



# A CASE OF CHILDHOOD STROKE

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## INTRODUCTION

Haemorrhagic stroke in children is rare with incidence of approximately 1 to 1.7 in 100 000 per annum<sup>(1)</sup>. Early recognition and timely management are crucial in preserving cerebral function, promoting healing and recovery<sup>(1)</sup>.

## CASE REPORT

An 8-year old girl was brought into our Emergency Department (ED) for altered mental status preceded by sudden headache, with projectile vomiting. She was previously well and there was no recent trauma. Patient was an ex-premature at 30-week as her mother had preeclampsia. Upon reassessment, her Glasgow Coma Scale (GCS) was E<sub>2</sub>V<sub>2</sub>M<sub>5</sub>, pupils were reactive to light and her vitals showed no panoply of Cushing reflex. Elective intubation was performed for cerebral protection.

Computerized Tomography (CT) brain demonstrated cerebellar haemorrhage with acute hydrocephalus. Decompression craniotomy and frontal extra-ventricular drain were performed. She made a conspicuous recovery with no neurological complications. Subsequent CT Angiography and Magnetic Resonance Angiography of the brain showed no abnormal vasculatures. Patient's full blood count and coagulation profile were normal. Unfortunately, there were no further haematological neither autoimmune testing done for this child.

## DISCUSSION

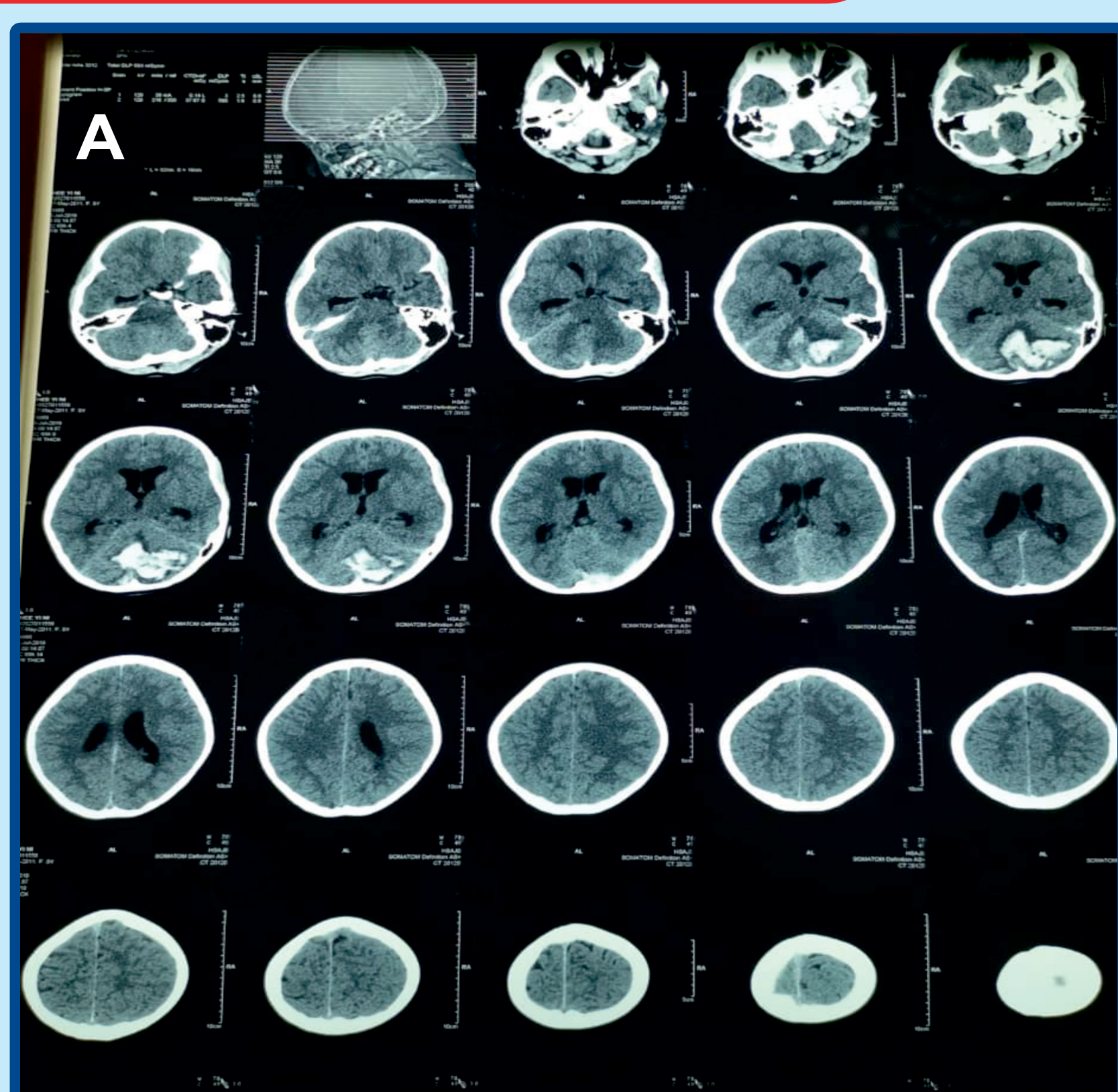
Most common cause of childhood haemorrhagic stroke is vascular malformation followed by haematological disorder and neoplasm<sup>(1,2)</sup>. Digital subtraction angiography remains the gold standard imaging to diagnose Arteriovenous Malformation (AVM)<sup>(5)</sup>. Cryptic AVM which is also known as "hidden" or small AVM that buries at brain parenchyma, it is sometimes not evident through angiography<sup>(5)</sup>. Its diagnosis is infrequently made during surgery or autopsy<sup>(5)</sup>. However, majority of the cases remain idiopathic which some may speculate it could be due to vasculitis<sup>(3,4)</sup>.

Hematological abnormalities that might provoke haemorrhagic stroke in children are thrombocytopenia, haemophilia and couglupathies<sup>(3,4)</sup>. Outcome is generally favourable in children over 2 year-old comparing to those below 2 year-old, who experience more complications due to impaired cerebral autoregulation<sup>(2)</sup>. Prognosis is based on clinical condition during admission, volume and location of bleed<sup>(3,4)</sup>. Cerebellar is found to be an egregious site for haemorrhagic stroke in children and it is often been affiliated with unfavourable outcome<sup>(3)</sup>.

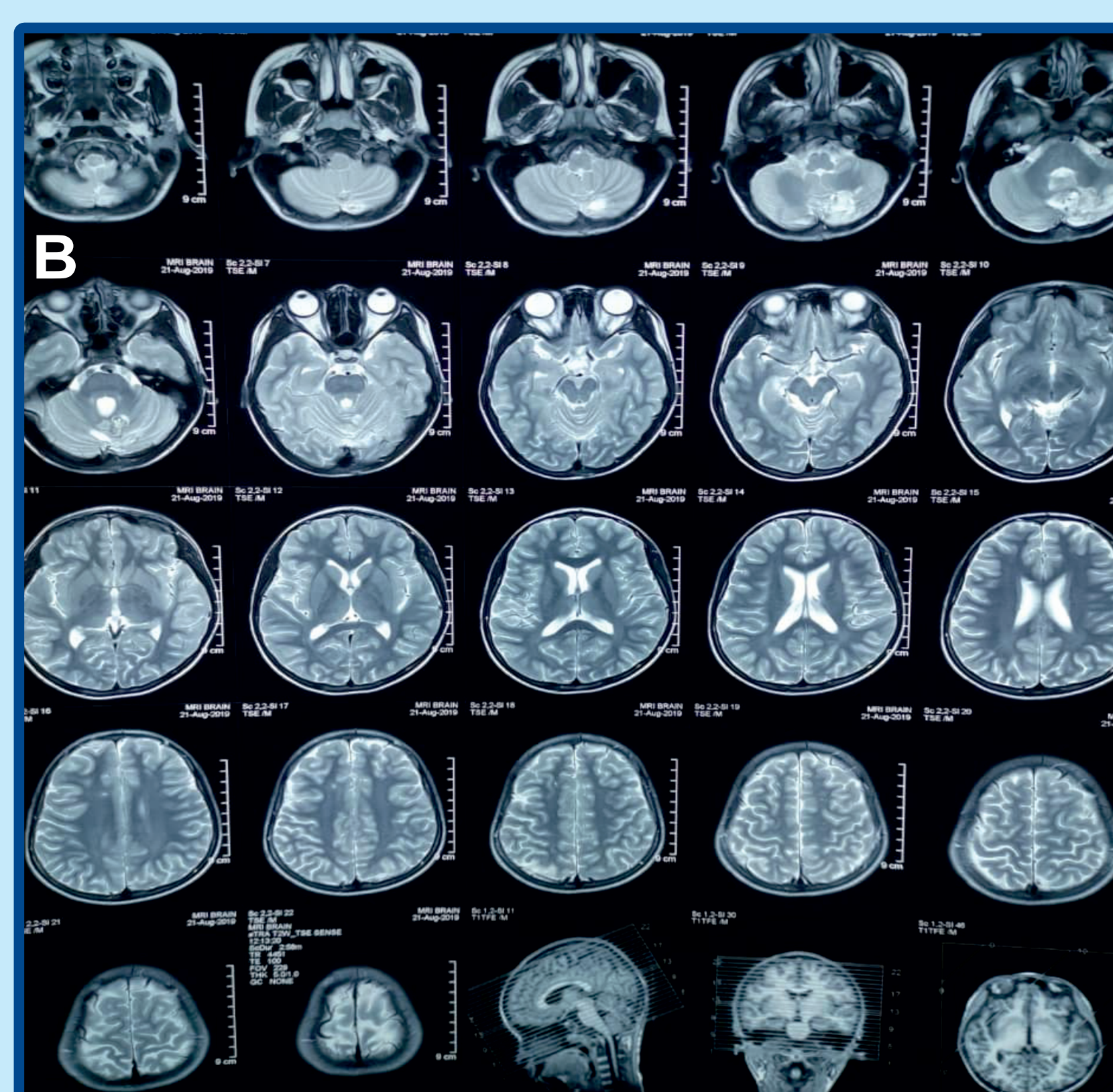
## CONCLUSION

A high index of suspicion, early recognition and timely management are paramount's in managing haemorrhagic stroke in children<sup>(1)</sup>. Intracranial haemorrhage remains a debilitating disease considerably, especially when there is no identifiable underlying cause<sup>(1,2)</sup>. We are glad our patient made a remarkable recovery.

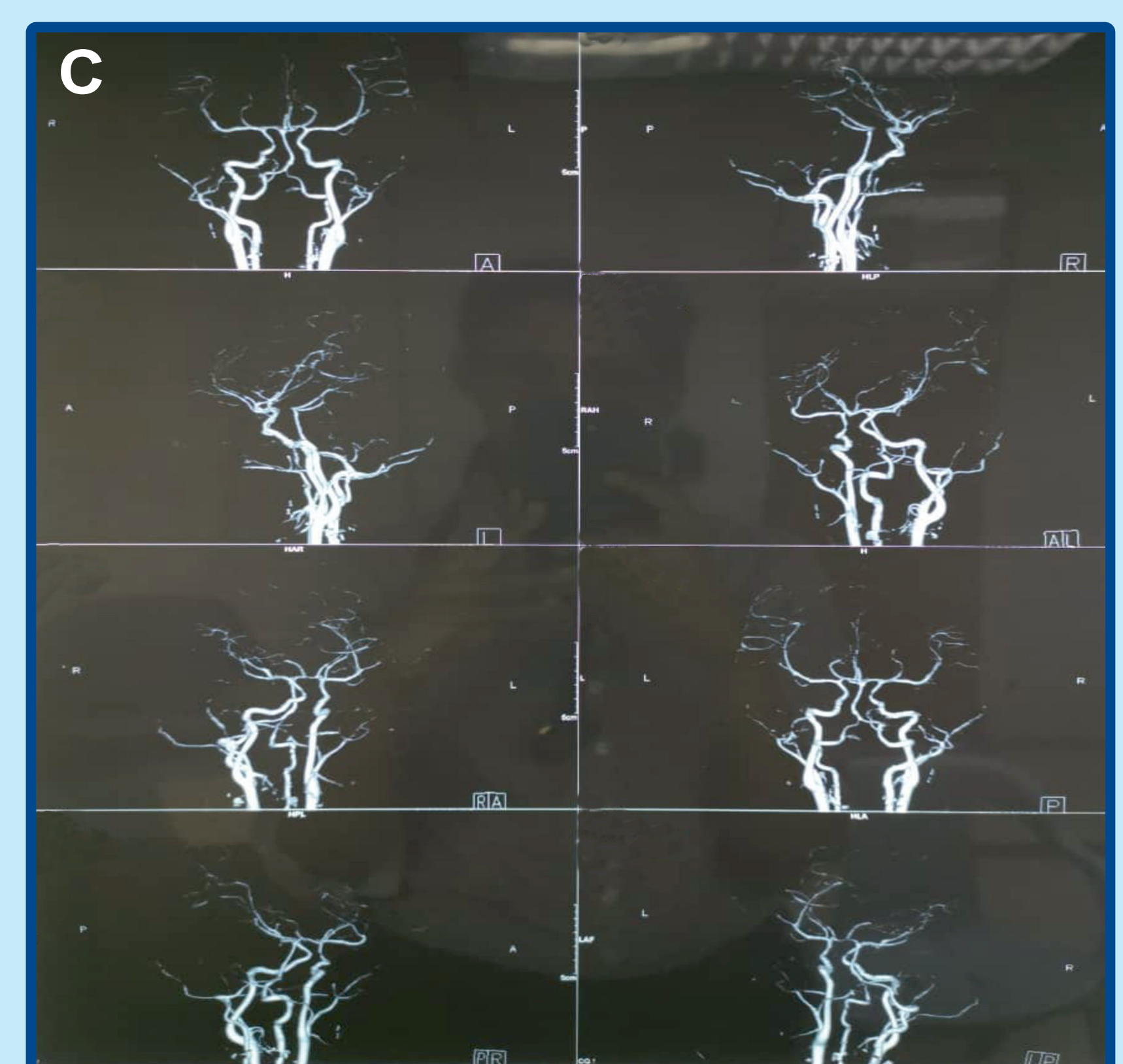
## RADIOLOGICAL IMAGES



**A) CT BRAIN PLAIN - CEREBELLAR HEMORRHAGE WITH ACUTE HYDROCEPHALUS**



**B) MRI - POST OPERATIVE CHANGES WITH RESIDUAL BLEED. NO AVM OBSERVED**



**C) MRA / MRV IMAGE - NO AVM OR ANEURYSM**

## REFERENCES

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