Mesencephalic bilateral horizontal gaze palsies

Figure Ocular motilities and MRI

Lateral gazes and saccades were limited in both directions (A, C). Left ptosis noted in primary gaze (B) disappeared during ocular motility testing (see videos). Convergence, which older patients do less well, was weak (D). Diffusion-weighted MRI disclosed an infarct at the ventral paramedian midbrain just between cerebral peduncles (E).

An 81-year-old man with diabetes developed dizziness and markedly limited lateral saccades in both directions (figure, A and C, and video 1 on the *Neurology*[®] Web site at www.neurology.org), but preserved pursuit and vestibuloocular movements (VOR, accompanied with back-up saccades; videos 2–4). Diffusion-weighted MRI revealed a small high-signal lesion at the ventral paramedian midbrain between cerebral peduncles (figure, E), probably reflecting bilateral involvements of the ventral pedunculotegmental pathway—one of the three corticofugal pathways for horizontal saccades—coursing through the medial aspect of cerebral peduncle.¹ The abnormally higher VOR gain suggested this pathway might inhibit VOR. Whereas reflexive pursuit conveys signals through the posterior cerebral peduncle, it was spared.² His vertical gaze also appeared limited (up more so than down), implying the involvement of riMLF but not demonstrated in MRI. The patient recovered in 3 weeks.

Chien-Ming Chen, MD; James Cheng-Chung Wei, MD, PhD; and Tzu-Ying Huang, MD, Taichung, Taiwan, Republic of China

Disclosure: The authors report no disclosures.

Address correspondence and reprint requests to Dr. Chien-Ming Chen, Department of Internal Medicine, Feng Yuan Hospital, Department of Health, Executive Yuan, 100, An-Kan Rd, Feng Yuan, Taichung, Taiwan, R.O.C.; jmchen@mail.fyh.doh.gov.tw

Supplemental data at
www.neurology.org

1. Leichnetz GR. The prefrontal cortico-oculomotor trajectories in the monkey: a possible explanation for the effects of stimulation/lesion experiment on eye movement. *J Neurol Sci* 1981;49:387–96.
2. Tusa RJ, Ungerleider LG. Fiber pathways of cortical areas mediating smooth pursuit eye movements in monkeys. *Ann Neurol* 1988;23:174–83.

Neurology®

Mesencephalic bilateral horizontal gaze palsies

Chien-Ming Chen, James Cheng-Chung Wei and Tzu-Ying Huang

Neurology 2008;71;1039

DOI 10.1212/01.wnl.0000326579.46149.13

This information is current as of September 22, 2008

Updated Information & Services

including high resolution figures, can be found at:
<http://n.neurology.org/content/71/13/1039.full>

Supplementary Material

Supplementary material can be found at:
<http://n.neurology.org/content/suppl/2008/09/21/71.13.1039.DC1>

References

This article cites 2 articles, 0 of which you can access for free at:
<http://n.neurology.org/content/71/13/1039.full#ref-list-1>

Subspecialty Collections

This article, along with others on similar topics, appears in the following collection(s):
All Cerebrovascular disease/Stroke
http://n.neurology.org/cgi/collection/all_cerebrovascular_disease_stroke
DWI
<http://n.neurology.org/cgi/collection/dwi>
MRI
<http://n.neurology.org/cgi/collection/mri>
Ocular motility
http://n.neurology.org/cgi/collection/ocular_motility

Permissions & Licensing

Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at:
http://www.neurology.org/about/about_the_journal#permissions

Reprints

Information about ordering reprints can be found online:
<http://n.neurology.org/subscribers/advertise>

Neurology® is the official journal of the American Academy of Neurology. Published continuously since 1951, it is now a weekly with 48 issues per year. Copyright . All rights reserved. Print ISSN: 0028-3878. Online ISSN: 1526-632X.