RESIDENT & FELLOW SECTION

Teaching NeuroImage: Bilateral Middle Cerebellar Peduncle Stroke in Giant Cell Arteritis

Yasmin Aghajan, MD, Richard N. Mitchell, MD, PhD, Shamik Bhattacharyya, MD, Tiffany Y.-T. Hsu, MD, PhD, and Joshua P. Klein, MD, PhD

Correspondence
Dr. Aghajan
yaghajan@partners.org

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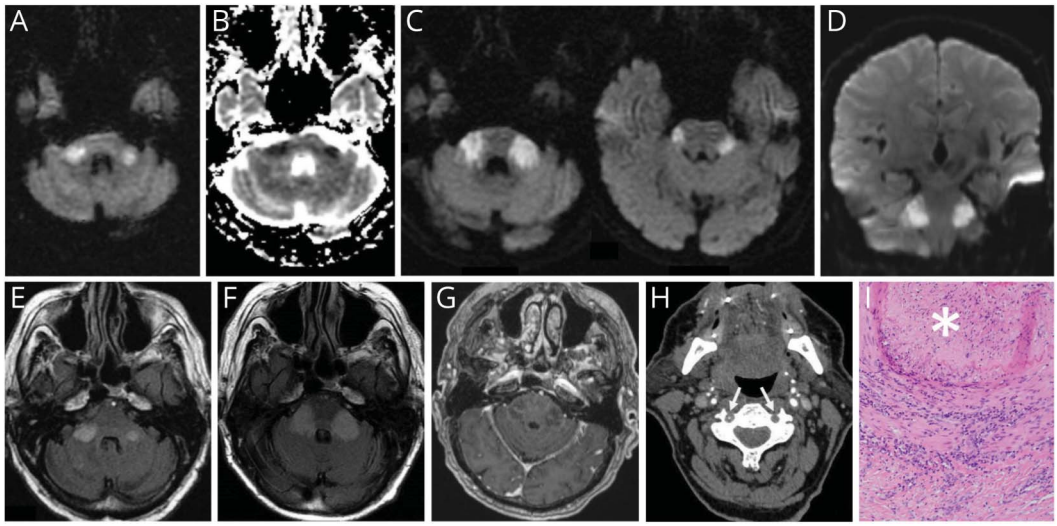
Figure Bilateral MCP Infarcts From Vertebral Artery Stenosis in Giant Cell Arteritis



Axial diffusion-weighted MRI shows restricted diffusion (A) with corresponding apparent diffusion coefficient map hypodensity (B) in bilateral MCPs on first MRI and enlargement of lesions on subsequent axial (C) and coronal (D) images. Axial T2-FLAIR MRI shows abnormal hyperintensity in the bilateral MCPs on first MRI (E) and enlargement of lesions on subsequent MRI (F). Axial T1 postcontrast images on the subsequent MRI show mild peripheral and internal enhancement of the MCP lesions, which can be seen in subacute stroke (G). Axial CT angiography shows severe stenosis of the right vertebral artery and complete occlusion of the left vertebral artery at the C3 vertebral level (H, arrows). Hematoxylin and eosin-stained sections of the temporal artery show a dense mononuclear cell infiltrate throughout the media and extending into the adventitia, with associated internal elastic tissue fragmentation, smooth muscle cell injury, and adventitial fibrosis (lower asterisk). There is also significant intimal hyperplasia (upper asterisk) (200× magnification) (I). MCP = middle cerebellar peduncle.

A 78-year-old man presented with weeks of progressive fatigue and dysarthria. Brain MRI showed symmetrical middle cerebellar peduncle (MCP) infarctions (Figure, A, B, E). CT angiography showed multifocal bilateral cervical vertebral artery stenoses (Figure, H). Symptoms worsened over 2 weeks, despite antiplatelet therapy. Repeat MRI showed enlargement and mild enhancement of the MCP lesions (Figure, C, D, F, G). CRP was 185 mg/L, and ESR was 97 mm/h. Temporal artery biopsy revealed non-necrotizing arteritis (Figure, I). Isolated lesions of bilateral MCPs are extremely rare and arise from vascular, degenerative, inflammatory, and neoplastic disorders.[1,2] Giant cell arteritis is a rare cause of stroke and tends to preferentially affect the vertebrobasilar system.

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From the Department of Neurology (Y.A., S.B., J.P.K.), Department of Pathology (R.N.M.), and Department of Rheumatology (T.Y.-T.H.), Brigham and Women's Hospital, Boston, MA.

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Appendix Authors

Name	Location	Contribution
Yasmin Aghajan, MD	Department of Neurology, Brigham and Women's Hospital	Drafting/revision of the manuscript for content, including medical writing for content, major role in the acquisition of data, study concept or design, and analysis or interpretation of data
Richard N. Mitchell, MD, PhD	Department of Pathology, Brigham and Women's Hospital	Major role in the acquisition of data and analysis or interpretation of data
Shamik Bhattacharyya, MD	Department of Neurology, Brigham and Women's Hospital	Drafting/revision of the manuscript for content, including medical writing for content, major role in the acquisition of data, and study concept or design
Tiffany Y.-T. Hsu, MD, PhD	Department of Rheumatology, Brigham and Women's Hospital, Boston, MA	Drafting/revision of the manuscript for content, including medical writing for content, major role in the acquisition of data, and analysis or interpretation of data
Joshua P. Klein, MD, PhD	Department of Neurology, Brigham and Women's Hospital	Drafting/revision of the manuscript for content, including medical writing for content, study concept or design, and analysis or interpretation of data

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