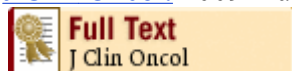




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1: [J Clin Oncol](#). 2009 Aug 1;27(22):3598-604. Epub 2009 Jul 6.



Phase II trial of conformal radiation therapy for pediatric low-grade glioma.

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PURPOSE: The use of radiotherapy in pediatric low-grade glioma (LGG) is controversial, especially for young patients. We conducted a phase II trial of conformal radiation therapy (CRT) to estimate disease control by using a 10-mm clinical target volume (CTV) margin. **MATERIALS AND METHODS:** Between August 1997 and August 2006, 78 pediatric patients with LGG and a median age of 8.9 years (range, 2.2 to 19.8 years) received 54 Gy CRT by using a 10-mm CTV and by targeting with systematic magnetic resonance imaging (MRI) registration. Tumor locations were diencephalon (n = 58), cerebral hemisphere (n = 3), and cerebellum (n = 17). Sixty-seven patients had documented or presumed WHO grade 1 tumors, 25 patients had prior chemotherapy, and 13 patients had neurofibromatosis type 1. **RESULTS:** During a median follow-up of 89 months, 13 patients experienced disease progression. One patient experienced marginal treatment failure, eight experienced local failures, and four experienced metastatic failure. The mean and standard error 5- and 10-year event-free (87.4% +/- 4.4% and 74.3% +/- 15.4%, respectively) and overall (98.5% +/- 1.6% and 95.9% +/- 5.8%, respectively) survival rates were determined. The mean and standard error cumulative incidences of local failure at 5 and 10 years were 8.7% +/- 3.5% and 16.4% +/- 5.4%, respectively. The mean and standard error cumulative incidence of vasculopathy was 4.79% +/- 2.73% at 6 years, and it was higher for those younger than 5 years of age (P = .0105) at the time of CRT. **CONCLUSION:** This large, prospective series of irradiated children with LGG demonstrates that CRT with a 10-mm CTV does not compromise disease control. The results suggest that CRT should be delayed in young patients to reduce the risk of vasculopathy.

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