83 Tangled Throughout Life : The Rare Case Of Paediatric Ruptured Arteriovenous Malformation

Syed Muhammad Hafiz Syed Hassan[1], Nurul Huda Ahmad[2]

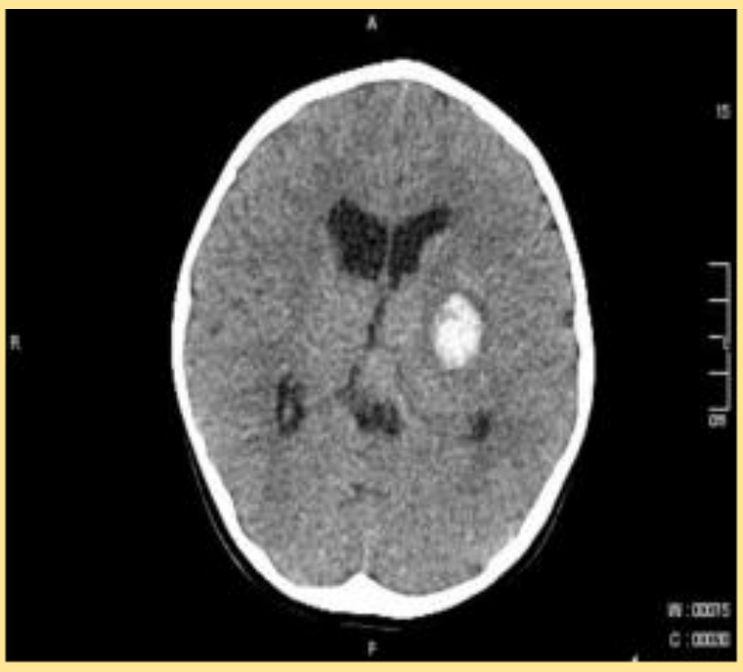
[1] Hospital Selayang, Selangor, Malaysia
[2] Universiti Teknologi Mara, Selangor, Malaysia

Introduction

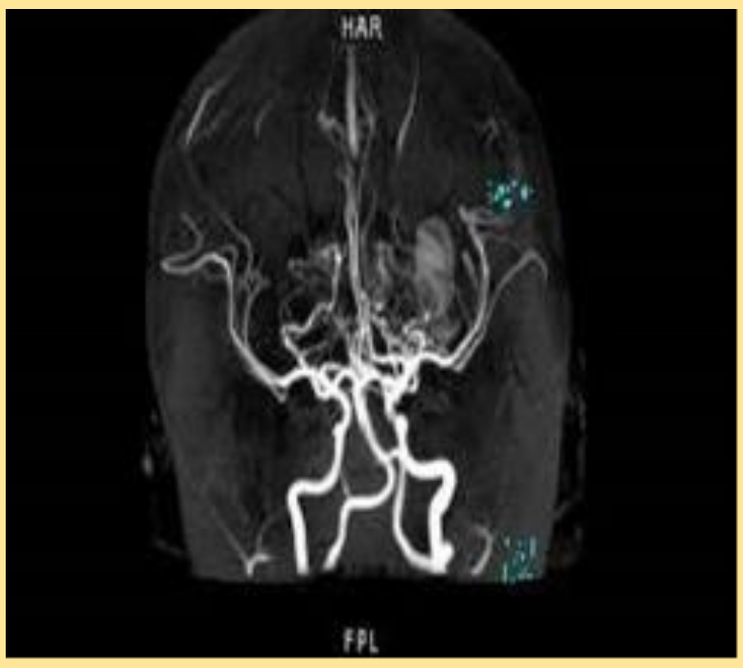
Paediatric cerebral arteriovenous malformation (AVM) is an uncommon occurrence. Symptoms often become apparent following rupture. We describe a case of a young child with ruptured AVM highlighting the rarity of the condition and its prognosis if left untreated.

Case Report

A 3-year-old healthy girl presented with acute onset left facial asymmetry and right sided hemiparesis. At presentation, she was alert and vital signs were within normal range. Neurological examination revealed muscle power of 0 out of 5 with hypotonia and brisk reflexes in both right upper and lower limb. 7th cranial upper motor neuron signs were elicited with absence of right sided forehead wrinkle and nasolabial fold. Non-contrasted computed tomography (CT) scan of the brain showed left basal ganglia haemorrhage measuring 2.2 x 2.0 x 2.6 cm with midline shift of 0.5cm. Magnetic resonance angiography (MRA) confirmed grade IV left thalamus AVM with incidental finding of right AVM. It was inoperable due to its deep-seated location and was planned for embolization. Unfortunately, she defaulted her planned treatment and subsequent follow up.



Non-Contrasted CT Brain
Intraparenchymal haemorrhage at left basal ganglia with perilesional oedema



Magnetic Resonance Arteriogram/Venogram
Multiple small feeding arteries arising from both internal carotid arteries with enlarged tortuous vein seen in both basal ganglia

Discussion

Prevalence of cerebral AVM in the whole population is less than 1%, more so in paediatric population. Clinical presentation of cerebral AVM includes seizure, neurological deficits and alteration in conscious level. Children with intracranial bleeding due to AVM has higher burden of morbidity and mortality. Cerebral AVM with fast arteriovenous shunt and absent venous dilatation indicates a high inflow with higher resistance within the nidus and carries annual rupture rate as high as 11.1% as compared to average annual risk of rupture of between 2 to 10%. Surgical resection of cerebral AVM offers highest percentage of obliteration. Mortality rate following single haemorrhage event is 25% if untreated while mortality associated with surgery is reported to be 5%. Large cerebral haemorrhage, Spetzler-Martin grade >3 and deep venous drainage has unfavourable outcome. Adjunctive therapy such as radiosurgery and embolization can be used solely in treatment of AVM where surgery considered too risky.

Conclusion

Paediatric cerebral arteriovenous malformation (AVM) is rare. Left untreated may lead to re-rupture increasing risk of morbidity and mortality.

Declaration of conflict for all authors

None

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