

## Correspondence Regarding “Epidemiology, Management and Treatment Outcome of Medulloblastoma in Singapore”

Dear Editor,

We read with some disquiet the article published by your journal entitled “*Epidemiology, Management and Treatment Outcome of Medulloblastoma in Singapore*” by Chan et al.<sup>1</sup> It succinctly reviewed the 39 paediatric patients with medulloblastoma seen over a 9-year period in Singapore, and made 2 statements:

1. The clinical outcomes seen “were inferior to reported outcomes in established centres in the world, “ and
2. “It is uncertain if some patients received suboptimal treatment by current standards” because the radiotherapy was not necessarily risk-adapted.

However, before these 2 points are accepted, it might be instructive to take a closer look at the data and compare the results of published trials with similar patient characteristics, and briefly evaluate risk-adapted treatment in medulloblastoma.

In the current study, the 5-year overall survival in the cohort without metastases was 78.7%, similar to the 76.7% reported by the International Society of Paediatric Oncology/UK Children’s Cancer Study Group PNET-3 Study<sup>2</sup> for non-metastatic patients receiving postoperative radiotherapy and chemotherapy. Similarly, the 28.8% 5-year event-free survival for patients under 36 months of age compares well with the results from the Phase II French Society of Paediatric Oncology (SFOP)<sup>3</sup> trial, in which patients aged under 5 years received postoperative chemotherapy but no radiotherapy. They reported a 5-year progression-free survival ranging from 6% to 29%.

The authors also raised the issue of risk-adapted radiotherapy. Many centres, including ours, currently stratify patients into average-risk or high-risk groups. Those diagnosed after the age of 3 years with non-metastatic and totally, or near totally, resected disease (<1.5 cm<sup>2</sup> on postoperative magnetic resonance imaging) are considered to be at average risk. All other patients who do not meet these criteria are classified as high-risk.

For average-risk patients, some centres have in recent years lowered the radiotherapy dose received by the craniospinal axis from 35-36Gy to 23.4Gy, though some European centres have kept the dose at 35Gy.<sup>4</sup> The Pediatric

Oncology Group (POG) 8631/ Children’s Cancer Group (CCG) 923 study of average-risk patients<sup>5</sup> had to be closed prematurely because a planned interim analysis showed an increased rate of neuraxis relapse in patients who received reduced-dose radiotherapy in the absence of chemotherapy. Therefore, before our centre began to use a risk-adapted radiotherapy protocol, many of the average-risk patients would have received higher craniospinal radiation doses than those stated in current protocols. This relatively high radiation dosage would not constitute “suboptimal treatment,” nor would it lead to a detrimental survival rate as suggested by the authors.

### REFERENCES

1. Chan MY, Teo WY, Seow WT, Tan AM. Epidemiology, management and treatment outcome of medulloblastoma in Singapore. *Ann Acad Med Singapore* 2007;36:314-8.
2. Taylor RE, Bailey CC, Robinson K, Weston CL, Ellison D, Ironside J, et al; International Society of Paediatric Oncology; United Kingdom Children’s Cancer Study Group. Results of a randomized study of preradiation chemotherapy versus radiotherapy alone for nonmetastatic medulloblastoma: the International Society of Paediatric Oncology/UK Children’s Cancer Study Group PNET-3 Study. *J Clin Oncol* 2003; 21:1581-91.
3. Grill J, Sainte-Rose C, Jouvett A, Gentet JC, Lejars O, Frappaz D, et al; French Society of Paediatric Oncology. Treatment of medulloblastoma with postoperative chemotherapy alone: an SFOP prospective trial in young children. *Lancet Oncol* 2005;6:573-80.
4. Gilbertson R. Medulloblastoma: signalling a change in treatment. *Lancet Oncol* 2004;5:209-18.
5. Thomas PRM, Deutsch M, Kepner JL, Boyett JM, Krischer J, Aronin P, et al. Low-stage medulloblastoma: final analysis of trial comparing standard-dose with reduced-dose neuraxis irradiation. *J Clin Oncol* 2000;18:3004-11.

Ivan WK Tham,<sup>1</sup>MBBS, FRCR (Clin Oncol), Susan Loong,<sup>1</sup>MRCP, MD,  
FRCR (Clin Oncol)

<sup>1</sup> Department of Radiation Oncology, National Cancer Centre, Singapore

Address for Correspondence: Dr Ivan Tham, National Cancer Centre, 11 Hospital Drive, Singapore 169610.

Email: ntrtwk@nccs.com.sg

## Reply to Correspondence Regarding “Epidemiology, Management and Treatment Outcome of Medulloblastoma in Singapore”<sup>1</sup>

Dear Editor,

We appreciate the comments regarding our paper on the results of childhood medulloblastoma in Singapore.<sup>1</sup>

We agree that when compared in their individual groups, our results of children under the age of 36 months with non-metastatic medulloblastoma are comparable with the quoted studies. However, the overall 5-year event-free and overall survival of the study group as a whole is inferior to reported studies. We believe this may be contributed in part by the higher incidence of metastatic disease at diagnosis (41% compared to reported figures of 20% to 30%), and in part by non-standardised management. Intra- and inter-institutions chemotherapy regimens used are different for the children under the age of 36 months, making comparisons difficult. Also, we have patients in our study group who were given only stereotactic radiotherapy to the tumour bed, which is not standard or recommended treatment. The investigation of metastatic disease may have also underestimated its true incidence as not all cases had cerebral spinal fluid examination for malignant cells done.

One of the main purposes of highlighting the less than ideal overall results of our study group is to galvanise the relevant parties to close identified gaps in care by standardising assessment and treatment protocols. It may well be that medulloblastoma is either inherently more aggressive in our population or that our patients present later, thereby giving rise to more metastatic disease at diagnosis with the resultant poorer overall survival results.

Mei-Yoke Chan,<sup>1</sup>*MBBS, MMed (Paeds), MRCP (UK)*, Wan-Yee Teo,<sup>2</sup>*MBBS*, Wan-Tew Seow,<sup>3</sup>*MBBS, FRACS (Neurosurg), FAMS*, Ah-Moy Tan,<sup>1</sup>*MMed (Paeds), FRCP, FAMS*

<sup>1</sup> Department of Paediatric Subspecialties

<sup>2</sup> Department of Paediatrics

<sup>3</sup> Department of Paediatric Neurosurgery

KK Women's and Children's Hospital, Singapore

Address for Correspondence: Dr Chan Mei Yoke, Senior Consultant, Department of Paediatric Subspecialties, KK Women's and Children's Hospital, 100 Bukit Timah Road, Singapore 229899.

Email: Chan.Mei.Yoke@kkh.com.sg