LETTER TO THE EDITOR

Morning Glory Sign is not Prevalent in Progressive Supranuclear Palsy

We read with interest the report by Adachi et al.¹ regarding the usefulness of the morning glory sign when diagnosing progressive supranuclear palsy (PSP) and would like to comment on this topic.

Using their methods, we also reviewed eight consecutive PSP patients who had undergone MR examination in the preceding three years (five men and three women aged 52 to 76 years; mean standard deviation, 63.5 ± 2.9 years; mean duration of illness, 4.7 ± 1.0 years). The morning glory sign was observed in only one of the eight patients. Notably, two PSP patients without this sign presented with vertical supranuclear gaze-palsy. In all the patients, midsagittal T₁-weighted images showed significant shortening of the anterior-posterior diameter of the midbrain (the penguin silhouette sign).²

We think, therefore, the sensitivity of the morning glory sign may be low, although the specificity is high. Even if this sign were to appear in patients with vertical supranuclear gaze-palsy, the sign might not be critical in the diagnosis of

Fig. 1. A 59-year-old female with parkinsonian multiple system atrophy (MSA-P) with no vertical supranuclear gaze-palsy. A T₂-weighted image suggests the lateral margin of the posterior tegmentum of the midbrain is flat or slightly concave. Note that both superior and inferior colliculi are present in the same plane.

PSP because the physical sign is sufficient. The value of the imaging diagnosis is in early detection of PSP when the gaze-palsy is not evident in patients with parkinsonism. From this perspective, the penguin silhouette sign is superior to the morning glory sign.

Furthermore, some controversy exists regarding the specificity of the morning glory sign. When the axial images are obtained just above the mammillary body, the lateral margin of the midbrain gives the illusion of being flat or slightly concave because of the posterior deviation of point B (between the tegmentum and the cerebral peduncle) and the coincidence of the superior and inferior colliculi in the same plane (Figs. 1 and 2). It is important to place the imaging plane in the precise location when diagnosing the morning glory sign.

Fig. 2. A midsagittal T₁-weighted image of the same patient. The horizontal line corresponds to the location of Fig. 1.

References

1. Adachi M, Kawanami T, Ohshima H, et al: Morning glory sign: a particular MR finding in progressive supranuclear palsy. *Magn Reson Med* 2005; 3:125–132.
2. Oba H, et al. “Penguin silhouette sign”: useful MR diagnostic sign for progressive supranuclear palsy. *American Society of Neuroradiology 42nd Annual Meeting, Seattle 2004*; 397.

Harushi MORI, Shigeki AOKI, and Kuni OHTOMO

*Department of Radiology, Graduate School and Faculty of Medicine, University of Tokyo
7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8655, Japan*