INTERNATIONAL JOURNAL OF Radiation Oncology BIOLOGY• PHYSICS
Official Journal of the American Society for Radiation Oncology ASTRO

JOURNAL HOME
CURRENT ISSUE
BROWSE ALL ISSUES
ASTRO ABSTRACTS
ARTICLES IN PRESS
ISSUE HIGHLIGHTS
SEARCH THIS JOURNAL
THE GREEN JOURNAL
JOURNAL INFORMATION
- Aims and Scope
- Editorial Board
- Submit Manuscript
- Submit Review
- Author Information
- COI Disclosure
- Abstracting/Indexing
- Contact Information
- Pricing Information

SUBSCRIBE TO JOURNAL
ADVERTISING INFORMATION
RTSOURCE
ASTRO
RSS

Related Information: RTSource The Source for Radiation Therapy Information

More periodicals:
FIND A PERIODICAL
FIND A PORTAL
GO TO PRODUCT CATALOG

Volume 72, Issue 5, Pages 1516-1522 (1 December 2008)

previous 37 of 63 next

ABSTRACT
FULL TEXT
FULL-TEXT PDF (323 KB)
CITATION ALERT
CITED BY
RELATED ARTICLES
EXPORT CITATION
EMAIL TO A COLLEAGUE
REPRINTS/PERMISSIONS
BOOKMARK ARTICLE
FULL TEXT ELSEWHERE

Descriptive Analysis of Oligometastatic Lesions Treated With Curative-Intent Stereotactic Body Radiotherapy

Michael T. Milano, M.D., Ph.D., Alan W. Katz, M.D., M.P.H., Michael C. Schell, Ph.D., Abraham Philip, C.M.D., Paul Okunieff, M.D.

Received 10 December 2007; received in revised form 22 February 2008; accepted 11 March 2008. published online 21 May 2008.

Purpose

To characterize oligometastases in patients enrolled on two prospective pilot studies, treating oligometastases with hypofractionated stereotactic body radiotherapy and stereotactic radiosurgery to cranial lesions.

Methods and Materials

We describe the characteristics and local control (LC) of 293 lesions in 121 patients with five or fewer metastases treated with stereotactic body radiation and/or cranial stereotactic radiosurgery. For each lesion, the primary cancer site, tumor histology, site of metastasis, gross tumor volume, and prescribed dose were ascertained. The prescribed dose is expressed by the biologically effective dose in 2-Gy fractions (BED2), calculated using the linear quadratic model, assuming an α/β ratio of 10.

Results

Lung lesions were significantly smaller than other lesions in our cohort, whereas liver lesions were significantly larger, possibly reflecting a detection and/or referral bias. The 2-year and 4-year tumor LC rates were 77% and 73% respectively. A larger gross tumor volume was significantly ($p < 0.0001$) correlated with worse lesion LC. Lesions originating from primary pancreatic, biliary or liver cancer exhibited significantly poorer LC, as did lesions from colorectal cancer. Lesions from breast cancer were better controlled. A higher BED2 did not correlate with improved tumor control.

Conclusions

Stereotactic body radiation to aggressively treat oligometastatic lesions results in good local tumor control. Bulkier lesions are more difficult to control and may benefit from dose escalation.

Stereotactic body radiotherapy, Oligometastases

Department of Radiation Oncology, University of Rochester Medical Center, Rochester, NY

Reprint requests to: Michael T. Milano, M.D., Department of Radiation Oncology, University of Rochester Medical Center, 601 Elmwood Ave., Box 647, Rochester, NY 14642. Tel: (585) 273-4096; Fax: (585) 275-1531

P.O. and M.C.S. received grant support from BrainLAB (Heimstetten, Germany) between April 1, 2000, and March 31, 2005.

Data presented at the National Cancer Institute–American Society for Therapeutic Radiology and Oncology workshop, “Eradicating Metastases: Emerging Opportunities for Radiation to Help Cure M1 Disease,” December 5–6, 2007, Bethesda, MD.

Conflict of interest: none.

PII: S0360-3016(08)00543-9

doi:10.1016/j.ijrobp.2008.03.044

previous 37 of 63 next