Infarction of the Abducens Nucleus and Facial Nerve

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A 58-year-old man with diabetes mellitus abruptly developed left-sided peripheral facial palsy, abduction paresis of the left eye and concomitant skew deviation with left-sided hypertropia (Picture 1). There were no other neurologic abnormalities. The findings of an electrocardiogram, echocardiogram, carotid ultrasonography and cranial magnetic resonance (MR) angiography were normal. Cranial MR imaging demonstrated localized infarction in the left-sided most dor-
sal region of the pontine tegmentum (Picture 2, A: fluid-attenuation inversion recovery, B: diffusion-weighted, C: apparent diffusion coefficient, arrows) involving the genu of the facial nerve and posterior region of the abducens nucleus. A diagnosis of atherothrombosis was suspected, and treatment with an anti-platelet agent was administered. Thereafter, the patient’s ophthalmoplegia resolved within five days and the facial palsy was ameliorated within ten days.

Pontine lesions often cause concomitant skew deviation (1). The topographical localization of the abducens nerve and medial longitudinal fasciculus in the abducens nucleus remains uncertain. In our patient, abducens nerve palsy developed without internuclear ophthalmoplegia. Therefore, the abducens nerve may derive from the posterior region of the abducens nucleus.

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Reference