

Subarachnoid haemorrhage

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05.02.2019

Introduction

- What is it?
- Presentation
- Causes
- Investigation
- Complications
- Management

Subarachnoid haemorrhage

- leakage of blood into subarachnoid space
- spontaneous
- traumatic

Presentation

Presentation

- acute onset
- headache - abrupt, explosive - ‘thunderclap’
‘worst headache ever’
occipital, with neck pain,
vomiting
 - SAH until proven otherwise
- altered consciousness → coma
- meningeal irritation
- ‘warning bleeds’

Presentation ... - other

- focal symptoms/ signs
 - with involvement of adjacent structures
- cranial nerve palsies -
 - III - with post. communicating A. aneurysm
- photophobia
- retinal haemorrhages - ‘subhyaloid’



Causes

- aneurysm 60-70%
- peri-mesencephalic venous haemorrhage 15-20%
- AVM 5-10%
- other -
 - vasculitis
 - bleeding tendency
 - tumour associated
 - drug abuse
 - spinal SAH

- ‘Berry’ aneurysms
 - usu. at arterial bifurcations
 - ant. communicating A.
 - post. communicating A.
 - middle cerebral a.
 - ICA/ MCA origin
- can be associated with
 - polycystic kidney disease, coarctation of aorta



Investigation of SAH

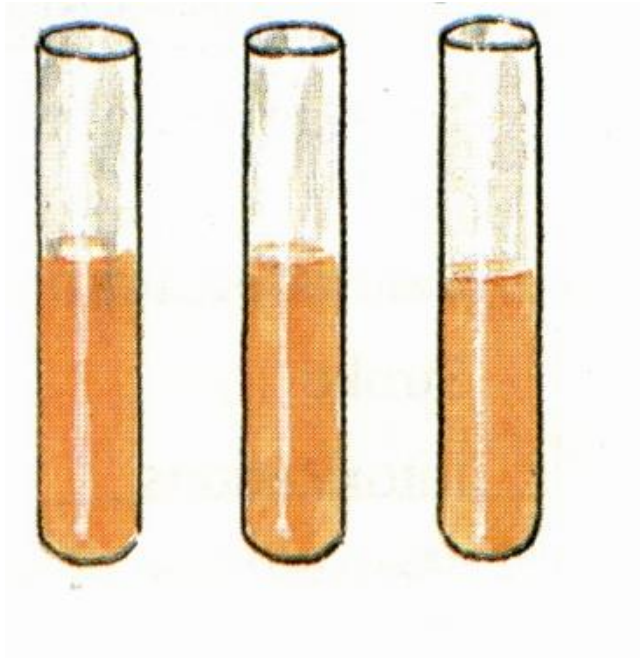
Investigation of SAH

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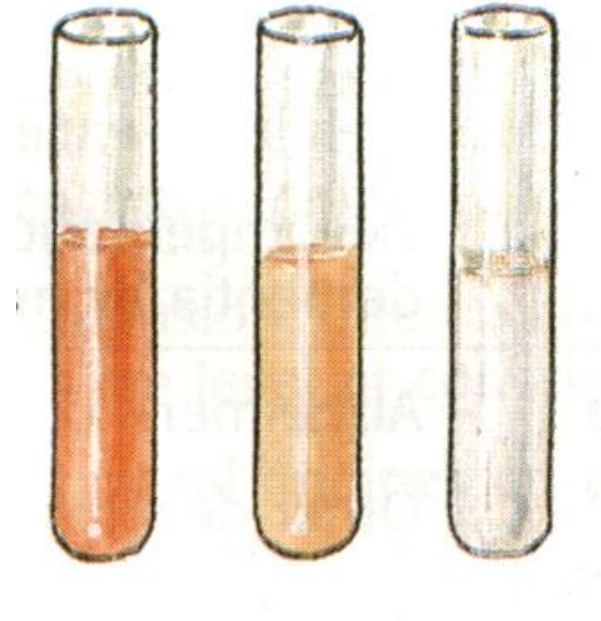
Investigation - 1- confirm SAH

- CT scan - non-contrast
- CSF
 - uniformly blood stained CSF
 - xanthochromia after a while
 - on spectrophotometry

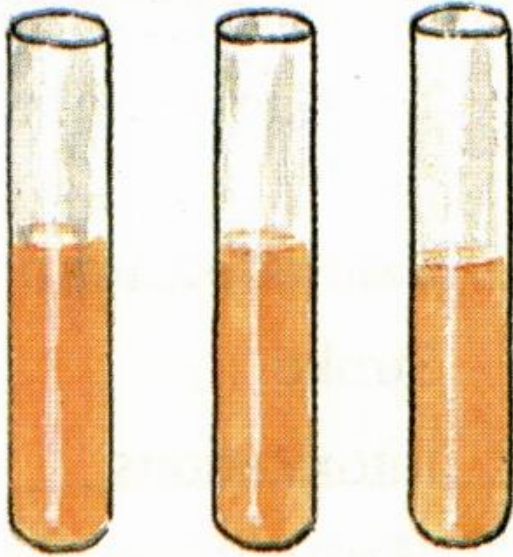




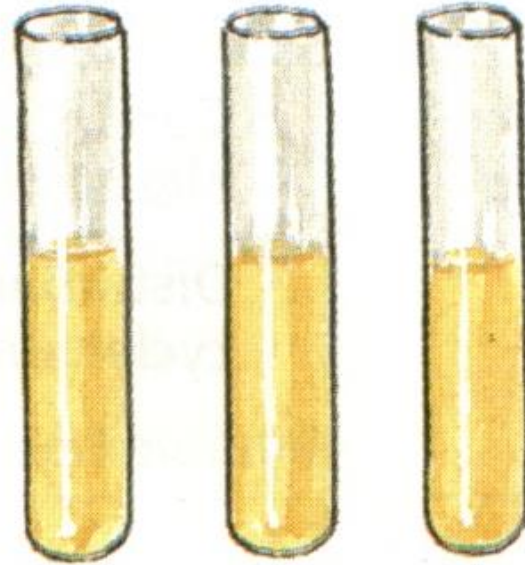
SAH



traumatic tap



SAH



SAH - late tap -
xanthochromia

Investigation - 1- confirm SAH

- CT scan - non-contrast
 - +ve - <24h - 90-95%
 - 3d -80%, 5d -70%, 7d -50%, 2 weeks -30%
- CSF
 - uniformly blood stained CSF
 - xanthochromia - on spectrophotometry
 - only after 2h (time for red cell lysis)
 - >12h - 90%, 3 weeks - 70%, 4 weeks - 40%

Investigation - 2- detect source of bleeding

- angiography
 - conventional contrast angio/ DSA
 - CT angio
 - MR angio

IMAGING

82
10
28

Complications

Complications

Local

- raised ICP
- re-bleed
- acute hydrocephalus
- ‘vasospasm’ -
delayed ischaemia -
infarcts
- seizures

Systemic

- hyponatraemia
- hypovolaemia
- hypotension
- fever
- hyperglycaemia
- neurogenic pulmonary
oedema
- cardiac - arrhythmias,
ECG changes

Management - General care

- Medical emergency
- ABC
- bed rest
- check on - fluids, sodium, glucose, feeding, ...
- pain relief, anti-emetic
- avoid straining

Management - specific treatment

- nimodipine
 - prevent delayed cerebral ischaemia
- neurosurgical evaluation in ALL cases
- surgery - early, less severe cases
 - aneurysm clipping
 - endovascular treatment - coiling

Subarachnoid haemorrhage

- medical emergency
- thunderclap headache, neck stiffness
- CT 1st, then LP
- neurosurgical evaluation