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.
Secondary Bleeding Into a Subacute Carotid Wall Hematoma
Michael Rosenkranz and Christian Gerloff

Circulation. 2010;121:e395-e396
doi: 10.1161/CIR.0b013e3181df92f7
Circulation is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2010 American Heart Association, Inc. All rights reserved.
Print ISSN: 0009-7322. Online ISSN: 1524-4539

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://circ.ahajournals.org/content/121/18/e395

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in Circulation can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office. Once the online version of the published article for which permission is being requested is located, click Request Permissions in the middle column of the Web page under Services. Further information about this process is available in the Permissions and Rights Question and Answer document.

Reprints: Information about reprints can be found online at:
http://www.lww.com/reprints

Subscriptions: Information about subscribing to Circulation is online at:
http://circ.ahajournals.org/subscriptions/