Teaching NeuroImages:
Susceptibility-weighted MRI
First clue to DAVF complicating sinovenous thrombosis

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A 61-year-old man with factor V Leiden thrombophilia presented with hemorrhage and transverse sinus thrombosis (figure, A). Four years later, he developed worsening aphasia, new hemorrhage, and hemispheric edema (figure, B). Susceptibility-weighted imaging (SWI) showed bright signal in the straight sinus (figure, C). A dural arteriovenous fistula (DAVF) was diagnosed (figure, D). The brain edema improved (figure, E) and SWI sinus hyperintensity resolved after endovascular disconnection of the fistula (figure, F).

Sinovenous thrombosis is a risk factor for DAVF. SWI that demonstrates hyperintensity within a venous sinus (from an arteriovenous shunt and oxygenated, high-flow blood) suggests the diagnosis.

AUTHOR CONTRIBUTIONS
Vivek B. Kalra performed a literature review and drafted the manuscript text. Ajay Malhotra conceived of the study, performed a literature review, and assisted in writing the final manuscript text. Charles C. Matouk conceived of the study, performed a literature review, and assisted in writing the final manuscript text.

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