Teaching *NeuroImages*: Giant cell arteritis presenting with acute ischemic strokes due to diffuse intracranial stenoses

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Figure 1 Brain MRI, duplex sonography, and biopsy of the right superficial temporal artery (STA)

Brain diffusion-weighted imaging shows acute ischemic stroke in multiple arterial territories (A). Duplex sonography of the right STA discloses hypoechoic halo (B; arrows indicate arterial wall). STA biopsy shows CD3+/inflammatory cells and elastic-lamina fragmentation (C, D).

A 72-year-old woman with unremarkable medical history was admitted with acute ischemic strokes (AIS) in multiple arterial distributions in anterior and posterior circulation (figure 1A and supplemental data at Neurology.org). Elevated erythrocyte sedimentation rate (98 mm/h) prompted the evaluation of superficial temporal arteries (STA) with duplex sonography (halo sign; figure 1B) and contrast

angiography (right STA [figure 2A] and multiple intracranial arterial stenoses [figure 2, A–D]). STA biopsy confirmed the diagnosis of giant cell arteritis (GCA; figure 1, C and D).

Intracranial arteries are uncommonly involved in GCA ($\leq 4\%$).¹ The presentation of GCA with AIS in different arterial distributions due to simultaneous involvement of multiple intracranial arteries may

Supplemental data
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Figure 2 Brain digital subtraction angiography

Digital subtraction angiography shows severe intracranial stenoses of internal carotid (A, B) and vertebral (C, D) arteries. Right superficial temporal artery (STA) is also affected (A, arrowheads) compared to normal left STA (B, arrowheads).

simulate cardioembolism and can be overlooked in AIS diagnostic workup.²

AUTHOR CONTRIBUTIONS

Odysseas Kargiotis: study design, data collection and drafting. Apostolos Safouris: study design, data collection and drafting. Vasileios N. Petrou: data collection, comments during manuscript revision. Georgios Magoufis: data collection, critical comments during manuscript revision. Eleftherios Stamboulis: study design, critical comments during manuscript revision. Georgios Tsigoulis: study design, drafting and revising the manuscript.

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