

Stroke & Carotid Artery Disease

The carotid arteries in the neck are the major suppliers of blood to the brain. These arteries may become narrowed, thickened, and blocked due to atherosclerosis, or “hardening of the arteries”. Severe blockage is associated with temporary or permanent brain damage by cutting off the blood supply to a part of the brain.

Stroke/Transient Ischemic Attack

As atherosclerosis worsens and more plaque collects along the inside walls of the artery, the chance that problems may occur increases. If a piece of plaque breaks off (embolus), it can travel through the arteries to the brain and cause a blockage of blood flow. Depending upon the size of the particle and where it ultimately travels, this may result in no symptoms at all or can cause a stroke or transient ischemic attack (TIA). If function completely recovers within 24 hours, the episode is called a TIA or mini-stroke. If symptoms last longer than 24 hours, the episode is called a stroke.

Stroke/TIA Signs and Symptoms

The classic signs and symptoms of a stroke or TIA may include any of the following:

- Loss of vision in one eye
- Difficulty with speech
- Numbness, weakness, paralysis of one side of the body or face
- Problems with balance or coordination



Diagnostic Testing

Detection of significant but silent carotid artery disease permits treatment of severe disease before a stroke occurs. A carotid bruit (an abnormal sound due to narrowing of the carotid artery which is heard with a stethoscope) or a difference in pulses between the two sides of the neck suggests an increased risk for carotid disease. A carotid duplex scan is an ultrasound examination that visualizes the arteries and assesses the amount of blockage that is present. An MRA is also sometimes useful to determine the amount of blockage present. Occasionally, an angiogram may be required to determine the extent of blockage and the need for intervention. A CT scan or MRI of the brain can determine if any brain injury has occurred.

Medical Treatment

The usual measures to control risk factors for vascular disease are indicated for the treatment of carotid artery disease. In addition, medications to decrease clot formation in the blood are frequently prescribed, such as aspirin, or Plavix®.

Surgical Repair

Direct treatment of the severely narrowed carotid artery is usually by carotid endarterectomy, a surgical procedure that entails opening the affected artery and removing the plaque. This procedure is well established, provides long-lasting benefit, and carries minimal risk in most patients. Hospital stay is usually 24 hours. Most patients experience little discomfort and are able to return to usual activities after a brief convalescence (7-14 days). As an alternative to surgery, balloon angioplasty with stenting is currently being evaluated for the treatment of carotid disease. This procedure is done in conjunction with an angiogram through a puncture in the groin. Recovery period after angioplasty with stenting is also usually rapid. (See also “Research- Current Clinical Trials”)

Conclusion

Carotid artery disease that can cause a stroke is treatable.