Survival outcomes following repeat surgery for recurrent glioblastoma: a single-center retrospective analysis.


Abstract

The aim of the present study is to evaluate the impact of extent of resection at initial and repeat craniotomy on overall survival of patients with recurrent glioblastoma. The authors retrospectively reviewed the records of all adults patients who underwent repeat resection of recurrent glioblastoma following radiation and chemotherapy at an academic tertiary-care institution between 2011 and 2015. We evaluated the survival outcomes with regard to extent of resection considering both the initial and repeat resections. The role of possible prognostic factors that may affect survival after repeat resection, including age, preoperative performance status, tumor location and adjuvant treatment, was evaluated using Cox regression analyses. Forty-eight patients were included in this study. The overall median survival of 14 patients who had subtotal resection at recurrence after initial subtotal resection did not statistically differ from seven patients who had gross-total resection at recurrence after initial subtotal resection (18 months vs. 22 months, p = 0.583). The overall median survival of 13 patients who had gross-total resection at recurrence after initial gross-total resection was significantly increased compared with survival of 13 patients who had subtotal resection at recurrence after initial gross-total resection (47 months vs. 14 months, p = 0.009). A Cox proportional hazards model was created demonstrating that preoperative performance status at recurrence (HR 0.418, p = 0.035) and the extent of repeat resection (HR 0.513, p = 0.043) were independent predictors of survival. Gross-total resection at repeat craniotomy is associated with longer overall survival and should be performed whenever possible in patients with recurrent glioblastoma and in good performance status.

KEYWORDS: Extent of resection; Glioblastoma; Recurrent glioma; Surgery; Survival