Episode of Pediatric Demyelination

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An adolescent girl presented with a 5-day history of left foot weakness, which had worsened to foot paralysis. There were no signs of encephalopathy. Physical examination revealed muscle strength 5/5 at hip flexors and extensors; 4/5, knee extensors; 3/5, knee flexors; 2/5, ankle dorsiflexion; 3/5, ankle plantar flexion; 2/5, foot inversion; and 3/5, foot eversion, and a steppage gait. Sensation was intact throughout the body. Axial fluid-attenuated inversion recovery magnetic resonance (MR) image (image A) revealed 2 oval foci of high signal intensity within the periventricular white matter (arrows), representing likely demyelination. The coronal T1 postcontrast MR image demonstrated avid enhancement of the most prominent focus of fluid-attenuated inversion recovery signal abnormality (image B). Cerebral spinal fluid findings revealed normal glucose (54 mg/dL) and protein (32 mg/dL) levels, an elevated IgG index of 0.67, and more than 5 oligoclonal bands. Treatment consisted of intravenous methylprednisolone, 20 mg/kg/d (500 mg every 12 hours), for 5 days. The patient's symptoms improved, and she was discharged to home with a plan to follow up with MR imaging.

Multiple sclerosis (MS) was suspected in this patient; 3% to 10% of adults with MS experience symptoms in childhood.[1,2] White matter lesions consistent with axonal damage and areas of inflammatory demyelination are characteristic of MS.[1] Acute episodes can often be successfully managed with steroids.[1,2]

References

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