Diagnostic Service: Ultrasound

Non-invasive ultrasound testing is a service, which the Neuroradiology department offers to patients with cerebrovascular diseases. Carotid ultrasound is used to evaluate arterial stenosis or dissection in the cervical region. In addition it is employed in the follow up of patients after endarterectomy or stent placement. Transcranial Doppler ultrasound can evaluate similar processes inside the head. Cerebrovascular reserve studies measure the functional capacity of the intracranial vasculature. It can determine whether there is a limitation of blood flow to the brain during physical stress. These techniques can identify patients at risk for stroke and along with clinical evaluation helps direct preventative treatment.

(A) Color Doppler image of the carotid bifurcation show mild narrowing of the external and internal carotid arteries, but essentially normal flow.
(B) Ultrasound image of a carotid stent shows the struts of the stent along the wall of the artery.
(C) Color Doppler image and B-mode of a carotid stent shows normal wave form and flow velocity.

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