Gross-total resection outcomes in an elderly population with glioblastoma: a SEER-based analysis.

Noorbakhsh A, Tang JA, Marcus LP, McCutcheon B, Gonda DD, Schallhorn CS, Talamini MA, Chang DC, Carter BS, Chen CC.

Abstract

Object There is limited information on the relationship between patient age and the clinical benefit of resection in patients with glioblastoma. The purpose of this study was to use a population-based database to determine whether patient age influences the frequency that gross-total resection (GTR) is performed, and also whether GTR is associated with survival difference in different age groups.

Methods The authors identified 20,705 adult patients with glioblastoma in the Surveillance, Epidemiology, and End Results (SEER) registry (1998-2009). Surgical practice patterns were defined by the categories of no surgery, subtotal resection (STR), and GTR. Kaplan-Meier and multivariate Cox regression analyses were used to assess the pattern of surgical practice and overall survival.

Results The frequency that GTR was achieved in patients with glioblastoma decreased in a stepwise manner as a function of patient age (from 36% [age 18-44 years] to 24% [age ≥ 75]; p < 0.001). For all age groups, glioblastoma patients who were selected for and underwent GTR showed a 2- to 3-month improvement in overall survival (p < 0.001) relative to those who underwent STR. These trends remained true after a multivariate analysis that incorporated variables including ethnicity, sex, year of diagnosis, tumor size, tumor location, and radiotherapy status. Conclusions Gross-total resection is associated with improved overall survival, even in elderly patients with glioblastoma. As such, surgical decisions should be individually tailored to the patient rather than an adherence to age as the sole clinical determinant.

PMID: 24205904 [PubMed - in process]