

Clinical-patient studies

## Two exceptional phenomena in an anaplastic oligo-astrocytoma

M.C.J. Hanse<sup>1,2</sup>, J.H. Franssen<sup>3</sup>, H.P. Sleenboom<sup>4</sup>, C.F.E. Hoffmann<sup>5</sup> and W. Taal<sup>1</sup>

<sup>1</sup>Neuro-Oncology Unit, Daniel den Hoed Oncology Center Erasmus University Medical Center, Rotterdam, The Netherlands; <sup>2</sup>Department of Neurology Catharina Ziekenhuis, Eindhoven, The Netherlands; <sup>3</sup>Department of Radiotherapy Haga Ziekenhuis, The Hague, The Netherlands; <sup>4</sup>Department of Medical Oncology Haga Ziekenhuis, The Hague, The Netherlands; <sup>5</sup>Department of Neurosurgery Haga Ziekenhuis, The Hague, The Netherlands

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A 42-year-old woman underwent a gross total resection and involved field radiotherapy for a left-sided parieto-occipital anaplastic oligo-astrocytoma (AOA) in January 2004.

December 2004 she developed a left-sided cervical mass at C2 level (Figure 1). Histological examination was compatible with metastasis of AOA. Follow-up MRI also showed tumor recurrence in the left occipital hemisphere, which extended in the sagittal sinus with associated thrombosis (Figure 2). FDG-PET showed the cervical mass, but no other places with tracer-uptake.

Treatment with temozolomide was started for recurrent AOA. The cervical mass diminished and a complete response of the left occipital tumor was obtained. Six months after starting temozolomide there was fast progression of the cervical mass and of the tumor in and around the superior sagittal sinus. MRI of the cervical vertebral column showed also metastases of the lower cervical and upper thoracic vertebrae. Radiotherapy was

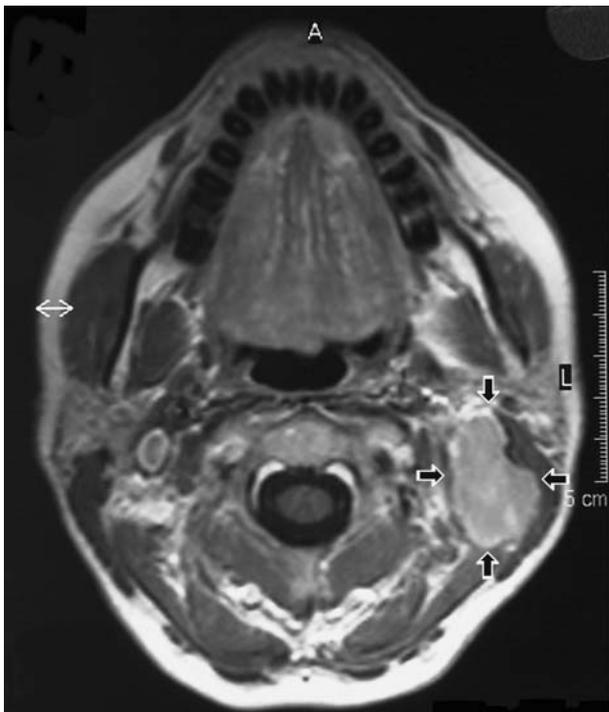


Figure 1. T1-weighted axial cervical MRI with gadolinium showing cervical mass at C2-level.

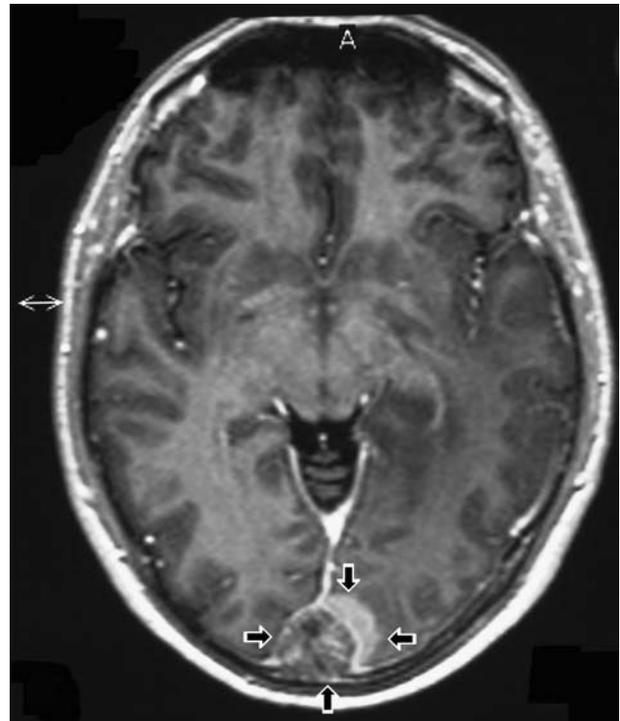


Figure 2. T1-weighted axial brain MRI with gadolinium showing tumor recurrence extended in sagittal sinus with associated thrombosis.

given on the cervical mass because of pain and PCV-chemotherapy was started.

This image shows two exceptional phenomena of an AOA. It shows invasion of the sagittal sinus with related thrombosis and to our knowledge this is the first time it is reported in literature. Furthermore it clearly shows a metastasis in the cervical region. Systemic metastasis from high grade glioma are a rare phenomenon. There are two possible explanations regarding the spread of this glioma to the cervical region. First, lymphatic drainage from the brain does exist and the mass could be a lymph node metastasis. However, with sagittal sinus invasion, a mass adjacent to the jugular vein and vertebral metastasis hematogenous spread seems to be most likely in this case.

*Address for offprints:* M.C.J. Hanse, Neuro-Oncology Unit, Daniel den Hoed Oncology Center Erasmus University Medical Center, 5201, 3008, Rotterdam, AE, The Netherlands; Tel.: +31-104391415; Fax: +31-104391031; E-mail: moniquehanse@planet.nl