

PubMed

U.S. National Library of Medicine
National Institutes of Health



Display Settings: Abstract

[Int J Radiat Oncol Biol Phys.](#) 2011 Mar 1;79(3):829-34. Epub 2010 Apr 24.

Radiation therapy for pilocytic astrocytomas of childhood.

[Mansur DB](#), [Rubin JB](#), [Kidd EA](#), [King AA](#), [Hollander AS](#), [Smyth MD](#), [Limbrick DD](#), [Park TS](#), [Leonard JR](#).

Department of Radiation Oncology, Washington University School of Medicine and Saint Louis Children's Hospital, Saint Louis, MO 63110, USA. mansur@radonc.wustl.edu

Abstract

PURPOSE: Though radiation therapy is generally considered the most effective treatment for unresectable pilocytic astrocytomas in children, there are few data to support this claim. To examine the efficacy of radiation therapy for pediatric pilocytic astrocytomas, we retrospectively reviewed the experience at our institution.

METHODS AND MATERIALS: Thirty-five patients 18 years old or younger with unresectable tumors and without evidence of neurofibromatosis have been treated since 1982. Patients were treated with local radiation fields to a median dose of 54 Gy. Six patients were treated with radiosurgery to a median dose of 15.5 Gy. Five patients were treated with initial chemotherapy and irradiated after progression.

RESULTS: All patients were alive after a median follow-up of 5.0 years. However, progression-free survival was 68.7%. None of 11 infratentorial tumors progressed compared with 6 of 20 supratentorial tumors. A trend toward improved progression-free survival was seen with radiosurgery (80%) compared with external beam alone (66%), but this difference did not reach statistical significance. Eight of the 9 patients progressing after therapy did so within the irradiated volume.

CONCLUSIONS: Although the survival of these children is excellent, almost one third of patients have progressive disease after definitive radiotherapy. Improvements in tumor control are needed in this patient population, and the optimal therapy has not been fully defined. Prospective trials comparing initial chemotherapy to radiation therapy are warranted.

Copyright © 2011 Elsevier Inc. All rights reserved.

PMID: 20421157 [PubMed - indexed for MEDLINE]

[Publication Types](#), [MeSH Terms](#)

[LinkOut](#) - more resources