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7-T Magnetic Resonance Imaging in the Management of Brain Tumors

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Abstract

This article provides an overview of the current status of ultrahigh-field 7-T magnetic resonance (MR) imaging in neuro-oncology, specifically for the management of patients with brain tumors. It includes a discussion of areas across the pretherapeutic, peritherapeutic, and posttherapeutic stages of patient care where 7-T MR imaging is currently being exploited and holds promise. This discussion includes existing technical challenges, barriers to clinical integration, as well as our impression of the future role of 7-T MR imaging as a clinical tool in neuro-oncology.

Keywords: Brain tumors; CEST; Glioma; Late effects; Magnetic resonance spectroscopy; Susceptibility-weighted imaging; Ultrahigh-field MR imaging.

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