



FIGURE 440e-2 Acute left hemiparesis due to middle cerebral artery occlusion. **A.** Axial noncontrast computed tomography (CT) scan demonstrates high density within the right middle cerebral artery (*arrow*) associated with subtle low density involving the right putamen (*arrowheads*). **B.** Mean transit time CT perfusion parametric map indicating prolonged mean transit time involving the right middle cerebral territory (*arrows*). **C.** Cerebral blood volume (CBV) map shows reduced CBV involving an area within the defect shown in **B**, indicating a high likelihood of infarction (*arrows*). **D.** Axial maximum-intensity projection from a CT angiography (CTA) study through the circle of Willis demonstrates an abrupt occlusion of the proximal right middle cerebral artery (*arrow*). **E.** Sagittal reformation through the right internal carotid artery demonstrates a low-density lipid-laden plaque (*arrowheads*) narrowing the lumen (*black arrow*). **F.** Three-dimensional surface-rendered CTA image demonstrates calcification and narrowing of the right internal carotid artery (*arrow*), consistent with atherosclerotic disease. **G.** Coronal maximum-intensity projection from magnetic resonance angiography shows right middle cerebral artery (MCA) occlusion (*arrow*). **H.** and **I.** Axial diffusion-weighted image (**H**) and apparent diffusion coefficient image (**I**) documents the presence of a right middle cerebral artery infarction.