Spinal cord glioblastoma: 25 years of experience from a single institution.

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Abstract

Accounting for less than 0.2% of all glioblastomas, high grade gliomas of the spinal cord are very rare. Here, we discuss our approach to managing patients with high grade spinal cord glioma and review the literature on the subject. Six patients with high grade spinal cord gliomas who presented to our institution between 1990 and 2015 were reviewed. Each patient underwent subtotal surgical resection, with a subset receiving adjuvant chemotherapy and radiation. Our primary outcomes of interest were pre-operative and post-operative functional status. One year survival rate was 100%. All patients had stable or improved American Spine Injury Association score immediately after surgery, which was maintained at 3 months in 83.3% of patients. Karnofsky Performance Status (KPS) was stable at 3 month follow up in 50% of patients, but all had decreased KPS 1 year after surgery. A subset of patients received post-operative radiation and chemotherapy with 0% tumor recurrence rate at 3 months. We assessed the molecular profiles of tumors from two patients in our series and found that each had mutations in TP53, but had wildtype BRAF, IDH-1, and MGMT. Taken together, our data show that patients with high grade spinal cord gliomas have an excellent survival at 1 year, but with some decline in functional status within this period. Further studies are needed to elucidate the natural history of the disease and to explore the role of adjuvant targeted molecular therapies.

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