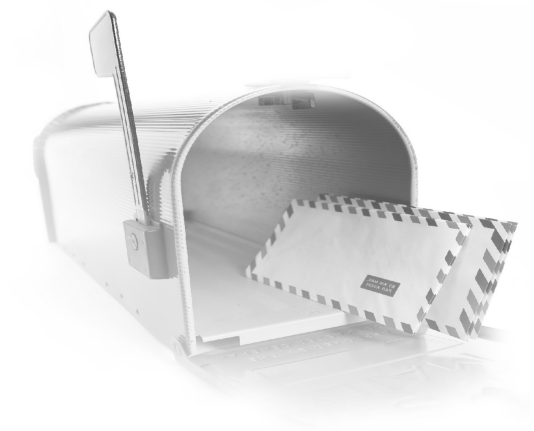

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Letter to the Editor

High-dose chemotherapy with reduced-dose craniospinal radiotherapy in children with newly diagnosed high-risk brain tumor

TO THE EDITOR: A recent report of "Reduced-dose craniospinal radiotherapy followed by high-dose chemotherapy and autologous stem cell rescue for children with newly diagnosed high-risk medulloblastoma and supratentorial primitive neuroectodermal tumor (sPNET)" by Kim et al. has shown encouraging results concerning event-free survival [1].

Reduced dose radiation therapy for children with cancer is important because of its effects on intelligence quotient and endocrinologic complications. In this study, Kim et al. report an event-free survival of 77% for children with high-risk medulloblastoma or sPNET, which is comparable to other studies, despite having lowered CSI dose to standard risk patient level of 23.4 Gy. The major limitations of this study are, however, short duration of follow-up and limited number of patients enrolled (13 overall), necessitating further follow-up of the study cohort.

Treatment of patients with high-risk medulloblastoma or sPNET has yet to reach a consensus, but few doubt the importance of adjuvant radiotherapy and chemotherapy after surgical resection. Radiation therapy ranging from 35-39 Gy combined with either chemotherapy or high dose chemotherapy and autologous stem cell transplantation has led to progression-free survival of 35-70% [2-4]. However, the specific regimen comprising chemotherapy varies considerably.

High dose chemotherapy and autologous stem cell rescue (HDCT and ASCR) are administered in an attempt to maximize chemotherapeutic effect. Gajjar et al. reported a 70% event-free survival for 48 patients with high-risk medulloblastoma after 4 cycles of cyclophosphamide-based HDCT and ASCR, emphasizing the efficacy of HDCT for patients with chemotherapy-responsive brain tumors [4]. However, the amount of cyclophosphamide utilized in this study may have resulted in patient infertility, and a similar concern should be voiced for potential long-term complications in the Korean recipients of tandem transplantation.

Several other pertinent points should be made; the 2 patients who relapsed before proceeding to HDCT indicate the possible advantages of modifying the current protocol in order to shorten the interval between radiotherapy and HDCT, or giving due consideration to novel modalities such as hyperfractionated radiation therapy or IMRT. Also, the 2 patients who are surviving event-free despite having undergone only 1 cycle of HDCT and ASCR raise the question of the necessity of a second cycle.

Medulloblastoma itself is a diagnosis that encompasses numerous disease entities, and recent research has shed some light on the relationship between tumor biology and pathology, and overall patient prognosis [5]. With developments in risk adapted treatment and targeted therapy according to diagnostic subgroup, more specific pathologic classification and biologic characterization may become imperative for future patients receiving similar therapy.

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