Post-operative infection may influence survival in patients with glioblastoma: simply a myth?: Glioblastoma, infection and survival.


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Abstract

BACKGROUND: It is a prevalent myth that a postoperative infection may actually confer a survival advantage to patients with malignant glioma. This contention is largely based on anecdotal reports. Recently, a single center study showed there was no survival advantage in those patients who had glioblastoma with postoperative infection.

OBJECTIVE: To examine the impact of postoperative infections on outcome in patients with GBM treated at our center.

METHODS: This study included 197 patients with newly diagnosed primary glioblastoma treated from January 2001 to January 2008. Ten of the 197 patients (5.08%) had postoperative bacterial infection. The Kaplan-Meier method, the Log-Rank test and the Breslow test were used in the univariate approach, whereas the Cox regression was used in the multivariable one.

RESULTS: The median survival was 16 months (95% CI: 14-18 months). The infection group had a significant advantage in the median survival: 30 months (95% CI: 21-39) versus 15 months (95% CI: 13-17) for patients without post-operative infection. This advantage was also confirmed by Cox regression; in fact, patients not developing a postoperative infection showed an adjusted Hazard Ratio for death of 2.3 (95% CI: 1-5.3).

CONCLUSION: The association between infection and prolonged survival is not definitive, since we acknowledge the considerable difficulties in undertaking this type of study in a retrospective manner. Our results can instead stimulate further multicentric studies (in order to increase the number of patients) or experimental studies using genetically modified bacteria for treatment of Glioblastoma.

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