CNS pathology
Third year medical students
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LAB 1 for mid material
red neurones

- Red neurones are the first manifestation of acute neuronal damage.

- Features: shrunken cells, pyknotic nuclei, lost nucleoli, red cytoplasm.

- Red cytoplasm is due tools of Nissel substance
Gemistocytes

- Are hypertrophied, hyperplastic astrocytes.
- Have large nuclei, prominent nucleoli, abundant eosinophilic cytoplasm.
- Seen in any chronic injury or in the stage of repair.
- Astrocytes are the cells responsible for gliosis.
Onion bulb appearance

- This pic shows the thickened nerve fibres due to increased number of scan cells after several cycles of de and re-myelination.
- The appearance is termed: onion bulb.
- It manifests clinically as hypertrophic neuropathy.
Shwannoma

Note that the tumour is well circumscribed, encapsulated and abuts a nerve (as if it hugs the nerve but not actually arising from it.. this is because it is a proliferation of Schwann cells that are adjacent to the nerve.)
Multiple neurofibromas in neurofibromatosis 1
Brain infarct
Brain infarct.. note the cavitation this is liquefactive necrosis
Duret hemorrhage

The end result of temporal medial lobe (transstentorial) herniation is compression of the brainstem (midbrain and pons) and stretching of small arterial branches to cause Duret haemorrhages.

Duret haemorrhages are small lineal areas of bleeding in the midbrain and upper pons of the brainstem. They are caused by downward displacement of the brainstem. They are named after Henri Duret.