A 56-year-old woman on hemodialysis through left arm arteriovenous fistula presented with headache, aphasia, and gradually worsening left facial swelling (figure 1A). MRI showed left temporal intracerebral hemorrhage with arterialized veins (figure 2, A and B). Cerebral angiography revealed multiple areas of venous flow reversal suggesting venous hypertension (figure 2C). Fistulogram demonstrated chronic left cephalic vein occlusion with outflow retrograde through the left internal jugular, facial, intracranial, and then centrally through right internal jugular veins. Recanalization of the venous occlusion improved facial swelling (figure 1B). Early recognition of facial swelling may prevent intracerebral hemorrhage in patients with arteriovenous fistula.1,2

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**Disclosure**

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**Figure 2** Left temporal hemorrhage with arterialized veins

(A) Gradient echo image shows acute left temporal hemorrhage (asterisk). (B) MRA of the head shows a large left temporal intracerebral hemorrhage (asterisk) and arterialized veins, including the left superficial temporal vein (arrows). (C) Network of abnormal veins in the left neck derived from the left cephalic, subclavian, and internal jugular veins due to proximal venous occlusion.

### References


Teaching NeuroImages: Facial swelling and intracerebral hemorrhage from venous hypertension in a dialysis patient
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