

(A Health Awareness Initiative)

NEURO NEWSLINE

BRAIN ANEURYSM - An intracranial bleed !

Localised dilatation or ballooning of the blood vessel due to weakness in the artery supplying the brain is termed as an 'aneurysm'. The most common type is the saccular aneurysm, also known as the 'berry' aneurysm which is a round outpouching in the blood vessel. In some, there is a uniform dilatation of the blood vessel thus leading to a 'fusiform' type of aneurysm. Chronic hypertension leads to microaneurysms which occur in small blood vessels that supply the deeper parts of the brain (Charcot-Bouchard aneurysms). Depending on the size of the aneurysmal sac it is classified as small (< 15 mm diameter), large (15 - 25 mm) and giant (> 25 mm).

The incidence is difficult to estimate, though the prevalence of brain aneurysms are about 5 % in the normal population. 50 percent of these aneurysms rupture (burst) to cause devastating symptoms. 2 % of these aneurysms present in childhood. Congenital defects in the muscular layer of the artery that supplies the brain leads to cerebral aneurysm formation. Other factors, such as atherosclerotic disease, hypertension,

infections and trauma can predispose to aneurysm formation.*

CLINICAL FEATURES

Rupture (burst) of an aneurysm is the most frequent presentation leading to hemorrhage inside the brain. Sudden



Surgical "clipping" of the aneurysm is considered to be the optimal treatment for most aneurysms that have ruptured to prevent rebleeding.

onset of severe headache usually associated with vomiting, syncope (apoplexy), neck pain and photophobia are its cardinal symptoms ! It can lead to a transient fainting episode at times which maybe ignored by a common man. Headache has been the presenting symptom in 97 % of cases. Some do experience a warning like sudden headache with neck stiffness a couple of weeks earlier. Apart from headache, patients may develop focal neurological weakness or numbness of the limbs. A few patients do develop seizures and some lapse into coma, depending on the severity of the bleed following an aneurysmal rupture. Ocular bleed can

occur in 20-40% of the cases of aneurysmal rupture / subarachnoid hemorrhage.

DIAGNOSIS

A quality CT scan of the brain will detect bleed in the brain and its location. MRI may be helpful in the

subacute stage of a small subarachnoid hemorrhage. Cerebral Angiogram (MR-Angio, 3D CT Angio or a DSA - digital subtraction angiography) remains the 'Gold standard' for the evaluation of cerebral aneurysms. This will demonstrate the source of aneurysm leak in 90 % of cases. Angiogram also reveals the status of the parent artery or blood vessel that is harbouring an aneurysmal complex.

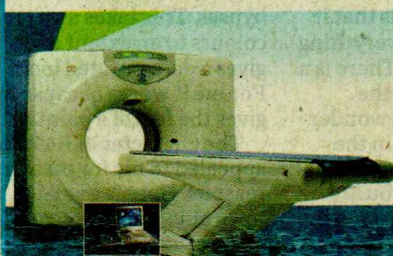
TREATMENT

The treatment for an aneurysm depends on the

condition of the patient, the location of the aneurysm and the experience of the operating neurosurgeon. Surgical "clipping" of the aneurysm is considered to be the optimal treatment for most aneurysms that have ruptured to prevent rebleeding. When the aneurysmal neck cannot be clipped due to the complex location of the aneurysm or poor medical condition of the patient, 'coiling' of the aneurysm using endovascular techniques may be considered. These detachable platinum coils can promote thrombosis of the aneurysmal sac to control bleeding. Concomitant medical therapy to control cerebral swelling, enhancing good circulation in the brain and artificial ventilatory assistance as and when required are instituted. The ultimate outcome depends on the neurological condition at admission to the hospital, the radiological picture of the ruptured aneurysm complex and the age of the patient. Younger the age and a good neurological status at admission to the hospital favours a better prognosis !

Author

Dr. M. J. Arunkumar, M. Ch., DNB
Senior Consultant Neurosurgeon
Hannah Joseph Hospital, Madurai



Hannah Joseph Hospital

Institute of Neurosciences & Trauma

134, Lake View Road, K.K.Nagar, Madurai - 625 020 Ph: 0452 - 2585822, 3918401
E-mail: drmj@arunkumar@gmail.com Website: www.hannahjosephhospital.com