RESIDENT & FELLOW SECTION

Teaching Video NeuroImage: Impaired bilateral conjugate eye movements in a 48-year-old man

Mao Liu, MD, Dr med, Jing Zhang, MD, PhD, and Min Zhang, MD, PhD

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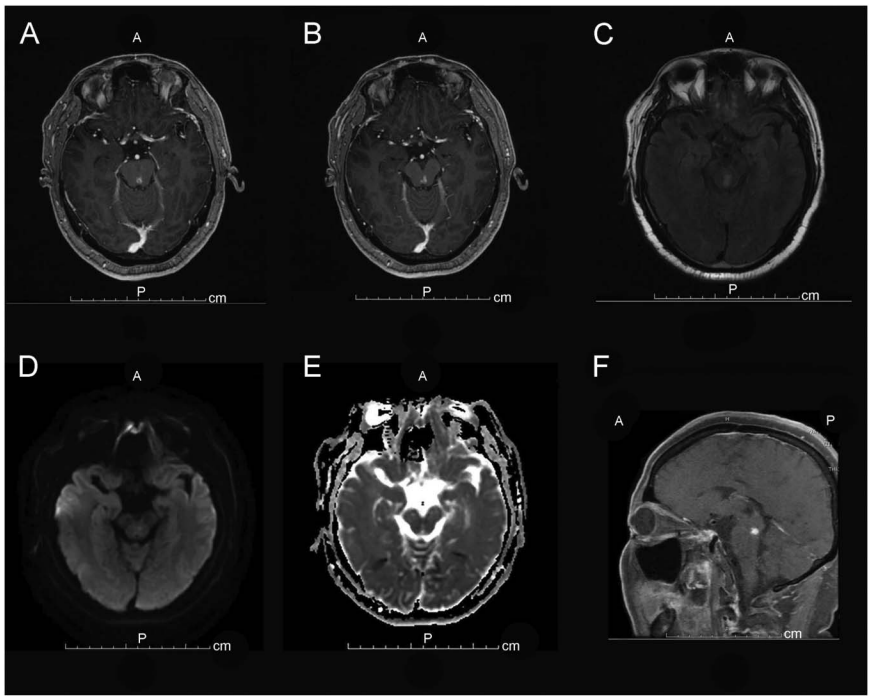
Correspondence
Dr. M. Zhang
mzhang@tjh.tjmu.edu.cn

Figure Lesion ventral to the cerebral aqueduct in the pontomesencephalic junction



Increased signal on T2 fluid-attenuated inversion recovery (C) and postcontrast enhancement (A, B, and F) is seen. Mildly increased and decreased signals on diffusion-weighted imaging (D) and apparent diffusion coefficient (E), respectively, suggest weak diffusion restriction, supporting a diagnosis of ischemic stroke in the subacute phase.

A 48-year-old man developed lightheadedness and diplopia upon awakening 10 days prior. Since then, his double vision had been continuous and stable. Upon admission, neurologic examination revealed bilateral internuclear ophthalmoplegia, abducting nystagmus, and intact convergence reflex (video). His blood pressure was 155/100 mm Hg and HbA1c was 8.7%, suggesting a new diagnosis of diabetes mellitus type 2. CT angiography showed calcified plaques of bilateral cavernous internal carotid arteries. MRI showed a lesion with hyperintensity on T2 fluid-attenuated inversion recovery, contrast enhancement, and mild diffusion restriction ventral to the cerebral aqueduct in the pontomesencephalic junction (figure), which is supplied by interpeduncular perforating branches of posterior cerebral arteries.[1] For this patient with hypertension and diabetes mellitus, the acute onset of symptoms and imaging findings suggest ischemic stroke due to arteriolosclerosis of perforating arteries, which should be differentiated from demyelinating diseases such as multiple sclerosis. Involvement of bilateral medial longitudinal fasciculus rather than oculomotor nucleus is a rare consequence of stroke.[2]

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Video

Teaching slides
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From the Department of Neurology, Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China.

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Appendix Authors

Name	Location	Contribution
Mao Liu, MD, Dr med	Tongji Medical College, Huazhong University of Science and Technology, Wuhan	Designed the study; collected, analyzed, and interpreted the data; wrote and revised the manuscript
Jing Zhang, MD, PhD	Tongji Medical College, Huazhong University of Science and Technology, Wuhan	Analyzed and interpreted the data, revised the manuscript
Min Zhang, MD, PhD	Tongji Medical College, Huazhong University of Science and Technology, Wuhan	Designed the study, interpreted the data, revised the manuscript

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Disclosure

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