Int J Radiat Oncol Biol Phys. 2010 Jul 31. [Epub ahead of print]

Effectiveness of Radiotherapy for Elderly Patients with Glioblastoma.

Scott J, Tsai YY, Chinnaiyan P, Yu HH.

Department of Radiation Oncology, H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL.

Abstract

PURPOSE: Radiotherapy plays a central role in the definitive treatment of glioblastoma. However, the optimal management of elderly patients with glioblastoma remains controversial, as the relative benefit in this patient population is unclear. To better understand the role that radiation plays in the treatment of glioblastoma in the elderly, we analyzed factors influencing patient survival using a large population-based registry.

METHODS AND MATERIALS: A total of 2,836 patients more than 70 years of age diagnosed with glioblastoma between 1993 and 2005 were identified from the Surveillance, Epidemiology, and End Results (SEER) registry. Demographic and clinical variables used in the analysis included gender, ethnicity, tumor size, age at diagnosis, surgery, and radiotherapy. Cancer-specific survival and overall survival were evaluated using the Kaplan-Meier method. Univariate and multivariate analysis were performed using Cox regression.

RESULTS: Radiotherapy was administered in 64% of these patients, and surgery was performed in 68%. Among 2,836 patients, 46% received surgery and radiotherapy, 22% underwent surgery only, 18% underwent radiotherapy only, and 14% did not undergo either treatment. The median survival for patients who underwent surgery and radiotherapy was 8 months. The median survival for patients who underwent radiotherapy only was 4 months, and for patients who underwent surgery only was 3 months. Those who received neither surgery nor radiotherapy had a median survival of 2 months ($p < 0.001$). Multivariate analysis showed that radiotherapy significantly improved cancer-specific survival (hazard ratio [HR], 0.43, 95% confidence interval [CI] 0.38-0.49) after adjusting for surgery, tumor size, gender, ethnicity, and age at diagnosis. Other factors associated with Cancer-specific survival included surgery, tumor size, age at diagnosis, and ethnicity. Analysis using overall survival as the endpoint yielded very similar results.

CONCLUSIONS: Elderly patients with glioblastoma who underwent radiotherapy had improved cancer-specific survival and overall survival compared to patients who did not receive radiotherapy.

PMID: 20675068 [PubMed - as supplied by publisher]