

# Teaching NeuroImage: Bilateral Internal Carotid Artery Stenosis Due to Aggressive Giant Cell Arteritis

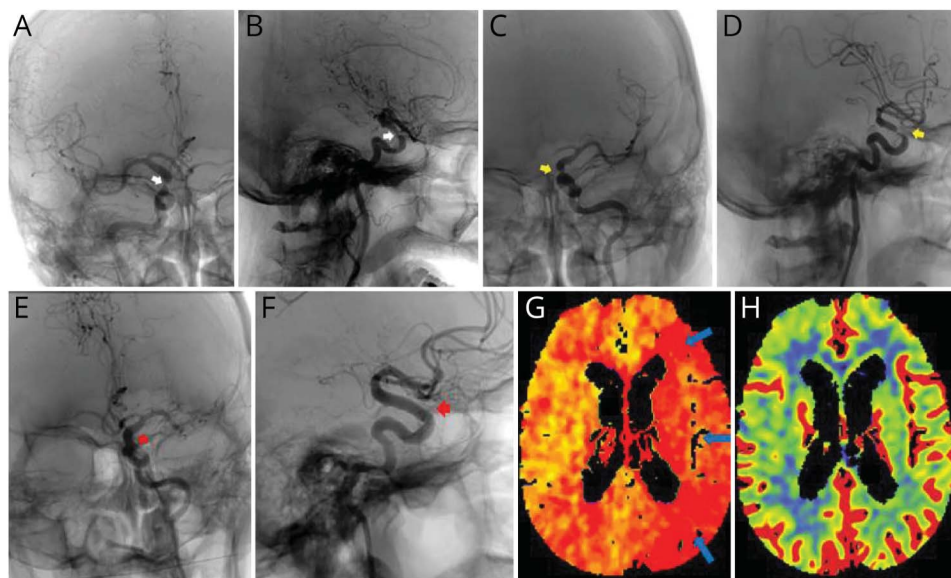
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*Neurology*® 2023;100:932-933. doi:10.1212/WNL.000000000206823

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**Figure 1** Angiography and CT Perfusion



Angiography (A–F): moderate stenosis of the right carotid artery, white arrow (Frontal, A; Lateral, B); severe stenosis of the left internal carotid artery, yellow arrow (Frontal, C; Lateral, D); left internal carotid artery post-angioplasty without residual stenosis, red arrow (Frontal, E; Lateral, F); CT perfusion (G and H): ischemic penumbra in the left hemisphere, blue arrows (time to peak, G; cerebral blood volume, H).

An 80-year-old man was admitted with sudden right eye vision loss secondary to acute ischemia of the optic nerve and subacute headache with elevated ESR (142 mm/h). A diagnosis of giant cell arteritis (GCA) was made, and the patient was started on methylprednisolone (intravenous, 1 g/d for 3 days) followed by oral prednisone (60 mg/d). Ten days later, he was admitted to our stroke center with severe aphasia (NIHSS 9). CT angiography revealed bilateral vertebral stenosis and bilateral internal carotid artery (ICA) stenosis in the ophthalmic segment (>90% stenosis) with extensive ischemic penumbra area on CT perfusion (Figure 1). Angioplasty of the left ICA was successfully performed with symptom improvement (Figure 1). Ultrasound-guided biopsy confirmed GCA (Figure 2). The patient continued prednisone (60 mg/d), methotrexate (20 mg/wk), and aspirin (100 mg/d). GCA commonly presents with vertebral stenosis and ICA stenosis.<sup>1</sup> Intracerebral stenosis is a rare complication of CGA and is commonly refractory to medical therapy. Angioplasty is a potential rescue strategy to prevent ischemic complications.<sup>2</sup>

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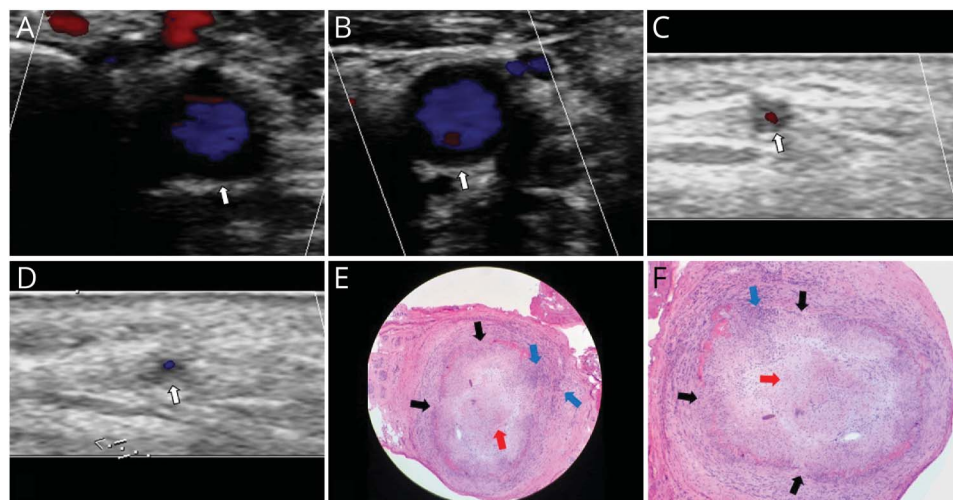
### Teaching slides

<http://links.lww.com/WNL/C575>

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**Figure 2** Doppler Sonography and Left Temporal Artery Biopsy



Doppler Sonography (A–D). Hypoechoic halo (white arrows) secondary to mural inflammation and mural edema in the right common carotid artery (transversal, A), left common carotid artery (transversal, B), and in both temporal arteries (right C and left D). Left temporal artery biopsy (E and F). Intimal hyperplasia (red arrow), elastic internal lamina disruption (black arrow), and inflammatory infiltrate with lymphocytes and histiocytes (blue arrow).

### Author Contributions

A. Doncel-Moriano Cubero: drafting/revision of the manuscript for content, including medical writing for content; major role in the acquisition of data; study concept or design; analysis or interpretation of data. G. Espigol: drafting/revision of the manuscript for content, including medical writing for content; study concept or design; analysis or interpretation of data. A. Renú: drafting/revision of the manuscript for content, including medical writing for content; study concept or design; analysis or interpretation of data.

### Study Funding

The authors report no targeted funding.

### Disclosure

The authors report no relevant disclosures. Go to [Neurology.org/N](http://Neurology.org/N) for full disclosures.

### Publication History


Received by *Neurology* May 27, 2022. Accepted in final form December 2, 2022. Submitted and externally peer reviewed. The handling editor was Associate Editor Roy Strowd III, MD, Med, MS.


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2. Caton MT, Mark IT, Baker A, et al. Endovascular treatment for intracranial giant cell arteritis with angioplasty, stenting, and intra-arterial calcium channel blockers. *J Neurointervent Surg*. 2021;13:A1-A156.

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*Neurology* 2023;100:932-933 Published Online before print December 23, 2022  
DOI 10.1212/WNL.0000000000206823

**This information is current as of December 23, 2022**

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