

PubMed

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



Display Settings: Abstract

[Cancer](#). 2010 Sep 15. [Epub ahead of print]

Local control after craniospinal irradiation, intensity-modulated radiotherapy boost, and chemotherapy in childhood medulloblastoma.

Paulino AC, Mazloom A, Teh BS, South M, Okcu MF, Su J, Butler EB, Chintagumpala M.

Department of Radiation Oncology, The Methodist Hospital and The Methodist Hospital Research Institute, Houston, Texas.

Abstract

BACKGROUND: The current study was conducted to determine whether the use of cochlear-sparing intensity-modulated radiotherapy (IMRT) boost results in excess local failures in children with medulloblastoma.

METHODS: Fifty children with a median age of 7.8 years underwent resection, craniospinal irradiation (CSI), IMRT posterior fossa (PF) and/or tumor bed (TB) boost, and cisplatin-based chemotherapy for medulloblastoma. For standard-risk patients, the CSI dose was 18 to 23.4 grays (Gy) and was followed either by an IMRT PF boost to 36 Gy and a TB boost of 54 to 55.8 Gy (n = 29) or by an IMRT TB boost to 55.8 Gy (n = 4). For high-risk patients, the CSI dose was 36 to 39.6 Gy followed by an IMRT PF boost to 54 to 55.8 Gy (n = 8), an IMRT PF boost to 45 Gy and a TB boost to 55.8 Gy (n = 2), or an IMRT TB boost to 55.8 Gy (n = 7). For the TB boost, a 2-cm margin around the surgical bed was treated in most patients.

RESULTS: The 5-year overall and progression-free survival rates (\pm standard deviation) were $72\% \pm 6.6\%$ and $68.3\% \pm 6.8\%$, respectively, for all patients; $77.8\% \pm 7.4\%$ and $75.1\% \pm 7.6\%$, respectively, for standard-risk patients; and $60.8\% \pm 12.8\%$ and $55.4\% \pm 12.8\%$, respectively, for high-risk patients. The 5-year PF control rate was $90.5\% \pm 4.6\%$. TB failures occurred in 3 patients (including 2 patients who had distant failure), whereas an isolated non-TB PF failure occurred in 1 patient.

CONCLUSIONS: The use of IMRT was associated with excellent local control and did not result in excess PF failures outside of the TB. Cancer 2010. © 2010 American Cancer Society.

PMID: 20845476 [PubMed - as supplied by publisher]

[LinkOut](#) - more resources