Secondary Bleeding Into a Subacute Carotid Wall Hematoma

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A 50-year-old woman presented with left-sided Horner syndrome that had occurred after an extensive scuba dive 10 days before. Ultrasound of the cervical arteries showed a homogeneous, moderately echolucent, eccentric thickening of the left internal carotid artery wall (the Figure, A), findings that were strongly suggestive of a several-day-old intramural carotid hematoma associated with carotid artery dissection. The carotid lumen was completely occluded. The patient was treated with intravenous heparin (activated partial thromboplastin time, 60 to 80 seconds) to

Figure. Sagittal ultrasound images of the left proximal internal carotid artery. A, Ultrasound image on admission demonstrating subacute intramural hematoma (arrowheads). B and C, Follow-up ultrasound 2 days later showing bleeding within the preexisting subacute hematoma (B, arrows) and active blood flow within the secondary bleeding (C, arrowheads). The carotid artery lumen was partially recanalized (C, arrows). D and E, Follow-up ultrasound 3 months later demonstrating the resolved hematoma (D, arrowheads) and the recanalized carotid lumen (E).
prevent embolic cerebral events. Follow-up ultrasound 2 days later showed several new irregular echolucent areas within the preexisting hematoma (the Figure, B) with flow signals in power-mode ultrasound (the Figure, C), indicating acute secondary bleeding into the hematoma. Within 3 months, the wall hematoma had resolved considerably, and the carotid artery lumen was largely recanalized (the Figure, D and E).

Carotid artery dissections may occur spontaneously or after jerky head movements. In our patient, the extensive scuba dive with an extended neck may have triggered carotid dissection. Intramural carotid hematomas variably narrow the carotid lumen and compress adjacent tissue. Compression of perivascular sympathetic nerve fibers may result in ipsilateral Horner syndrome. The major risk of carotid dissection is ischemic stroke resulting from clot formation in the distal carotid stump. Anticoagulation with heparin may be used to prevent such events. On the basis of pathophysiological considerations, one may expect that anticoagulation may perpetuate bleeding within the preexisting hematoma, but this has not been shown before. Our images illustrate that initiation of heparin therapy in subacute carotid dissection may be associated with secondary bleeding into the healing hematoma.

**Disclosures**

None.
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