25th Annual Conference of INDIAN SOCIETY OF NEURORADIOLOGY

UNIQUE CASE OF A LARGE ARTERIOVENOUS MALFORMATION OF BRAIN

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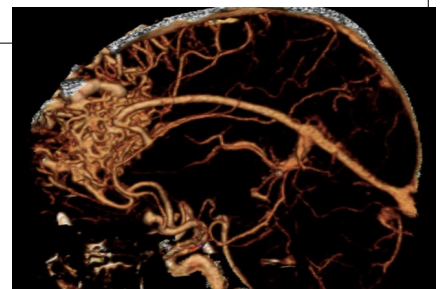
ISNR 2024 HYDERABAD 8th 9th 10th March

INTRODUCTION

Arteriovenous malformations (AVMs) are developmental anomaly of the vascular system, consisting of tangles of poorly formed blood vessels in which the feeding arteries are directly connected to a venous drainage network without any interposed capillary system. The cause of brain AVMs is unknown; it is possibly multifactorial with both genetic mutation and angiogenic stimulation playing roles. AVMs are rare, occurring in about 1 in 100,000 people. AVMs account for approximately 11% of cerebrovascular malformations. Here we present a case of a cerebral AVM in a young female who presented with severe headache.

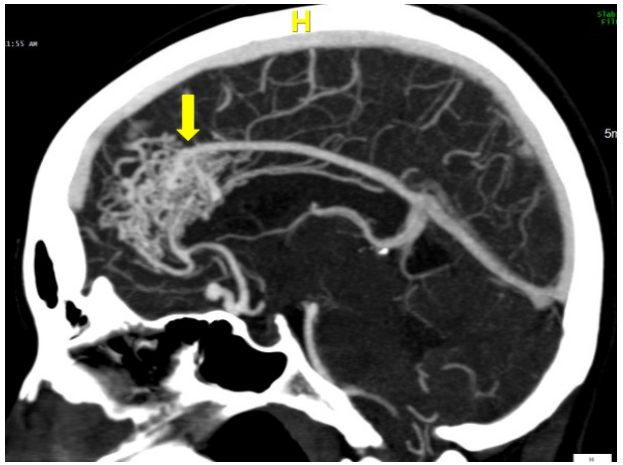
AIMS / OBJECTIVES

To study the imaging features of a large cerebral AVM in the right frontal lobe of the brain.



MATERIALS / METHODS

A 32-year-old female patient presented to our hospital with chief complaints of severe headache which was sudden in onset associated with projectile vomiting. A plain CT of the brain was done on 128 slice Siemens machine, which revealed subarachnoid hemorrhage in the right cerebral hemisphere and an ill-defined hyperdense area was noted in the right frontal lobe. Vascular malformation or a ruptured aneurysm was suspected, and CT brain Angiogram was ordered.

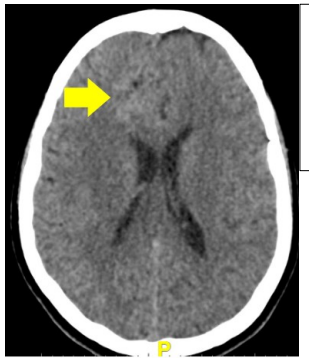


RESULTS & DISCUSSION

On CT brain Angiogram a tangle of intensely enhancing tubular structures embedded in the right parasagittal, anterior and basifrontal lobes, suggestive of nidus with early venous drainage was noted, with arterial supply from right ACA and branches from right M1 MCA and venous drainage into dilated superficial cortical vein, superior sagittal sinus, inferior sagittal sinus suggestive of Right frontal arteriovenous malformation. Other findings include thickened ACOM with a lobulated aneurysm with narrow neck orienting anteriosuperiorly with no smaller branches in the vicinity of aneurysm.

DISCUSSION- Headache with parenchymal hemorrhage is the most common presentation, occurring in about half of all patients. Seizure and focal neurologic deficits are the initial symptoms in 25% each. The annual hemorrhage risk is approximately 3%, but, depending on the clinical and anatomical features of the AVM, the risk may be as low as 1% per year or as high as 33% in hemorrhagic lesions with deep brain or brainstem location and exclusively deep venous drainage. Other features associated with bleeding include feeding artery aneurysm and venous outflow restriction. AVMs are usually asymptomatic, however lesions more than 3cm usually show symptoms like headache and seizures due to microbleeds. In our case the size of the AVM is much more than 3cm and it remained asymptomatic for a long time.

CONCLUSION



AVMs are congenital vascular developmental anomalies however they may present at a later stage with complications like intracranial bleed, seizures and neurological deficits. Prompt treatment must be done in these cases to prevent further bleeds.

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