Prognosis and Safety of Anticoagulation in Intracranial Artery Dissections in Adults
Marcel Arnold, Marie-Germaine Bousser and Ralf W. Baumgartner

Stroke. 2007;38:e140; originally published online September 13, 2007;
doi: 10.1161/STROKEAHA.107.497370
Stroke is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2007 American Heart Association, Inc. All rights reserved.
Print ISSN: 0039-2499. Online ISSN: 1524-4628

The online version of this article, along with updated information and services, is located on the
World Wide Web at:
http://stroke.ahajournals.org/content/38/11/e140

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in Stroke 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 Stroke is online at:
http://stroke.ahajournals.org//subscriptions/
Prognosis and Safety of Anticoagulation in Intracranial Artery Dissections in Adults

To the Editor:

We read with great interest the article by Metso et al1 and congratulate the authors for their important work for 2 main reasons: (1) previous studies about intracranial artery dissections (IAD) were based either on patients recruited in neurological departments after experiencing mainly ischemic events and/or local symptoms and signs (eg, headache, Horner syndrome), or in neurosurgical departments after a subarachnoid hemorrhage. Metso et al included all consecutive patients from the neurological as well as the neurosurgical units of the Helsinki University Central Hospital and avoided the inclusion bias mentioned above. Second, the authors report the largest series of patients with IAD.

The authors conclude that IAD presenting with cerebral ischemia and showing no aneurysm at angiography can be safely anticoagulated, and their conclusion is shared by Leys and Debette2 in their Editorial Comment. We think that the data presented are not sufficient to prove that anticoagulation is safe in IAD.

The reliable in vivo diagnosis of cerebral arterial dissection is based on the detection of an intramural hematoma, a double lumen, an intimal flap, or an aneurysm at a nonbifurcation site.3,4,5 In contrast, detection of a flame-shaped occlusion, a string sign or a segmental stenosis at angiography is nonspecific. In our experience, IAD are difficult to firmly diagnose because of the rarity of specific signs. This is illustrated in the Metso et al series because they found an intracranial wall hematoma in 3 (13%) and an intracranial intimal flap or double lumen in 8 (35%) of 23 patients with “solely intracranial dissection.” The remaining patients showed nonspecific angiographic signs such as occlusion or stenosis which may be of atherothrombotic or embolic origin. The corresponding figure for extracranial dissections extending intracranially are unclear because the authors did not state whether the wall hematoma, the intracranial intimal flap and double lumen were also detected intracranially.3 This differentiation between IAD and other varieties of occlusion or stenosis, however, is crucial because anticoagulation of an intracranial thrombus or embolus is not expected to cause a vessel rupture and subarachnoid hemorrhage, whereas a dissected intracranial artery might indeed carry a risk of rupture. Therefore, it is of paramount importance that Metso et al report how many of their patients had radiological findings permitting the unequivocal diagnosis of IAD.

We would also like to comment on the diagnosis of subarachnoid hemorrhage, which in Metso et al’s series was exclusively based on brain CT or MRI. Some patients with IAD have a normal CT but blood in cerebrospinal fluid. This is why we routinely perform—in the absence of contraindications—a lumbar puncture in patients with IAD before starting heparin or aspirin. In conclusion, we agree that it is likely that anticoagulation in IAD is safer than previously thought, but it is too early to firmly conclude that it is safe.

Disclosures

None.

Marcel Arnold, MD
Department of Neurology
University Hospital of Bern
Bern, Switzerland

Marie-Germaine Bousser, MD
Assistance Publique Hôpitaux de Paris
University Hospital Lariboisière
Paris, France

Ralf W. Baumgartner, MD
Department of Neurology
University Hospital of Zürich
Zürich, Switzerland


2. Leys D, Debette S. Anticoagulation in cerebral ischemia associated with intracranial artery dissections is safe, but is it enough to recommend it? Stroke. 2007;38:1720–1721.

