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Post-treatment imaging of gliomas: challenging the existing dogmas

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Abstract

Gliomas are the commonest malignant central nervous system tumours in adults and imaging is the cornerstone of diagnosis, treatment, and post-treatment follow-up of these patients. With the everevolving treatment strategies post-treatment imaging and interpretation in glioma remains challenging, more so with the advent of anti-angiogenic drugs and immunotherapy, which can significantly alter the appearance in this setting, thus making interpretation of routine imaging findings such as contrast enhancement, oedema, and mass effect difficult to interpret. This review details the various methods of management of glioma including the upcoming novel therapies and their impact on imaging findings, with a comprehensive description of the imaging findings in conventional and advanced imaging techniques. A systematic appraisal for the existing and emerging techniques of imaging in these settings and their clinical application including various response assessment guidelines and artificial intelligence based response assessment will also be discussed.

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