

Diffusion-weighted MR Imaging in Intracranial Infections

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Abstract

Introduction: Diffusion-weighted magnetic resonance (MR) imaging (DWMRI) is valuable in the assessment of acute cerebral infarction and may be useful for other diseases of the central nervous system (CNS). In this study, we present the DWMRI appearance of intracranial infection. **Materials and Methods:** Thirty patients with clinical diagnosis of CNS infection were reviewed. All patients underwent conventional contrast-enhanced MR examination and DWMRI using single-shot echo-planar imaging at $b = 1000 \text{ s/mm}^2$. **Results:** Cerebral abscess, tuberculoma, subdural empyema and epidural abscess were hyperintense on DWMRI. Neurocysticercosis showed hypointense lesions on DWMRI. Four of 5 patients with encephalitis showed DWMRI hyperintensity; the appearance of toxoplasmosis lesions was variable. Patients suffering from meningitis without parenchymal involvement did not exhibit any abnormality of diffusion. One patient with tuberculous meningitis developed abnormality on DWMRI from acute cerebral infarction. **Conclusion:** DWMRI increased lesion conspicuity and may be useful in assessment of cerebral infection. There were striking differences in the DWMRI appearances caused by different organisms and diseases.

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