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Post-resection Cavity Lavage of High Grade Glioma With a Novel Drug Combination: A Case Report

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Abstract

Background: High grade gliomas are the most common and most lethal primary cancers of the central nervous system.

Case report: We herein present a case report of a long-term surviving 36-year-old female diagnosed with high grade glioma, for which she underwent neurosurgery with a gross total removal of the tumor. Shortly thereafter (<3 months) she was readmitted in a desolate state due to a large recurrence. After Ethical Committee approval, proper explanation, and consent from spouse, she was subjected to a reoperation involving a post-operative infusion into the excised tumor cavity, containing a mixture of a non-physiological amino acid in millimolar concentration and a proapoptotic drug in micromolar concentration. The patient tolerated the treatment well and was discharged in a stable state thereafter. A series of follow ups revealed successive clinical improvements and after 4-6 months, she had recovered with mild left hemiparesis, meaning that she was able to carry out activities of daily living independently. Now, 5.5 years later, after the recurrence and the infusion therapy, she continues to have a mild left hemiparesis and her MRI with contrast shows no evidence of tumor.

Conclusion: Continuous intratumoral infusion therapy with an artificial amino acid combined with a proapoptotic drug results in complete glioma cell lysis both in vitro and in vivo.

Keywords: Glioma; amino acids; diaminobutyric acid; drug combination; prazosin.