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Comparing Lesion Detection of Infratentorial Multiple Sclerosis Lesions Between T2-Weighted Spin-Echo, 2D-FLAIR, and 3D-FLAIR Sequences

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ABSTRACT

PURPOSE: Infratentorial lesions in patients with multiple sclerosis are associated with long-term disability. Two-dimensional fluid-attenuated inversion recovery demonstrates poor infratentorial lesion detection when compared to T2-weighted spin echo. Evidence of improved detection with 3D fluid-attenuated inversion recovery has been conflicting. This study compares the infratentorial lesion detection performance, observer performance, and signal and contrast properties between T2-weighted spin echo, 2D, and 3D fluid-attenuated inversion recovery.

METHODS: Two board-certified radiologists independently reviewed and counted infratentorial lesions from 85 brain MRIs in patients with clinically definite multiple sclerosis and concurrent 3D, 2D fluid-attenuated inversion recovery, and T2-weighted