Types of Strokes

Strokes, also called “brain attack” or previously “cerebrovascular attack (CVA)” are classified into two main categories: ischemic and hemorrhagic based on whether blood flow is occluded (ischemic) or the patient has intracranial bleeding (hemorrhagic). Ischemic strokes are further classified into thrombotic and embolic based on the cause of occlusion. Identifying stroke symptoms early allows for early intervention and is the primary goal of care for these patients. Patients often present with different signs and symptoms, which can help distinguish the type of stroke the patient is experiencing. In all types of strokes, brain function is impaired and may present as life-threatening.

PLAY PICMONIC

Warning Signs

Transient Ischemic Attack (TIA)
Transient-bum in Eye-ski-mask Attacking
Remember TIA as the most transient (“come and go”) type of ischemic attack, also called a “silent stroke” as symptoms often last from just a few MINUTES to HOURS. TIAs are often a warning sign of progressing formation of a thrombus or formation of small emboli. These patients often present with stroke symptoms for only 10-60 minutes and therefore are not symptomatic once reaching a treatment center, which may delay a diagnosis. Patients display a full functional recovery within 48 to 72 hours.

Reversible Ischemic Neurologic Deficit (RIND)
Reversed-hat Eye-ski-mask with Rinds
Reversible type Ischemic Neurologic Deficit (RIND) differs from TIA in that stroke symptoms last between 24 HOURS and THREE WEEKS. These symptoms may resolve spontaneously or after the administration of medications.

Types

Ischemic
Eye-ski-mask
Ischemic strokes are also called an occlusive stroke because they disrupt normal blood flow to tissue via cerebral arteries. This causes tissue ischemia. Ischemic strokes are classified into two types: thrombotic and embolic.

Thrombotic
Trombone
Thrombotic strokes are a type of ischemic stroke which typically have a slow onset because they are formed by slow-forming thrombi in vessel walls often at the bifurcation of arteries.

Atherosclerosis
Clogged Artery-guy
Atherosclerosis is the most common contributing factor of thrombotic strokes. Atherosclerosis is the formation of a plaque along a vessel wall. This causes progressive narrowing of the vessel lumen resulting in decreased blood flow. Rupture of an atherosclerotic plaque can lead to thrombus formation and acute cessation of blood flow.

Embolic
Elmo
Embolic strokes are a type of ischemic stroke. They are most often due to a blood clot which forms in another part of the body and travels to the cerebral arteries where it may become lodged in smaller arteries, impeding blood flow. Embolic strokes have a rapid onset.

Atrial Fibrillation

Atria-heart Alarm-clock

Atrial fibrillation causes stasis of blood flow in the atria which promotes clot formation and may cause embolic strokes. Rheumatic heart disease, endocarditis, and post myocardial infarction also promote emboli development. Patients with atrial fibrillation should be on medication to prevent formation of blood clots such as warfarin or heparin.

Hemorrhagic

Hemorrhage-hammer

Hemorrhagic or bleeding types of strokes are a second major classification. They are caused when arteries rupture and allow blood to escape into the interstitial space typically leading to increased intracranial pressure as there is no place for excessive blood flow to drain. Types of hemorrhagic bleeding include intracerebral hemorrhage and subarachnoid hemorrhage depending on classification by origin. Hemorrhagic strokes are most commonly caused by severe hypertension but may also be caused by arteriovenous malformations in some patients which weaken vessel walls. It is very important to NEVER give hemorrhagic patients thrombolytic medications such as tPa or streptokinase.

Severe Hypertension

Severed Hiker-BP

Severe prolonged hypertension often causes formation of small saccular aneurysms also called berry aneurysms in the cerebral arteries known as the Circle of Willis. These malformations may rupture and cause a subarachnoid hemorrhage. These patients will often experience the “worst headache of their lives.”