

## ABSTRACT

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Biodegradable controlled-release polymer containing butylidenephthalide to treat a recurrent cervical spine glioblastoma with promising result: a compassionate trial report.

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Intramedullary spinal glioblastoma multiforme (GBM) tends to recur within 11 months of surgical resection, even after adjuvant chemoradiation therapy.

Treatment options for recurrent spinal GBM are often limited.

(Z)-n-butylidenephthalide [(Z)-BP] is a natural compound that induces apoptosis, antiproliferation, anti-invasion and antistemness effects in GBM cells. The Cerebraca wafer consists of (Z)-BP within a biodegradable wafer that can be implanted in the parenchyma of the central nervous system to treat high-grade glioma. We present a 44-year-old woman with a recurrent spinal GBM who underwent microscopic surgical tumor excision under fluorescein sodium guidance and intraoperative neurophysiologic monitoring. Four Cerebraca wafers were implanted into the cord and intradural space during the operation. MRI revealed that both tumor volume and spinal cord edema had decreased 4 days after surgery; both had substantially decreased 16 months after surgery. Neurologic functions and quality of life were improved after salvage therapy. No adverse events were reported. Cerebraca wafer implantation during surgical re-excision of spinal GBM may be a novel therapeutic approach for reduction of the tumor size and subsequent spinal cord edema with no toxicity to the spinal cord.

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