

(A Health Awareness Initiative)

## NEURO NEWSLINE

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### ARTERIOVENOUS MALFORMATION (AVM) OF THE BRAIN .....

#### A treatment protocol !

Arteriovenous malformation is an abnormal collection or tangle of blood vessels connecting the arteries and veins in the brain. The arteries carry the oxygen-rich blood from the heart to the brain, and the veins carry the oxygen-depleted blood to the lungs and heart. The brain AVM disrupts this vital process as it is devoid of the capillary vessels that bridges the arteries and veins in general. Arteriovenous malformations are congenital in origin and can develop anywhere in the body but occurs most frequently in the brain and spinal cord.

The prevalence of brain AVM is less than 1 % in the population and has a slight male preponderance. Brain haemorrhage is the most common presentation of these malformations, and almost 50 % of them bleed due to rupture of an AVM. Some patients with AVM present with seizures (epileptic fit) and stroke (due to ischemia). Large high flow

AVMs produce headache and sometimes vomiting due to raised intracranial tension.

#### DIAGNOSIS AND TREATMENT

MRI / MR-A (angiography) or CT brain with contrast is useful to arrive at the diagnosis of an

stereotactic radiosurgery using X knife (includes cyber knife therapy) or gamma knife.

#### PROGNOSIS

A good resection of the AVM gives an excellent outcome in these patients. However, if the

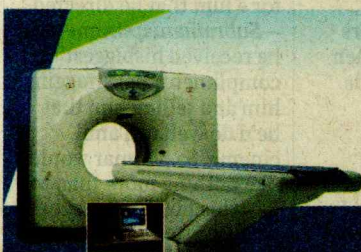


**"Brain haemorrhage is the most common presentation of these malformations, and almost 50 % of them bleed due to rupture of an AVM."**

Live operative picture showing an AVM operated at our institute

AVM. CT/MR angiography or a digital subtraction angiogram (DSA) will help in the planning of treatment of these malformations. Microsurgical excision of the arteriovenous malformation is the ideal procedure as long as it is not in an eloquent area of the brain. Large AVMs can be treated with embolisation using angiographic methods combined with microsurgery. Small sized malformations are generally treated with

malformation is situated in deep seated areas or eloquent regions of the brain, one need to consider the options of embolisation or radiosurgery/microsurgery. A combination of various treatment modalities will offer a safer outcome in the difficult arteriovenous malformations. Decision making and the experience of the surgical team is crucial for the best outcome in this group of patients.



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