

PubMed

Display Settings: Abstract



Cancer. 2011 Jul 14. doi: 10.1002/cncr.26379. [Epub ahead of print]

Single brain metastasis: Whole-brain irradiation plus either radiosurgery or neurosurgical resection.

Rades D, Veninga T, Hornung D, Wittkugel O, Schild SE, Gliemroth J.

Department of Radiation Oncology, University of Lubeck, Lubeck, Germany. Rades.Dirk@gmx.net.

Abstract

BACKGROUND: The current study was conducted to compare neurosurgical resection (NR) followed by whole-brain irradiation (WBI) (NR + WBI) with WBI followed by radiosurgery (WBI + RS) in patients with a single brain metastasis.

METHODS: The outcome of 41 patients treated with WBI + RS was retrospectively compared with 111 patients who received NR + WBI with respect to local control of the treated metastasis and survival. Eleven additional potential prognostic factors were investigated, including WBI schedule, patient age, patient gender, Karnofsky performance score (KPS), primary tumor type, extracerebral metastases, recursive partitioning analysis (RPA) class, interval between the first diagnosis of cancer to the treatment of brain metastasis, metastatic site, maximum diameter of the metastasis, and graded prognostic assessment (GPA) score.

RESULTS: The 1-year local control rates were 87% after WBI + RS and 56% after NR + WBI ($P = .001$). Using the Cox proportional hazards model, the treatment regimen remained significant (risk ratio [RR], 2.46; 95% confidence interval [95% CI], 1.29-5.17 [$P = .005$]). On the multivariate analysis, local control was also found to be associated with the maximum diameter of the metastasis. The 1-year survival rates were 61% after WBI + RS and 53% after NR + WBI ($P = .16$). Acute and late toxicities were similar in both groups. On the multivariate analysis, KPS, extracerebral metastases, RPA class, and the GPA score were found to be independent predictors of survival.

CONCLUSIONS: The use of WBI + RS resulted in significantly better local control of the treated metastasis than NR + WBI. Survival was not found to be significantly different in either group. Because WBI + RS is less invasive than NR + WBI, it appears to be preferable for many patients with a single brain metastasis. These results should be confirmed in a randomized trial. Cancer 2011;. © 2011 American Cancer Society.

Copyright © 2011 American Cancer Society.

PMID: 21761403 [PubMed - as supplied by publisher]

LinkOut - more resources