Cerebrospinal fluid evaluation in adult patients with medulloblastoma

We read with great interest the publication regarding the EANO–EURACAN clinical practice guideline for the diagnosis, treatment, and follow-up of post-pubertal and adult patients with medulloblastoma.[1] We are convinced that this guideline improves the clinical management of these patients. However, in our opinion, one point requires consideration before implementation into the clinical practice of adults with medulloblastoma.

The authors left the discussion open regarding the cerebrospinal fluid (CSF) collection procedure in adult patients with medulloblastoma, which is used to evaluate CSF for the presence or absence of tumour cells.

Thus far, CSF cytology in patients with medulloblastoma is generally a qualitative study, with tumour cells assessed as present or absent.[2] No internationally recognised standards exist for the timing, volume, or location of CSF acquisition. Generally, CSF cytology evaluation should be done before surgery, or 14 days or more after surgery as indicated by Franceschi and colleagues.[1] Although examined only in paediatric patients with medulloblastoma, CSF draws obtained by a lumbar puncture seem to be more sensitive than ventricular CSF samples to detect malignant tumour cells in paediatric patients with brain tumours, including medulloblastoma.[3]

Therefore, most paediatric medulloblastoma studies, including the International Society of Paediatric Oncology PNET 5 Medulloblastoma trial (NCT02066220), mandate a postoperative lumbar CSF evaluation in the absence of any contraindications. A negative lumbar CSF assessment is one of the inclusion criteria for this trial and is broadly considered as a standard of care assessment outside of paediatric trials. We consider it reasonable to recommend the same approach in adults with medulloblastoma (ie, in the absence of any contraindication, to perform the lumbar puncture). Further, other factors might influence the probability to detect malignant tumour cells, such as the volume of the CSF sample, timing of processing, cytospin preparation, and staining. The importance of CSF evaluation has been recognised for many years. However, few previous studies[3] have been done in paediatric patients with medulloblastoma, and representative adult medulloblastoma populations have not been investigated thus far to move forward with regards to the optimisation of the collection and interpretation of CSF assessments.

We declare no competing interests.

*André O von Bueren, Chistian Hagel, Stefan Rutkowski
andre.vonBuren@hcuge.ch

Division of Paediatric Haematology and Oncology, Department of Paediatrics, Obstetrics, and Gynecology, University Hospital of Geneva, Geneva 1211, Switzerland (AOvB); Institute of Neuropathology (CH) and Department of Paediatric Haematology and Oncology (SR), University Medical Center Hamburg Eppendorf, Hamburg, Germany

1 Franceschi E, Hofer S, Brandes AA, et al. EANO-EURACAN clinical practice guideline for diagnosis, treatment, and follow-up of post-pubertal and adult patients with medulloblastoma. *Lancet Oncol* 2019; **20:** e715–28.
2 Warren KE, Vezina G, Poussaint TY, et al. Response assessment in medulloblastoma and leptomeningeal seeding tumors: recommendations from the Response Assessment in Pediatric Neuro-Oncology committee. *Neuro Oncol* 2018; **20:** 13–23.
3 Gajjar A, Fouladi M, Walter AW, et al. Comparison of lumbar and shunt cerebrospinal fluid specimens for cytologic detection of leptomeningeal disease in pediatric patients with brain tumors. *J Clin Oncol* 1999; **17:** 1825–28.