

Newsletter

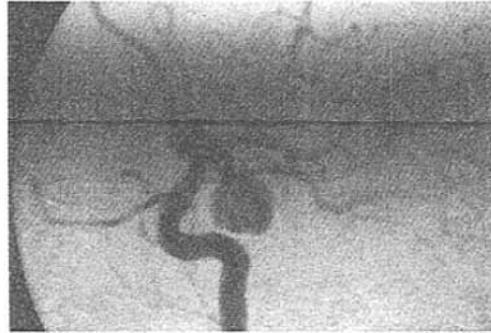
Information about Strokes

James W. Melisi, M.D., Neurosurgeon

Stroke: The sudden and dramatic onset of neurologic deficit.

Apoplexy: (archaic term). The specific neurologic abnormality depends on the location and size of the stroke in the brain.

There are only 2 types of stroke: Hemorrhagic (bleeding) and Ischemic (lack of blood flow), also known as infarction.



Cerebral Arteriogram, showing large unclipped aneurysm

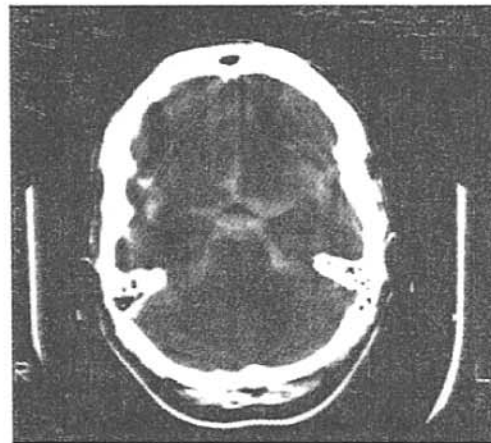
the hemorrhage. If the CAT scan is negative but suspicion remains high, a lumbar puncture may be performed after a Cat scan has shown no evidence of a mass lesion. Definitive treatment of an aneurysm is aimed at excluding the aneurysm from the artery circulation while preserving the normal circulation. This is done through surgery by clipping the aneurysm and/or coiling it from within.

I. HEMORRHAGIC STROKE

Common causes Aneurysms, Vascular Malformations and Spontaneous Intracerebral Hemorrhage

A. Intracranial Aneurysms

Aneurysms represent focal dilations of the bloodvessels of the brain. These dilations result from weakened areas of the blood vessel wall giving the vessel an increased likelihood of rupturing. This gives rise to a subarachnoid hemorrhage (SAH) and/or intracerebral hemorrhage (ICH). Aneurysms can be small (<12mm), large (12-25mm), or giant (>25mm). Multiple aneurysms are seen in 15-25% of patients. It is estimated that between 1 and 12 million Americans harbor intracranial aneurysms (0.5-4%) and about 30,000 people per year suffer from SAH. The risk of rupture of an asymptomatic aneurysm is about 1-3% per year. If they rupture, there is a very high risk of rebleeding. This is often fatal with a mortality rate of 70%. This fact emphasizes the need to treat these early, before a rebleed occurs and if possible, when they are still asymptomatic.



CAT Scan showing subarachnoid hemorrhage

B. Vascular Malformations

4 subtypes: arteriovenous malformations (AVMs), venous malformations, cavernous malformations and capillary telangiectasias. The 2 most common are the AVM and the cavernous malformation. Patients generally present between 10 and 35 years of age and are generally younger than those who suffer from a ruptured cerebral aneurysm.

AVM

One tenth as common as cerebral aneurysms. Between 2500 to 3000 new cases present each year. It is estimated that 280,000 people harbor a cerebral AVM in the United States. The risk of hemorrhage is about 4-6% per year for symptomatic AVMs and 2% for those that are asymptomatic. There is about a 20% risk of major neurologic deficit after a hemorrhage and 10% risk of death. Smaller AVMs tend to bleed and larger ones tend to cause mass effect such as headache or seizures. In addition, cognitive deficits may occur from the shunting of blood from normal brain to the AVM. Unlike aneurysms that bleed into the subarachnoid space, rebleeding is a less likely occurrence after an initial hemorrhage. An emergent CAT scan is indicated in a patient suspected of having an acute hemorrhage. An MRI may be more helpful in an asymptomatic patient and the cerebral arteriogram remains the gold standard in diagnosis.

blood around the brain (meningismus) Photophobia (avoidance of bright light) The Hunt-Hess scale is used to clinically grade patients who have had a SAH. Their condition at the onset of treatment is the best predictor of outcome.

Diagnosis/Treatment

Patients suspected of having a SAH must undergo an emergent Computed Tomographic Scan (CAT Scan). A CAT Scan shows acute blood better than an MRI and is easily obtained in most hospital Emergency Rooms. If positive for SAH, a cerebral angiogram is indicated to define the location or source of

Symptoms of SAH:

Sudden onset of headache often described as explosive or the "worst headache of my life." Stiff neck from the irritation of the leaked