Teaching *NeuroImages*: RCVS causing simultaneous convexity subarachnoid hemorrhage and hemimedullary infarction

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Figure 1 Cerebral imaging

(A) CT head without contrast shows convexity subarachnoid hemorrhage in the left frontal lobe. (B) MRI (fluid-attenuated inversion recovery sequence) shows hyperintensity in the left hemimedulla.

A 34-year-old previously healthy man presented with thunderclap headache, dysphagia, dysarthria, and oscillopsia. Neurologic examination revealed right-beating nystagmus, dysphagia, hypophonia, right hemianesthesia, and left hemiparesis. Brain imaging showed convexity subarachnoid hemorrhage (figure 1A) and left hemimedullary infarct (figure 1B).

Catheter angiography showed tapering of left vertebral artery and diffuse segmental vasoconstriction (figure 2). Routine serum and CSF results were unremarkable. Thorough infectious, immunologic, and coagulopathy workup was negative. Reversible cerebral vasoconstriction syndrome (RCVS) is associated with severe headache, stroke, brain edema, and

Figure 2 Vascular imaging

(A) Injection of the left vertebral artery shows narrowing (arrowhead) and multilevel stenosis (arrows). (B) Injection of the right vertebral artery shows diffuse focal stenosis (arrows).

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hemorrhage characterized by transient, multifocal intracranial vessel vasoconstriction.¹ RCVS can cause simultaneous ischemic and hemorrhagic stroke.²

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