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# Neurosurgical Applications of Magnetic Hyperthermia Therapy

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## Abstract

Magnetic hyperthermia therapy (MHT) is a highly localized form of hyperthermia therapy (HT) that

has been effective in treating various forms of cancer. Many clinical and preclinical studies have applied MHT to treat aggressive forms of brain cancer and assessed its role as a potential adjuvant to current therapies. Initial results show that MHT has a strong antitumor effect in animal studies and a positive association with overall survival in human glioma patients. Although MHT is a promising therapy with the potential to be incorporated into the future treatment of brain cancer, significant advancement of current MHT technology is required.

**Keywords:** Brain neoplasms; Glioblastoma; High-grade glioma; Magnetic fluid hyperthermia; Magnetic hyperthermia therapy; Magnetic particle imaging; Thermotherapy.

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