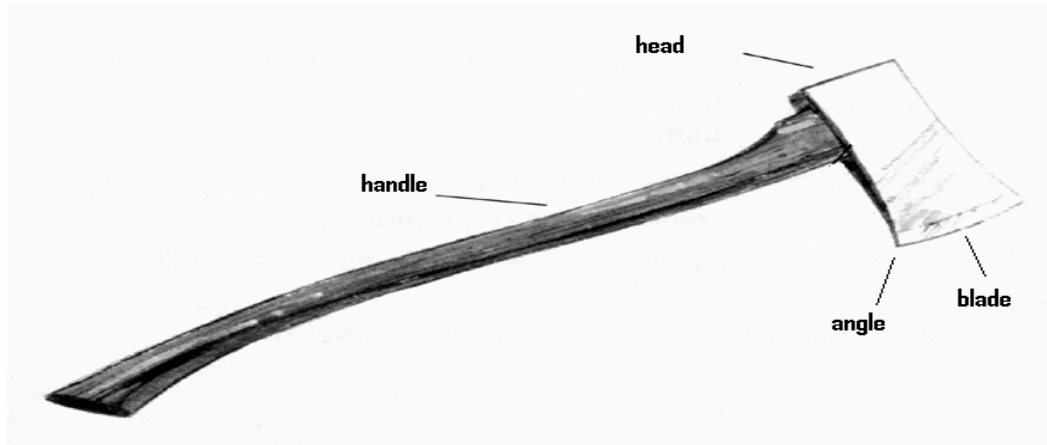


2- Skull fractures due to sharp instruments

Sharp and heavy instruments (e.g. axe = فأس)

Injuries produced by an axe :



- The **blade** may cause 3 types of fracture :
 - ⌘ Cut fracture
 - ⌘ Cut comminuted fracture
 - ⌘ Chipped fracture

depends on the force

cut fracture → (low force)

Cut comminuted → (high force)

If blade passes tangential (تلامس) to the outer table → chipped Fracture

- The cut may be triangular if the striking is done with the **angle**.
- The striking with the **head** (blunt instrument) of the axe cause:
 - ⌘ localized Depressed Fracture (low force) → small SA
 - ⌘ Depressed comminuted fracture (high force)
- The **handle** of the axe (blunt instrument) cause fissure fractures.

v.imp : chipped fracture is the removal of the outer table of skull → it's a dangerous wound without permanent infirmity .
-remember that dangerous wound heals in more than 20 days .

Sharp and light instrument e.g. knife.



∞ Cut fracture

∞ Chipped fracture:

This may be from up to down or tangentially causing removal of the outer table.

Remember : axe → blade → cut ,cut comminuted or chipped fracture
→ angle → triangular cut fracture
Blunt instrument { → head → localized depressed or depressed comminuted F
→ handle → fissure fracture .

Knife → chipped or cut fracture

FRACTURES OF THE BASE

They are more common than fractures of the vault because **the base is less elastic** and is weakened by the presence of multiple foramina. Usually fissure fracture .

Causes:

1. Extension of a vault fissure fracture to the base.
 2. Indirect trauma as falling on the feet or buttocks.
 3. Rarely, by direct trauma as bullet injuries.
- **Fracture in Anterior fossa:**
It presents by black eye, subconjunctival hemorrhage.
 - **Fracture in Middle fossa:**
bleeding from the ear.
 - **Fracture in posterior fossa:**
Irritation of Meninges → neck stiffness and hemorrhage.

Healing of skull fractures:

A- Healing of fissure fracture: (no bone loss)

****dangerous wound without permanent infirmity bcoz it takes more than 20 days to heal .**

- 1- The edges are glued by serous exudates in about **one week**.
- 2- Smoothing of the edges in about **2-3 weeks**.
- 3- Complete closure with osseous in **3-4 months. (complete healing)**

B- Healing of depressed / comminuted fracture (there is a bone loss)

Doesn't heal due to bone loss → replaced with fibrous tissue → leads to permanent infirmity .

****dangerous wound with permanent infirmity**

C- Healing of cut fractures.

As those of fissure fractures.

N.B: Sepsis appears in the skull in the form of bone erosion affecting either the outer, inner or both tables within 4-6 weeks. Bone erosion indicates that the cause of death is possibly septic intra-cranial complications – meningitis, brain abscess, encephalitis, osteomyelitis or sinus thrombosis. → mouse eating appearance.

لأننا فتحنا العظم لما ال fracture وصل لل inner table عشان كذا صار فيه infection

☞ Y3ni chipped fracture will not cause infection .

INJURIES TO MENINGES

1- Extradural =epidural hemorrhage (Traumatic) due to:-

- 1- Tearing of the middle meningeal artery or its branches.
- 2- Rupture of diploic vessels, here the bleeding is slight.

Hematoma is present between bone and dura, its size depends on the blood vessels cut. The brain is flattened and if huge, the medulla may be found herniating from the foramen magnum.

2- Subdural hemorrhage:-

A- Traumatic:

i- Acute: due to tear of the vessels in subdural space .or extension of extradural .

ii- Chronic (pachymeningitis haemorrhagica):

قصة الرجال الي كان سكران وماشي ويخبط في كل مكان قاموا مسكوه الشرطة وبرضو صاروا يخطون فيه .. خبطة ولا صار له شي وخبطة ولا صار شي .. وحده ورا وحده ورا وحده الرجال مات فجأة . مانقول انه مات من اخر ضربة

Although this type is spontaneous yet a minor trauma is usually present, initiating it (but does not cause it).

B- pathological : (hypertension- blood disease)

- 1- Patients with atherosclerosis.
- 2- Blood diseases.
- 3- General paralysis of the insane (G.P.I.)
- 4- Chronic alcoholism.
- 5- Chronic arsenical poisoning.

The hemorrhage is usually repeated causing encapsulated hematoma, which becomes lamellate.

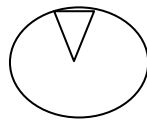
3- Subarachnoid hemorrhage:

Purely Pathological → absence of elastic lamina due to :

b- congenital absence of circle of Willis → congenital aneurysm

c-sub acute bacterial endocarditis (SBE) → formation of infected emboli → aneurysm

4- Intracerebral hemorrhage:-



A- Traumatic:

The amount of blood along the surface of the brain is much more than inside.

i- Coup injury: hemorrhage is directly related to the trauma.

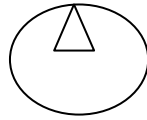
ii- Contre-coup: hemorrhage is at the opposite side to the blow.

Mechanism :

- 1- Bony ridge: hit 4m the back → brain forced to move forward → find the bony ridge → brain injury .
- 2- Section force : زي لما تركيب الباص فجأة يفرمل يصير اندفاع مفاجئ للأمام وبعدها رجوع للخلف مباشرة و بهدوء → create -ve pressure
- 3- Brain layer: زي ورقة الكوتشينا → sliding above each other → stretching & tearing B.V in between .

The importance to know :

- Medicolegal
- Neuro surgeon → if C.T.scan not available .



B- Pathological:

The amount of blood along the surface of the brain is less than inside.

Artherosclerosis of cerebral artery → hypertension → bleeding inside the brain .

Diagnosis of hypertension at P.M.

- Hypertrophy of left ventricle - Nephrosclerosis
- Atherosclerotic cerebral arteries: Tortuous, thick whitish and patent when cut. Normal cerebral arteries are straight, thin, bluish and collapsed when cut.

Remember :

Intra –cranial = every thing inside the skull
(subdural-subarachnoid)

Intra –cerebral = inside the brain (below pia
matter)

Done ☺

GOOD LUCK

Reham al-muhaya