

Progressive and Fatal Brainstem Stroke in Systemic Giant Cell Arteritis

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Figure 1 Diffusion-Weighted Imaging (DWI), Magnetic Resonance Angiography (MRA), and Digital Subtraction Angiography (DSA)



DWI shows cerebellar infarctions (A). Time-of-flight MRA shows neither left vertebral nor basilar arteries (B). Contrast-enhanced MRA shows occlusion long extracranial VAs, regular intracranial VAs, and BA (C). DSA shows collateral between right external carotid and VA (D.a–E.c). BA = basilar artery; VA = vertebral artery.

A 74-year-old woman presented with acute worsening of a 6-month long history of vertigo and postural instability with MRI evidence of cerebellar and brainstem acute infarcts. Extensive neurovascular assessment revealed a severe vascular damage with multiple stenoses and occlusions along the vertebrobasilar axis (Figure 1). Duplex ultrasonography showed hypoechoic halo sign along facial artery, whereas PET-CT highlighted increased fluorine-18-fluorodeoxyglucose uptake along vertebral and other larger arteries, thus allowing a diagnosis of giant cell arteritis (Figure 2).^{1,2} Despite prompt treatment with high-dose steroids and tocilizumab, which probably made uninformative a subsequent temporal artery biopsy (Figure 2), patient died of reported disability after strokes.

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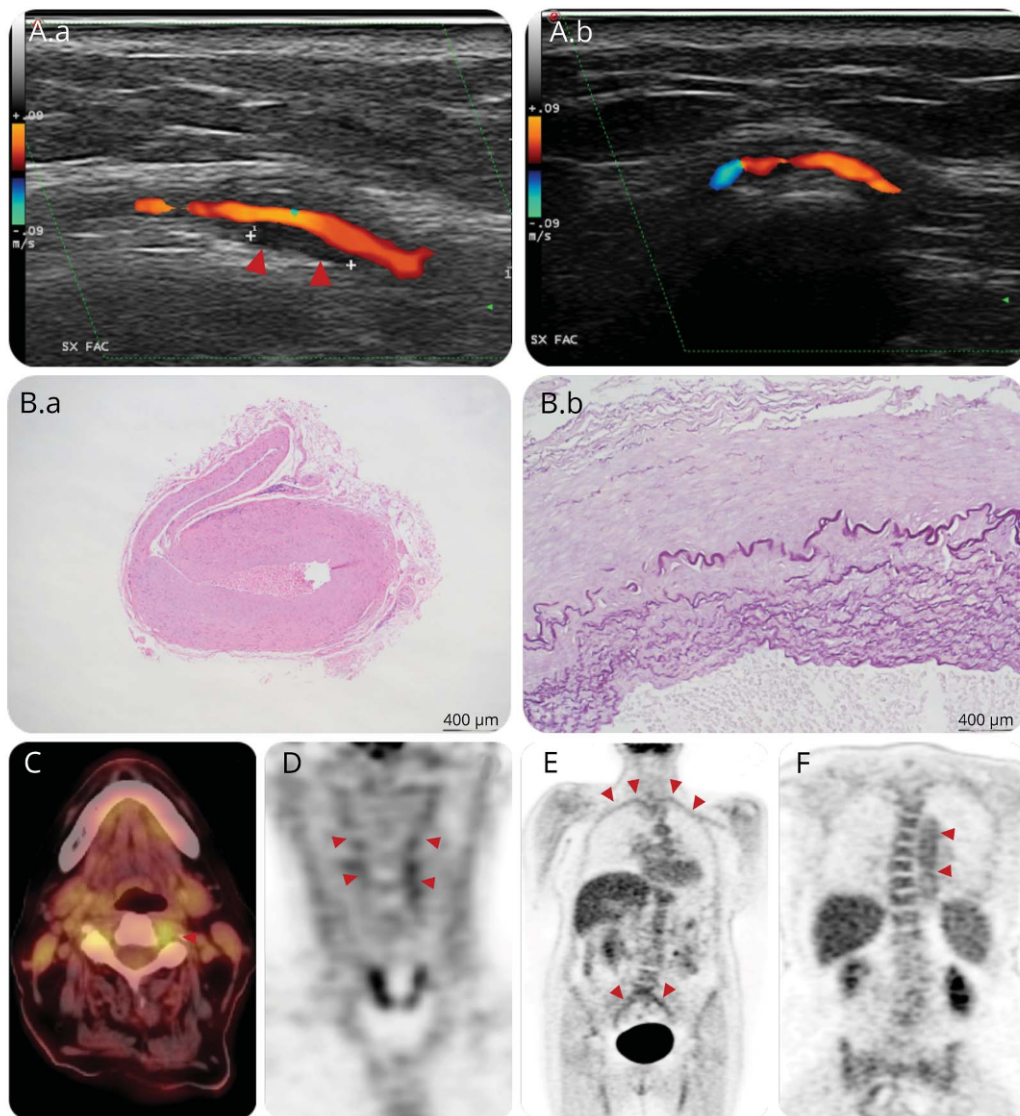
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Figure 2 Duplex Sonography, Superficial Temporal Artery Biopsy (STAb), Fluorine-18-Fluorodeoxyglucose ([¹⁸F]-FDG) PET-CT



Facial artery duplex sonography shows hypoechoic halo (A.a), disappeared after therapy (A.b). STAb after 11-day-therapy shows intimal thickening and elastic lamina fragmentation (B.a, B.b). PET-CT shows [¹⁸F]-FDG uptake in vertebral artery, subclavian artery, iliac artery, and thoracic aorta (C–F).

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Appendix Authors

Name	Location	Contribution
Valentina Poretto, MD	Neurology Unit, Santa Chiara Hospital, Trento, Italy	Design and conceptualized study; analyzed the data; drafted the article for intellectual content
Silvio Piffer, MD	Neurology Unit, Santa Chiara Hospital, Trento, Italy	Design and conceptualized study; analyzed the data; drafted the article for intellectual content

Appendix (continued)

Name	Location	Contribution
Valeria Bignamini, MD	Neurology Unit, Santa Chiara Hospital, Trento, Italy	Interpreted the data; revised the article for intellectual content
Enzo Tranquillini, MD	Neurology Unit, Santa Chiara Hospital, Trento, Italy	Interpreted the data; revised the article for intellectual content
Davide Donner, MD	Nuclear Medicine, Santa Chiara Hospital, Trento, Italy	Major role in the acquisition of data
Francesco Paolo Cavatorta, MD	Rheumatology Unit, Santa Chiara Hospital, Trento, Italy	Major role in the acquisition of data

Appendix *(continued)*

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Mattia Barbareschi, MD	Department of Pathology, Santa Chiara Hospital, Trento, Italy	Major role in the acquisition of data
Benedetto Petralia, MD	Neuroradiology, Santa Chiara Hospital, Trento, Italy	Major role in the acquisition of data
Bruno Giometto, MD	Neurology Unit, Santa Chiara Hospital, Trento, Italy	Interpreted the data; revised the article for intellectual content

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