



## Usefulness of serum glial fibrillary acidic protein for the diagnosis of glioblastoma with a dural tail sign

Kimihiko NAGATANI, Satoru TAKEUCHI, Naoki OTANI and Hiroshi NAWASHIRO

Department of Neurosurgery, National Defense Medical College, Tokorozawa, Saitama, Japan

We read with great interest the article entitled “Problem of dural tail sign in glioblastoma multiforme?” by Hsieh et al.<sup>1</sup>, in which the authors presented a case of glioblastoma multiforme (GBM) with a dural tail sign. The authors reported that the preoperative magnetic resonance imaging findings mimicked those of a meningioma with a dural tail sign. In their study, there was a high peak resonance of lipid/lactate but no increase in the resonance of alanine on magnetic resonance spectroscopy (MRS); they concluded that MRS provided a more accurate assessment of the diagnosis of GBMs that mimic meningiomas. We recently treated a patient having glioblastoma with a dural tail sign (Nagatani *et al.*, unpublished data). Our patient was a 40-year-old man who underwent surgery for a left temporal glioblastoma with a dural tail sign. For this patient too, we observed a high peak resonance of lipid/lactate and no increase in the resonance of alanine; MRS was very useful for distinguishing between glioblastomas and meningiomas. Therefore, we completely agree with the authors and wish to provide further comment on the issue of preoperative diagnosis of GBMs mimicking meningiomas. Jung et al.<sup>2</sup> examined the serum concentration of glial fibrillary acid protein (GFAP) of 50 consecutive patients with histologically proven GBM; the preoperative sera of these patients showed a significant elevation in the serum GFAP levels, as well as a significant correlation between tumor volume,

tumor necrosis volume and serum GFAP levels. Brommeland et al.<sup>3</sup> investigated the serum levels of GFAP in patients with high-grade gliomas and reported that the serum levels of GFAP showed a linear correlation to tumor volume in patients with high-grade gliomas. On the basis of these reports, we conclude that not only MRS findings but also serum GFAP levels may be useful for preoperative diagnosis of radiologically atypical cases of GBMs with a dural tail sign.

### REFERENCES

1. Hsieh CT, Liu MY, Tang CT, Sun JM, Tsai WC. *et al.* Problem of dural tail sign in glioblastoma multiforme? *Acta Neurol Belg.* 2009;109:310-313.
2. Jung CS, Foerch C, Schänzer A, Heck A, Plate KH. *et al.* Serum GFAP is a diagnostic marker for glioblastoma multiforme. *Brain.* 2007;130:3336-3341.
3. Brommeland T, Rosengren L, Fridlund S, Hennig R, Isaksen V. Serum levels of glial fibrillary acidic protein correlate to tumour volume of high-grade gliomas. *Acta Neurol Scand.* 2007;116:380-384.

Kimihiko Nagatani,  
Department of Neurosurgery,  
National Defense Medical College,  
3-2 Namiki, Tokorozawa,  
Saitama #359-8513 (Japan).  
E-mail: naval.kimi@gmail.com