

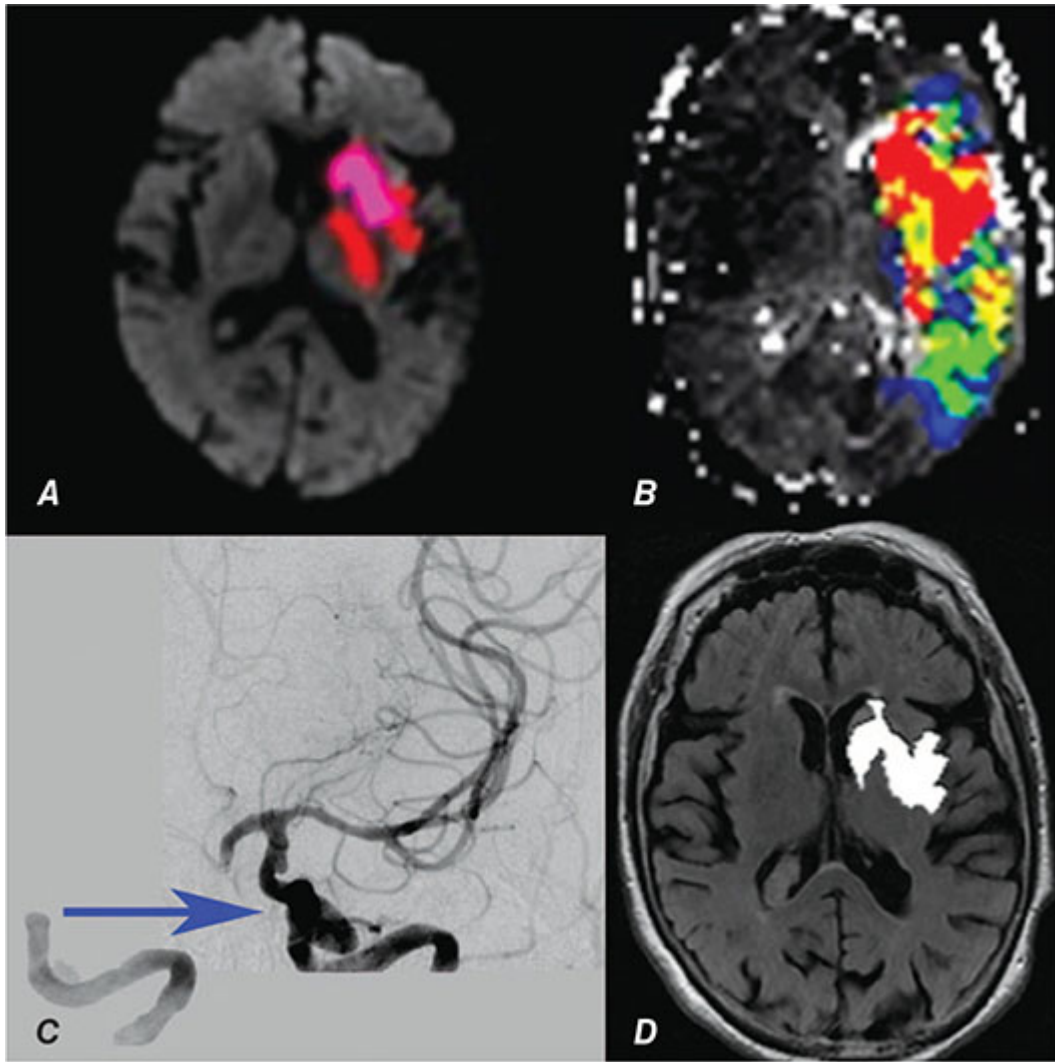


FIGURE 426-13 Magnetic resonance imaging (MRI) of acute stroke. **A.** MRI diffusion-weighted image (DWI) of an 82-year-old woman 2.5 h after onset of right-sided weakness and aphasia reveals restricted diffusion within the left basal ganglia and internal capsule (*colored regions*). **B.** Perfusion defect within the left hemisphere (*colored signal*) imaged after administration of an IV bolus of gadolinium contrast. The discrepancy between the region of poor perfusion shown in **B** and the diffusion deficit shown in **A** is called *diffusion-perfusion mismatch* and provides an estimate of the ischemic penumbra. Without specific therapy, the region of infarction will expand into much or all the perfusion deficit. **C.** Cerebral angiogram of the left internal carotid artery in this patient before (*left*) and after (*right*) successful endovascular embolectomy. The occlusion is within the carotid terminus. **D.** Fluid-attenuated inversion recovery image obtained 3 days later showing a region of infarction (*coded as white*) that corresponds to the initial DWI image in **A**, but not the entire area at risk shown in **B**, suggesting that successful embolectomy saved a large region of brain tissue from infarction. (*Used with permission from Gregory Albers, MD, Stanford University.*)