



Neurovascular Service: Carotid Artery Closure and Covered Stents

Specific blood vessel lesions which cannot be treated with flow diversion devices may be amenable to deconstructive surgery. Patients who have giant cavernous aneurysms may present with headaches and double vision. If there is collateral circulation in the brain, carotid occlusion may be the treatment of choice. When direct flow and pressure is taken off the aneurysm, it may regress and symptoms of double vision resolve. Another group of patients who may benefit from carotid occlusion are those with advanced squamous cell cancer involving the carotid artery in the neck. Also some patients with dissecting aneurysms or fistulas may require trapping of an abnormal segment of an artery. Temporary balloon occlusion test is done in these patients to identify those patients at risk for stroke. In some of these cases a covered stent may also be considered if the artery shows signs of tumor invasion and bleeding but cannot be sacrificed. Some trauma patients may need to have an artery blocked off to prevent life threatening blood loss. This may be accomplished with balloons or coils.

The procedure is done under general anesthesia. A sheath is placed in the femoral artery in the groin, and a catheter is navigated into the affected artery. Under fluoroscopic visualization a series of detachable coils or occlusion devices are placed to close off the artery. The catheter is then removed and the patient is awakened from anesthesia. The patient is then kept flat for 24 hours and given blood pressure support to ensure there is sufficient perfusion pressure to the brain. Over the next several days the patient is advanced slowly into an upright position with close neurologic supervision. Patients receive a specific anticoagulation regimen during this time.

The Neurovascular Service at Massachusetts General Hospital provides a multidisciplinary approach to patient care that combines neurosurgery, neurology and interventional neuroradiology. Based in the Department of Radiology, the Neurovascular Service's Interventional Neuroradiology Program uses minimally invasive procedures to treat a range of neurovascular disease and spinal disorders. For more information, visit www.mgh-interventional-neurorad.org

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