

FIGURE 441e-53 Mitochondrial encephalopathy, lactic acidosis, and stroke-like episodes (MELAS) (Chap. 462e). Axial T2 FLAIR MRI (A, B) shows areas of increased T2 signal involving the cortex and subcortical white matter in the posterior right frontal lobe and anterior left temporal lobe, consistent with edema (arrows). Axial diffusion-weighted images (C, D) show reduced diffusion from cytotoxic edema, consistent with infarcts (arrows). MR spectroscopy of the right frontal lesion (E) demonstrates markedly increased lactate (arrow), an expected finding in infarction regardless of etiology. However, MR spectroscopy of the normal-appearing contralateral brain parenchyma (F) shows mildly elevated lactate (arrow), which is suggestive of a mitochondrial disorder.

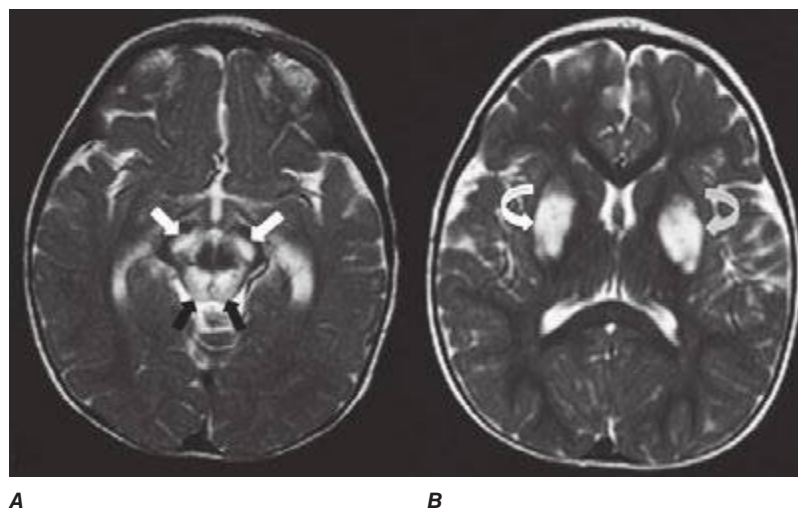


FIGURE 441e-54 Leigh's disease (subacute necrotizing encephalomyelopathy) (Chap. 85e). Axial T2-weighted MRI (A, B) demonstrates increased T2 signal involving the substantia nigra (white arrows) and dorsal midbrain (black arrows), as well as the putamen bilaterally (curved arrows). This is a common pattern for the mitochondrial disorder Leigh's disease secondary to cytochrome oxidase (CO IV) deficiency.