Teaching NeuroImages:

Occlusion of all 4 major extracranial vessels

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A 68-year-old man presented with 5 weeks of recurrent syncope and vision loss. He had orthostatic hypotension with a blood pressure drop from 145/44 mm Hg sitting to 90/40 mm Hg standing. Neurologic examination and brain MRI were normal. Angiography revealed bilateral internal carotid and vertebral artery occlusions; cerebral perfusion was provided by collateral circulation (figure). His antihypertensive medications were reduced. The orthostasis resolved, and he became asymptomatic.

Bilateral carotid and vertebral artery occlusion is extremely rare.^{1,2} Collateral circulation can maintain

cerebral perfusion without infarction. In symptomatic patients, reducing antihypertensive drugs and/or increasing blood pressure with fludrocortisone or midodrine may be effective treatments.

REFERENCES

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2. Okada Y, Shima T, Nishida M, Kagawa R. Magnetic resonance angiography visualization of four vessel (bilateral carotid and vertebral artery) occlusion: two case reports. *Neurol Med Chir* 1998;38:28–33.

Figure Extracranial occlusions

(A) Magnetic resonance angiography shows occluded internal carotid and vertebral arteries bilaterally (black arrowheads) with distal reconstitution of the right vertebral artery (white arrowhead). (B) Angiogram shows reconstitution of the distal right vertebral artery by cervical collaterals. (C) Angiogram shows right vertebral artery supplying the anterior circulation via the circle of Willis.

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