

Home | Browse | My Settings | Alerts | Help

Quick Search Title, abstract, keywords Author

search tips Journal/book title Volume Issue Page [Clear](#) [Go](#)



International Journal of Radiation Oncology*Biolog*Physics
 Article in Press, Corrected Proof - Note to users

Font Size:

Abstract | Article | Figures/Tables | References | Purchase PDF (273 K)

doi:10.1016/j.ijrobp.2008.05.034 Cite or Link Using DOI
 Copyright © 2008 Elsevier Inc. All rights reserved.

- E-mail Article
- Add to my Quick Links
- Add to **collab**
- Permissions & Reprints

Clinical Investigation

Phase I Three-Dimensional Conformal Radiation Dose Escalation Study in Newly Diagnosed Glioblastoma: Radiation Therapy Oncology Group Trial 98-03

Christina Tsien M.D.^{*}, Jennifer Moughan M.S.[†], Jeff M. Michalski M.D., M.B.A.[‡], Mark R. Gilbert M.D.[§], James Purdy Ph.D.^{||}, Joseph Simpson M.D., Ph.D.[‡], John J. Kresel M.D., Ph.D.[¶], Walter J. Curran M.D.[#], Aidnag Diaz M.D.^{**} and Minesh P. Mehta M.D.^{††}

[#]Thomas Jefferson University, Philadelphia, PA ^{||}University of California-Davis Medical Center, Sacramento, CA [†]Radiation Therapy Oncology Group, Philadelphia, PA ^{††}University of Wisconsin, Madison, WI [‡]Department of Radiation Oncology, Washington University School of Medicine, St. Louis, MO ^{*}Department of Radiation Oncology, University of Michigan, Ann Arbor, MI ^{**}University of Texas Health Science Center, San Antonio, TX [§]Department of Neuro-Oncology, University of Texas M. D. Anderson Cancer Center, Houston, TX [¶]Arizona Oncology Services and Barrows Neurological Institute, Phoenix, AZ

Received 7 March 2008; revised 7 May 2008; accepted 8 May 2008.
 Available online 23 August 2008.

Purpose

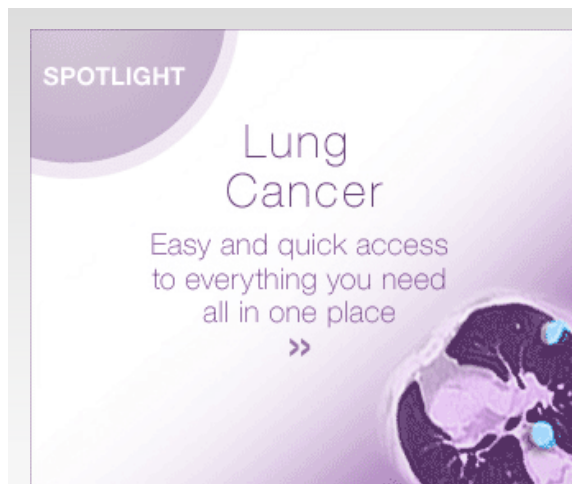
To evaluate in a Phase I trial the feasibility and toxicity of dose-escalated three-dimensional conformal radiotherapy (3D-CRT) concurrent with chemotherapy in patients with primary supratentorial glioblastoma (GBM).

Methods and Materials

A total of 209 patients were enrolled. All received 46 Gy in 2-Gy fractions to the first planning target volume (PTV₁), defined as the gross tumor volume (GTV) plus 1.8 cm. A subsequent boost was given to PTV₂, defined as GTV plus 0.3 cm. Patients were stratified into two groups (Group 1: PTV₂ <75

Purchase the full-text article

- PDF and HTML
- All references
- All images
- All tables



Related Articles in ScienceDirect

- Phase I/II conformal three-dimensional radiation therap...
*International Journal of Radiation Oncology*Biolog*Phy...*
- The GETUG 70 Gy vs. 80 Gy randomized trial for localize...
*International Journal of Radiation Oncology*Biolog*Phy...*
- Three-dimensional conformal radiation therapy for non-s...
*International Journal of Radiation Oncology*Biolog*Phy...*
- 247 poster Impact of mean rectal dose on late rectal bl...
Radiotherapy and Oncology
- 248 poster Dosimetric data of the French prostate rando...
Radiotherapy and Oncology

[View More Related Articles](#)

The research collaboration tool

- No user rating
- No user tags yet
- This article has not yet been bookmarked
- No comments on this article yet
- Not yet shared with any groups

Be the first to add this article in **collab**

cm³; Group 2: PTV₂ ≥75 cm³). Four RT dose levels were evaluated: 66, 72, 78, and 84 Gy. Carmustine 80 mg/m² was given during RT, then every 8 weeks for 6 cycles. Pretreatment characteristics were well balanced.

Results

Acute and late Grade 3/4 RT-related toxicities were no more frequent at higher RT dose or with larger tumors. There were no dose-limiting toxicities (acute Grade ≥3 irreversible central nervous system toxicities) observed on any dose level in either group. On the basis of the absence of dose-limiting toxicities, dose was escalated to 84 Gy in both groups. Late RT necrosis was noted at 66 Gy (1 patient), 72 Gy (2 patients), 78 Gy (2 patients), and 84 Gy (3 patients) in Group 1. In Group 2, late RT necrosis was noted at 78 Gy (1 patient) and 84 Gy (2 patients). Median time to RT necrosis was 8.8 months (range, 5.1–12.5 months). Median survival in Group 1 was 11.6–19.3 months. Median survival in Group 2 was 8.2–13.9 months.

Conclusions

Our study shows the feasibility of delivering higher than standard (60 Gy) RT dose with concurrent chemotherapy for primary GBM, with an acceptable risk of late central nervous system toxicity.

Author Keywords: 3D-CRT; Dose escalation; Glioblastoma

Article Outline

[Introduction](#)

[Methods and Materials](#)

[Patient eligibility](#)

[Study design](#)

[Quality control assessment](#)

[Statistical analysis](#)

[Results](#)

[Patient characteristics](#)

[Quality assurance compliance](#)

[Toxicities](#)

[Second resection](#)

[Corticosteroid use](#)

[Survival](#)

[Dose-limiting toxicities](#)

[Discussion](#)

[References](#)

Note to users: The section "Articles in Press" contains peer reviewed accepted articles to be published in this journal. When the final article is assigned to an issue of the journal, the "Article in Press" version will be removed from this section and will appear in the associated published journal issue. The date it was first made available online will be carried over. Please be aware that although "Articles in Press" do not have all bibliographic details available yet, they can already be cited using the year of online publication and the DOI as follows: Author(s), Article Title, Journal (Year), DOI. Please consult the journal's reference style for the exact appearance of these elements, abbreviation of journal names and the use of punctuation.

There are three types of "Articles in Press":

- **Accepted manuscripts:** these are articles that have been peer reviewed and accepted for publication by the Editorial Board. The articles have not yet been copy edited and/or formatted in the journal house style.
- **Uncorrected proofs:** these are copy edited and formatted articles that are not yet finalized and that will be corrected by the authors. Therefore the text could change before final publication.
- **Corrected proofs:** these are articles containing the authors' corrections and may, or may not yet have specific issue and page numbers assigned.

[Home](#) | [Browse](#) | [My Settings](#) | [Alerts](#) | [Help](#)



[About ScienceDirect](#) | [Contact Us](#) | [Information for Advertisers](#) | [Terms & Conditions](#) | [Privacy Policy](#)

Copyright © 2008 Elsevier B.V. All rights reserved. ScienceDirect® is a registered trademark of Elsevier B.V.