Stereotactic laser ablation of high-grade gliomas.
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Abstract
Evolving research has demonstrated that surgical cytoreduction of a high-grade glial neoplasm is an important factor in improving the prognosis of these difficult tumors. Recent advances in intraoperative imaging have spurred the use of stereotactic laser ablation (laser interstitial thermal therapy [LITT]) for intracranial lesions. Among other targets, laser ablation has been used in the focal treatment of high-grade gliomas (HGGs). The revived application of laser ablation for gliomas parallels major advancements in intraoperative adjuvants and groundbreaking molecular advances in neuro-oncology. The authors review the research on stereotactic LITT for the treatment of HGGs and provide a potential management algorithm for HGGs that incorporates LITT in clinical practice.

KEYWORDS: BBB = blood-brain barrier; BCNU = carmustine; GBM = glioblastoma multiforme; GTR = gross-total resection; HGG = high-grade glioma; KPS = Karnofsky Performance Scale; LITT = laser interstitial thermal therapy; glioblastoma; glioma; laser ablation; laser interstitial thermal therapy; minimally invasive surgery

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