

Acute esotropia, convergence-retraction nystagmus and contraversive ocular tilt reaction from a paramedian thalamomesencephalic infarct

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Accepted 25 May 2014

DESCRIPTION

A 66-year-old woman who had a history of hypertension was admitted for sudden onset of binocular diplopia and unsteady gait. Physical examination showed esotropia, partial ptosis and impaired vertical gaze of the right eye (figure 1 and video 1). The vestibulo-ocular reflex was normal. There was enophthalmos with a narrowing of the right palpebral fissure on adduction of the right eye (figure 2). Convergence-retraction nystagmus was seen on the upgaze (video 2). The patient had ocular tilt reaction (OTR) with skew deviation, excyclotorsion of the right eye and right head tilt. Her limb power was full and she had right lateropulsion during walking. MRI of the brain revealed a tiny left thalamomesencephalic infarct (figure 3A, B). She was given aspirin and rehabilitation training; her condition improved remarkably after 1 month.

Acute esotropia with contralateral supranuclear vertical gaze palsy and convergence-retraction nystagmus in patients with thalamomesencephalic lesion is rare.¹ Damage to supranuclear fibres

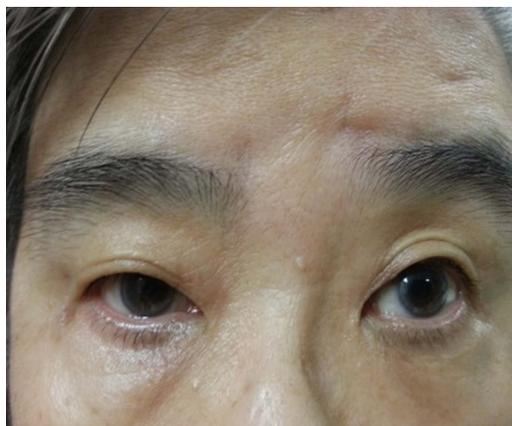


Figure 1 Esotropia and partial ptosis of the right eye.



Video 1 Shows esotropia, partial ptosis and impaired vertical gaze of the right eye.



Figure 2 Enophthalmos with a narrowing of the right palpebral fissure on adduction of the right eye.



Video 2 Shows convergence-retraction nystagmus was seen on the upgaze.

having an inhibitory effect on the convergence neurons or ischaemia of the divergence neurons in the midbrain could result in a sustained discharge of medial rectus neurons.¹ These mechanisms could account for the acute esotropia, convergence-retraction nystagmus and enophthalmos during adduction in our patient. The

Learning points

- ▶ Acute esotropia with contralateral supranuclear vertical gaze palsy and convergence-retraction nystagmus in patients with thalamomesencephalic lesion is rare.
- ▶ Damage to supranuclear fibres having an inhibitory effect on the convergence neurons or ischaemia of the divergence neurons in the midbrain could result in a sustained discharge of medial rectus neurons.
- ▶ The contralateral vertical gaze paresis and partial ptosis were attributed to the involvement of the rostral interstitial medial longitudinal fasciculus, the interstitial nucleus of cajal and the nucleus of the posterior commissure system.



To cite: Man BL, Fu YP. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2014-205168

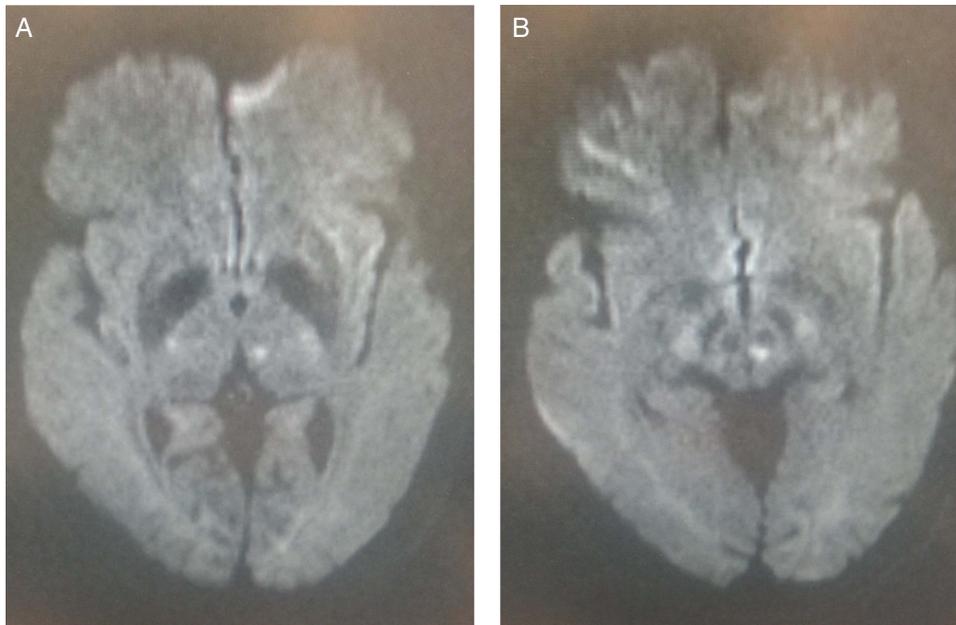


Figure 3 (A) MRI diffusion weighted imaging (DWI) image showed a tiny infarct in the left thalamus. (B) MRI DWI image showed a tiny infarct in the left midbrain.

contralateral vertical gaze paresis and partial ptosis were attributed to the involvement of the rostral interstitial medial longitudinal fasciculus, the interstitial nucleus of cajal (INC) and the nucleus of the posterior commissure system which projects its axons, through the medial longitudinal fasciculus, to the oculomotor complex.² The contraversive OTR is most likely due to ischaemia of the INC.³

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Gomez CR, Gomez SM, Selhorst JB. Acute thalamic esotropia. *Neurology* 1988;38:1759–62.
- 2 Santos BL, Simao GN, Pontes-Neto OM. Neurological picture. conjugate upward gaze paralysis with unilateral ptosis caused by a unilateral midbrain infarction. *J Neurol Neurosurg Psychiatry* 2014;85:114–15.
- 3 Dieterich M, Brandt T. Thalamic infarctions: differential effects on vestibular function in the roll plane (35 patients). *Neurology* 1993;43:1732–40.

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