

# Teaching NeuroImages: Corkscrew medullary veins in active neurosarcoidosis

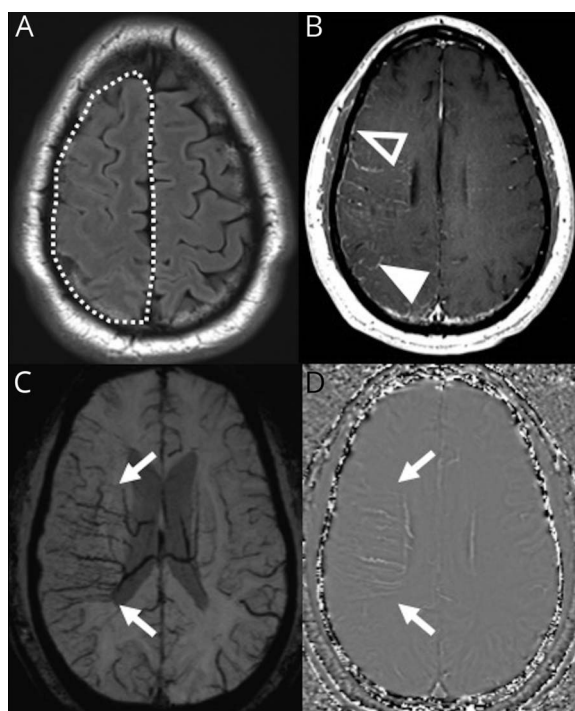
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**Figure** Fluid-attenuated inversion recovery (FLAIR), gadolinium contrast-enhanced, and susceptibility-weighted images



(A) FLAIR images show asymmetric gyral edema of the right frontal and parietal lobes (dotted line). (B) Both pial (clear arrowhead) and dural (solid arrowhead) enhancement were seen throughout the right hemisphere. (C) Susceptibility-weighted images show dilated and tortuous right-sided medullary veins (white arrows), confirmed on phase-contrast imaging (D).

A 47-year-old man with a history of biopsy-proven sarcoidosis presented with 6 months of cognitive decline and incontinence. Neuroimaging was consistent with active neurosarcoidosis and notable for asymmetrical dilation and corkscrew appearance of the right medullary veins (figure). Medullary vein dilation is a recently described imaging pattern in neurosarcoidosis, seen in 33% of patients.<sup>1</sup> The pathogenesis is uncertain but may result from perivenous inflammation or dysfunction of glymphatic drainage.<sup>1</sup> Susceptibility-weighted imaging highlights the veins by localizing the paramagnetic signal of deoxygenated blood.<sup>2</sup> Medullary vein dilation is a frequent finding in neurosarcoidosis, which can be used as one of the diagnostic criteria and can serve as a biomarker of disease activity.

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## Appendix Authors

Name	Location	Role	Contribution
<b>Michael Travis Caton Jr., MD</b>	Brigham and Women's Hospital, Boston, MA	Author	Designed and conceptualized study, interpreted the data, drafted the manuscript for intellectual content
<b>Wai-Ying Wendy Yau, MD</b>	Brigham and Women's Hospital, Boston, MA	Author	Analyzed the data, revised the manuscript for intellectual content
<b>Raymond Y. Huang, MD, PhD</b>	Brigham and Women's Hospital, Boston, MA	Author	Analyzed the data, revised the manuscript for intellectual content
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## Disclosure

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

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