Restricted Diffusion of the Splenium of the Corpus Callosum in Viral Meningitis

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Figure 1. A, Magnetic resonance imaging (MRI) brain, diffusion-weighted imaging sequence, showing an area of restricted diffusion in the splenium of the corpus callosum (arrow). B, MRI brain, apparent diffusion coefficient sequence, showing a corresponding area in the splenium of the corpus callosum (arrow).

Infarcts of the corpus callosum are rare. This may be due to the rich blood supply of the corpus callosum which includes the anterior and posterior cerebral arteries and the anterior communicating arteries.¹ Sometimes, imaging findings suggestive of acute stroke can in fact be related to nonprimary stroke radiologic mimics such as an infectious process. Moreover, not every hyperintensity on diffusion-weighted imaging (DWI) sequence of magnetic resonance imaging is due to acute stroke. Brain abscess, neoplasm, acute demyelinating plaque, encephalitis, epilepsy, and hypoglycemia can result in the hyperintense signal on DWI.^{2,3}

We report a case of viral meningitis associated with an area of restricted diffusion in the splenium of the corpus callosum. A 36-year-old woman was admitted to the hospital with

headache, pyrexia, and generalized fatigue. The cerebrospinal fluid analysis was consistent with viral meningitis (white

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blood cells [cells/mm³] $\sim$ 80 with 90% lymphocytes and 10% polymorphonuclear neutrophils, glucose: 60 mg/dL, protein: 40 mg/dL, and bacterial, fungal, and tuberculous cultures were unremarkable). The DWI showed an area of restricted diffusion in the splenium of the corpus callosum (Figure 1A). There was a corresponding area of decreased signal on the apparent diffusion coefficient (ADC) map (Figure 1B). The repeat scan after 3 months was unremarkable. The area of restricted diffusion on DWI and the corresponding area on the ADC map completely resolved, and there was no abnormal signal on fluid-attenuated inversion recovery. Follow-up neurological examination was normal.

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