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Isolated Non-traumatic Convexity Subarachnoid Haemorrhage; Report of a Challenging Diagnosis

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INTRODUCTION

Subarachnoid haemorrhage (SAH) most commonly occurs due to aneurysmal rupture, where blood is found around the circle of Willis or Sylvian fissure. Rarely, bleeding may be limited to the convexities of the brain. We report a case of convexity SAH presenting as recurrent thunderclap headaches with normal angiography.

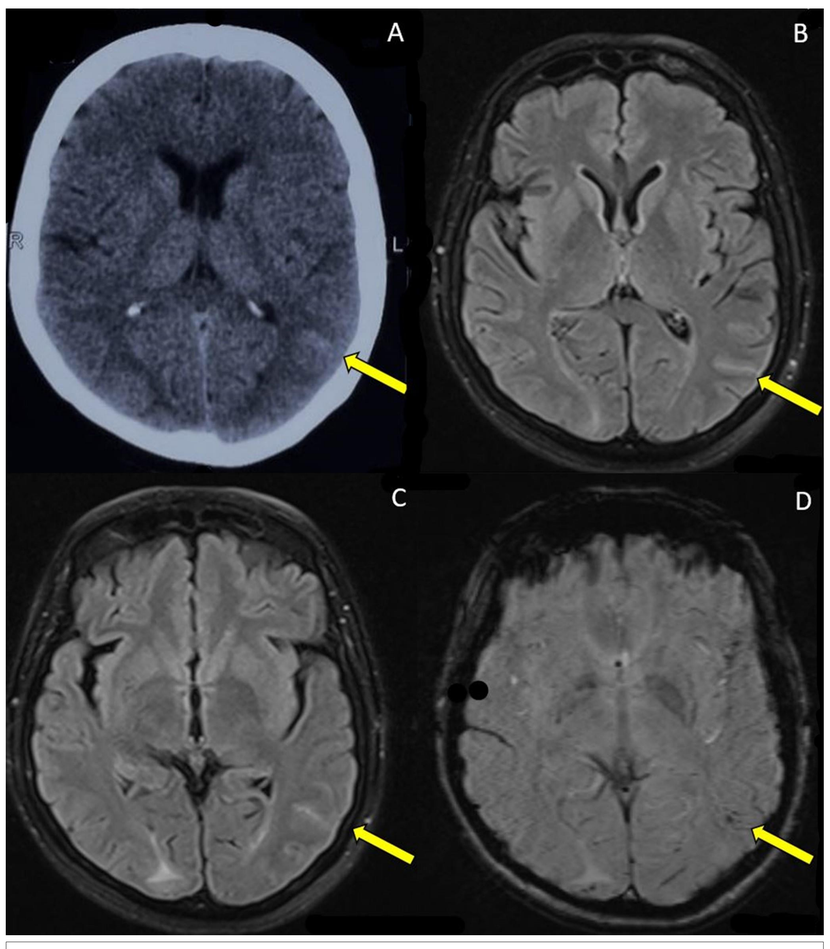

Figure 1: Brain Imaging, A – Non-contrast CT, B,C – MRI/FLAIR sequence, D – MRI/SWI sequence

CASE PRESENTATION

A 53-year-old female presented with three episodes of thunderclap headache over a five-day period. This was accompanied by vomiting and vertigo. She denied ever having an episodic headache disorder. Her history was significant for ischemic heart disease for which she had undergone coronary stenting and was on aspirin. No vasoconstrictive triggers were identified. Her blood pressure was 130/80 mmHg, with a normal general examination. There was no neck stiffness, papilledema, nor any focal neurological deficits. Basic blood investigations, inflammatory markers and coagulopathy screen were normal. Non-contrast computerized tomography (CT) brain revealed hyper-density within the sulci of the left temporo-occipital lobe suggestive of SAH (figure 1A). This was confirmed by magnetic resonance imaging (MRI) (figure 1B-D). There were no other abnormalities. She was started on oral nimodipine and kept under observation. Vascular imaging in the forms of CT angiography, MR angiography, and digital subtraction angiography (DSA) as well as MR venography were all normal (figure 2). Aspirin was restarted on day 5 and she was discharged on day 12, following an uneventful hospital stay. DSA performed after 2 weeks was also unremarkable. The patient remains under close follow up.

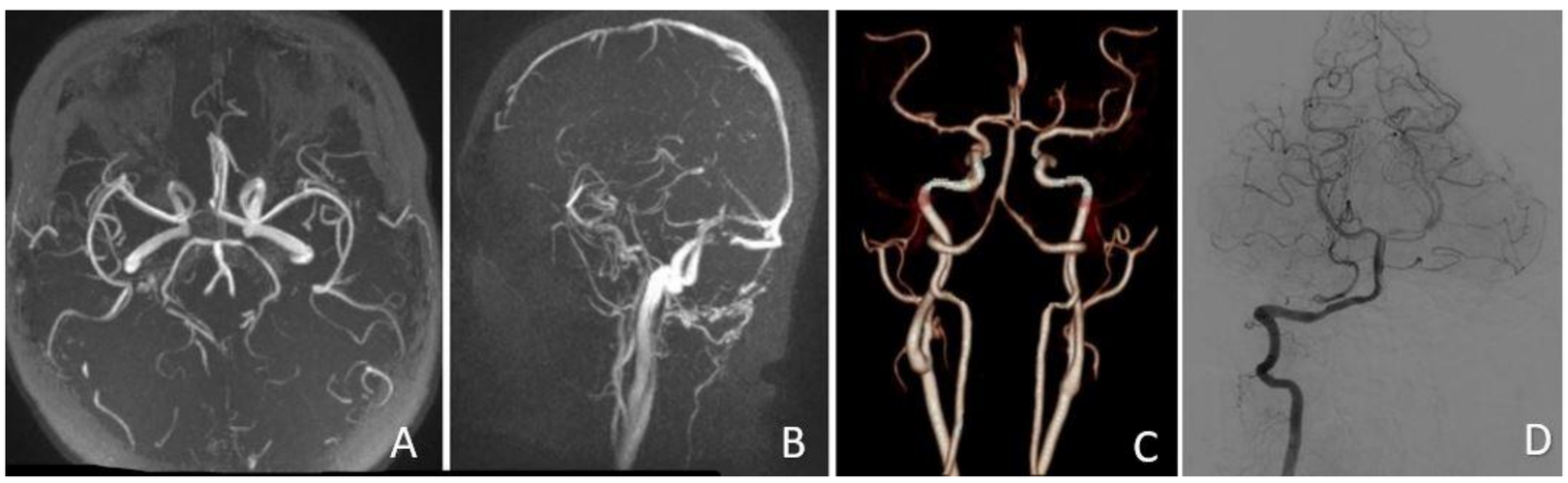

Figure 2: Vessel Imaging
A - MR angiogram
B – MR venogram
C – CT angiogram
D – Digital subtraction angiogram

DISCUSSION

Convexity SAH is an uncommon entity which occurs secondary to venous thrombosis, amyloid angiopathy, vasculitis, arteriovenous malformations/fistulae, or internal carotid artery stenosis. Reversible cerebral vasoconstriction syndrome (RCVS) and posterior reversible encephalopathy syndrome (PRES) also give rise to this condition. Although, her history was suggestive of RCVS, with a RCVS2 score of 7, this could not be radiologically confirmed. We conclude this to be a rare case of "angio-negative" convexity SAH.

CONCLUSION

Subarachnoid haemorrhage may rarely manifest as isolated bleeding into sulci. Although it has a good prognosis, etiology should always be sought.