



# **PATHOLOGY**

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★ Clinically, patients can be lucid for several hours between the moment of trauma & the development of neurologic signs. (no neurological signs after the trauma) خادع

The arterial epidural H may expand rapidly & is a neurosurgical emergency requiring prompt drainage, (usually through Burr hole). → circular incision in the skull

## Subdural Hemorrhage

★ The rapid movement of the brain that occurs in trauma can tear the bridging veins, majority of which extend from the cerebral hemispheres through the subarachnoid & subdural space → to empty into superior sagittal dural sinuses. These veins are particularly prone to tearing, & their rupture leads to H into the subdural space, most lesions begin in the parasagittal region

☹ In elderly patients, with brain atrophy, the bridging veins are stretched out & the brain has additional space for movement, accounting for the higher rate of subdural H in elderly patients, even after relatively minor head trauma.

☹ Infants are also susceptible to subdural H, because their bridging veins are thin-walled.

► Subdural H **most** often become **manifest within the first 48 hours after injury**. They are most common over the **lateral** aspects of the cerebral hemispheres & are **bilateral** in about 10% of cases. (I) **Focal neurologic signs** are attributable to the pressure exerted on the adjacent brain, but (II) often the clinical manifestations are **nonlocalizing** & include headache or confusion. ☹️ In time there may be slowly progressive neurologic deterioration, **rarely** with acute decompensation.

slower than

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life threatening ← "نا" و "س" ← due to ↑ ICP.

► **Grossly**, the acute subdural H appears as a **collection of freshly clotted blood apposed along the contour of the brain surface**, without extension into the depths of sulci (F23-13C & 9-21). The underlying **brain is flattened**.

سبب النزيف الوعائي  
بضغط عليه.

→ Subdural H is **venous bleeding**, & is self-limited; breakdown & organization of the H take place over time:  
(1) **by lysis of the RBC (in about 1 week)**,  
(2) **growth of fibroblasts from the dural surface into the H (in 2 weeks)**, & (3) **early development of hyalinized connective tissue (in 1-3 months)**, which is **attached to the inner surface of the dura** & is not adherent to the underlying arachnoid.

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9.21 Subdural haemorrhage (subdural haematoma): brain

## F 9-21: **Subdural hemorrhage (hematoma): brain.**

☠ A massive subdural hemorrhage over the left **fronto, temporo, parietal** regions extends over the inferior surface of the hemisphere. غير خارقة.

★ **Most** subdural hemorrhages follow **blunt injury to the skull** ; & in the elderly they may occur without a history of direct injury to the head. due to atrophy. But in this case, the cause was an ☠ **extensive fracture of the skull.**

▶ Subdural hematomas commonly rebleed (**chronic subdural hematomas**), presumably from the thin-walled vessels of the granulation tissue.

▲ The treatment of subdural hematomas is to remove the organized blood & associated organizing tissue.

more common than acute.

MRI/CT scan

سعدوا في ايجاد هذه ال Hematomas (باقي السلايد مش داخل).

## INFECTIONS OF THE CNS

★ The brain & its coverings can be affected by many infectious agents, some have a **relative or absolute predilection for the nervous system** (e.g., rabies), others can affect many other organs as well as the brain (e.g., *Staphylococcus aureus*).

★ Damage of the infectious agents to nervous tissue may be the consequence of:

- (1) **Direct injury** by the **infectious agent** to neurons or glia, or
- (2) **Indirectly**, through the **microbial toxins**, or through the
- (3) **Destructive effects of the inflammatory response**, or the
- (4) **Influence of immune-mediated mechanisms.**