

37

Brain: Toxic/Degenerative Disorders

Val M. Runge

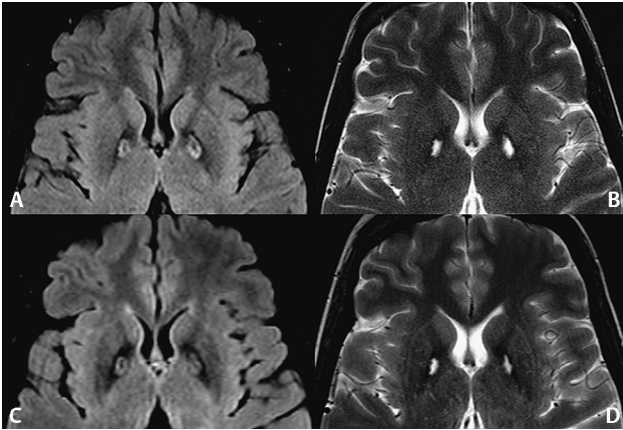


Figure 37-1

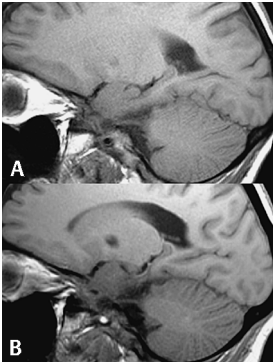


Figure 37-2

Illustrated in **Fig. 37-1** and **Fig. 37-2** is a case of carbon monoxide poisoning, from a failed suicide attempt, with bilateral chronic necrotic lesions in the globus pallidus. **Figures 37-1A, 37-1B, and 37-2A** are at 1.5 T, and **Figs. 37-1C, 37-1D, and 37-2B** at 3 T. FLAIR, T2-, and T1-weighted images are shown. On axial imaging at 3 T, the lesions were noted on two adjacent slices, whereas these were seen on only one axial section at 1.5 T, due to the thicker slice (5 versus 3 mm). On sagittal imaging, the lesions were well visualized only at 3 T (due to use of a 3-mm slice thickness).

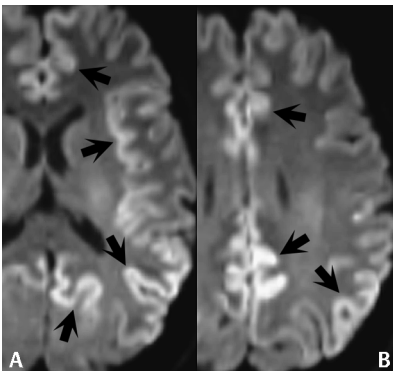


Figure 37-3

Illustrated in **Fig. 37-3** on DWI at 3 T is Creutzfeldt-Jakob disease (CJD). Thin-section imaging (3 mm) with DWI at 3 T has led to markedly improved utility of this scan, in both infarction and secondary applications. In CJD, DWI has the highest sensitivity for detection of signal intensity abnormalities. Cortical (gyriform) hyperintense areas in the cerebral hemispheres are characteristic, as seen in this case (arrows). The cortical nature of disease involvement is readily evident, due largely to the reduced partial volume effects and high SNR in these scans.