

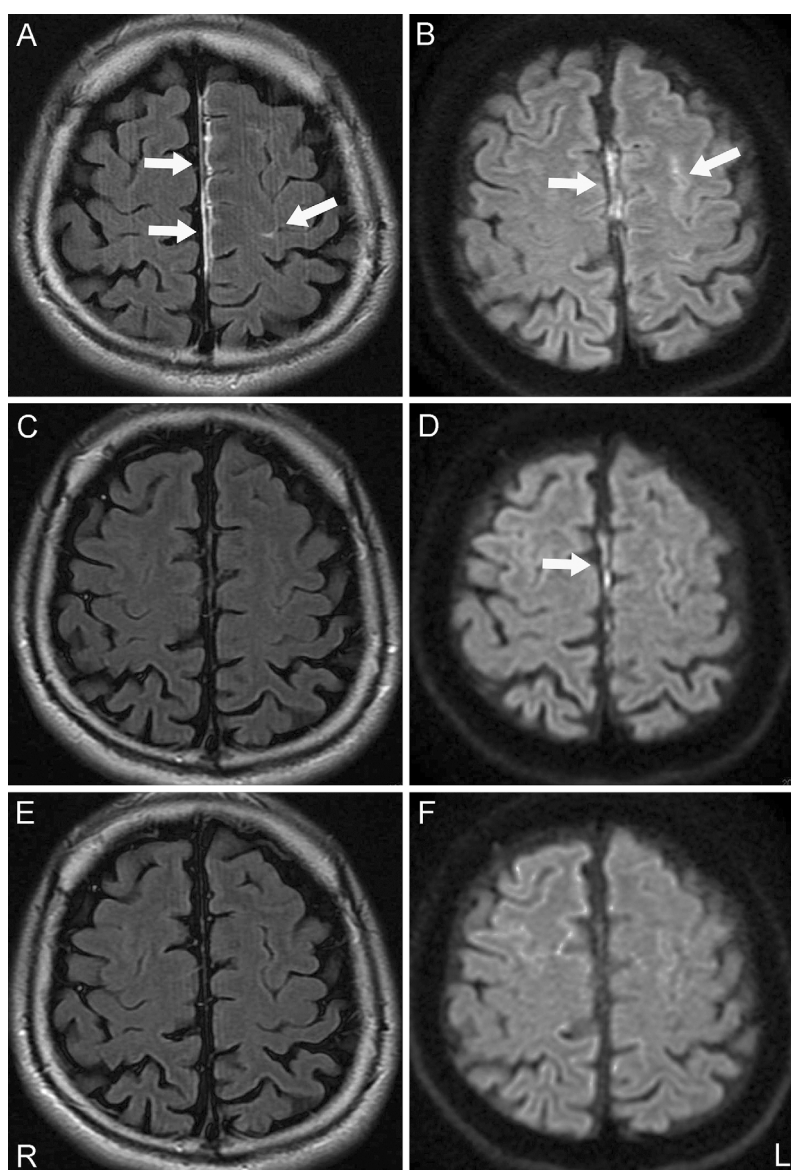
Tracking Rheumatoid Leptomeningitis on Diffusion-weighted MRI

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Key words: rheumatoid leptomeningitis, magnetic resonance imaging (MRI), diffusion-weighted imaging (DWI), fluid-attenuated inversion recovery (FLAIR), hyperintensity

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Picture.

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A 49-year-old man who had suffered from rheumatoid arthritis for the past two years developed a fever and headache. Monoparesis, dysesthesia and pyramidal signs were observed in the right leg, and the cerebrospinal fluid exhibited mononuclear pleocytosis and an elevated protein level, with no evidence of infection. In addition, brain MRI demonstrated leptomeningitis and edema of the cerebral cortex on fluid-attenuated inversion recovery (FLAIR) imaging with contrast enhancement (Picture A) as well as bright signals in the subarachnoid space on diffusion-weighted imaging (DWI) (Picture B). A diagnosis of rheumatoid leptomeningitis was therefore made. Although the patient's manifestations and abnormalities on FLAIR vanished following the administration of methylprednisolone pulse therapy (Picture C), the hyperintense areas on DWI (Picture D) and mild mononuclear pleocytosis in the cerebrospinal fluid remained. The imaging abnormalities and symptoms subsequently improved with treatment with oral prednisolone, whereas re-

current headaches persisted (Picture E, F).

DWI is helpful for depicting inflammatory lesions in patients with rheumatoid leptomeningitis. Features include a viscous mixture of proteins, inflammatory cells and cellular debris visible as clearly bright signals on DWI, while FLAIR images show an abnormal signal intensity (1, 2). This case demonstrates that DWI is more sensitive for detecting remnants of inflammation than FLAIR.

The authors state that they have no Conflict of Interest (COI).

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