Intracranial dural arteriovenous fistula diagnosis

General information

Brain CT or MRI without contrast are often normal. CTA may reveal dilated tortuous vessels corresponding to enlarged arterial feeders or ectatic draining veins. MRA may reveal dilated pial vessels, early prominent venous sinus filling, sinus enlargement or occlusion, and white matter edema related to venous hypertension. Full 6 vessel cerebral angiography (bilateral ICAs, bilateral ECAs, bilateral vertebral arteries) is required to establish the diagnosis and to plan treatment.

Angiographic classification

Several classification systems have been described to characterize DAVFs. The Borden and the Cognard systems have emerged as the most commonly utilized contemporary grading schemes.

Cortical venous drainage is the defining angiographic feature that distinguishes benign (low-grade) from aggressive (high-grade) fistulas. (Borden I, Cognard I, and Cognard IIa are low-grade, all others are high-grade.)