

A 36 year old female presented to your tertiary emergency department with severe headache. Whilst one of your registrars is performing a lumbar puncture, the patient experiences a tonic clonic seizure.

a) List Six (6) potential causes for her seizure (6 marks)

Eclampsia

metabolic- hyponatremia, hypoglycaemia, hypocalcaemia

intracerebral bleed - SAH, extradural, intracerebral

Infective - meningitis/encephalitis

Toxicological - TCA, amphetamines, LA during LP

Primary seizure disorder – epilepsy

ETOH withdrawal

Cavernous sinus thrombosis

encephalopathy - hypertensive, liver decompensation etc

sudden drop in ICP (coning) – although this was a stretch

SOL/raised ICP - only 0.5 mark

b) list three (3) congenital and three (3) acquired differential diagnosis for her CT findings (6 marks)

Congenital:

Aqueduct stenosis

Neural tube Defect

Arachnoid cysts

Dandy-Walker syndrome

Chiari malformation

Intrauterine infections (TORCH)

Acquired:

Intraventricular blood - SAH, trauma etc

scarring post meningitis

SOL – particularly post fossa

Paget's disease

severe ETOH degeneration – maybe – although would expect more than just ventricles to be enlarged.

blocked VP shunt - a stretch considering you cannot see any evidence of shunt on this slice

normal pressure hydrocephalus NOT appropriate given this patients age - if she was 70 it would be expected

benign intracranial HTN or pseudotumor cerebri does not cause hydrocephalus on imaging.

c) list three (3) clinical features which mandate CT prior to LP in the setting of headache. (3 marks)

Papilloedma (or loss of retinal pulsations which is an earlier sign)

cushings response - brady/HTN

Unequal pupils (Anisocoria) – very late sign,

Dilated unresponsive pupils

Focal neurology

New seizure
Altered mental status