

ABSTRACT

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Interventional magnetic-resonance-guided cryotherapy combined with microsurgery for recurrent glioblastoma: An innovative treatment?

Cebula H(1), Garnon J(2), Todeschi J(3), Noel G(4), Lhermitte B(5), Mallereau CH(3), Chibbaro S(3), Burckel H(6), Schott R(6), de Mathelin M(7), Gangi A(2), Proust F(3).

Author information:

(1)Department of Neurosurgery, University Hospital of Strasbourg, Strasbourg, France. Electronic address: helene.cebula@hotmail.fr.

(2)Department of Interventional Radiology, University Hospital of Strasbourg, Strasbourg, France.

(3)Department of Neurosurgery, University Hospital of Strasbourg, Strasbourg, France.

(4)Department of Radiation Therapy, ICANS, Strasbourg, France.

(5)Department of Histology, University Hospital of Strasbourg, Strasbourg, France.

(6)Department of Medical Oncology, ICANS, Strasbourg, France.

(7)Icube-UMR 7357 Télécom Physique, Strasbourg, France.

BACKGROUND: Glioblastoma invariably recurs after primary Stupp tumor therapy and portends a poor prognosis. Cryoablation is a well-established treatment strategy for extra-cranial tumors. The safety and efficacy of interventional MR-guided cryoablation (iMRgC) has not been explored in recurrent glioblastoma.

METHODS: A retrospective analysis of data collected over a period of 24 months was performed. The inclusion criteria were: (I) recurrent glioblastoma despite Stupp protocol; (II) MRI followed by histological confirmation of recurrent glioblastoma; (III) location allowing iMRgC followed by microsurgical resection; and (IV) patient's consent. The primary objective was to assess feasibility in terms of complications. The secondary objective was to analyze progression-free survival (PFS), post-iMRgC survival and overall survival (OS).

RESULTS: The study included 6 patients, with a mean age of 67±7.6 years [range, 54-70 years]. No major complications were observed. Median PFS was 7.5 months [IQR 3.75-9.75] and 6-month PFS was 50%. Median post-iMRgC survival was 9 months [IQR 7.5-15.25] and 6-month post-iMRgC survival was 80%. Median OS was 22.5 months [IQR 21.75-30].

CONCLUSION: iMRgC for recurrent glioblastoma demonstrated a good safety profile, with no major complications. Our data suggest improved PFS and OS.

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