Cytoreductive surgery of glioblastoma as the key to successful adjuvant therapies: new arguments in an old discussion.

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Abstract

BACKGROUND: This article discusses data from 3 randomized phase 3 trials, supporting a role for surgery in glioblastoma.

METHODS: Data were reviewed by extent of resection during primary surgery from the ALA-Glioma Study (fluorescence-guided versus conventional resection), the BCNU wafer study (BCNU wafer versus placebo), and the EORTC Study 26981-22981 (radiotherapy versus chemoradiotherapy with temozolomide).

RESULTS: For glioblastoma patients in the ALA study, median survival was 16.7 and 11.8 months for complete versus partial resection, respectively (P < 0.0001). Survival effects were maintained after correction for differences in age and tumor location. For glioblastoma patients who received ≥90% resection in the BCNU wafer study, median survival increased for BCNU wafer versus placebo (14.5 versus 12.4 months, respectively; P = 0.02), but no survival increase was found for <90% resection (11.7 versus 10.6 months, respectively; P = 0.98). In the EORTC study, absolute median gain in survival with chemoradiotherapy versus radiotherapy was greatest for complete resections (+4.1 months; P = 0.0001), compared with partial resections (+1.8 months; P = 0.0001), or biopsies (+1.5 months; P = 0.088), suggesting surgery enhanced adjuvant treatment.

CONCLUSION: Complete resection appears to improve survival and may increase the efficacy of adjunct/adjuvant therapies. If safely achievable, complete resection should be the surgical goal for glioblastoma.

PMID: 21479583 [PubMed - as supplied by publisher]

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