Size Matters! Stent-Length Is Associated With Thrombembolic Complications After Carotid Artery Stenting

To the Editor:

We examined the article by Schillinger et al,1 in which the authors describe the results of a multicenter registry investigating the potential effect of open- versus closed-cell design stents on periprocedural complications after carotid artery stenting (CAS). In contrast to a previously published study,2 they found no association between stent design and the 30-day combined rate of transient ischemic attack, stroke and death.

Aside from the stent design (ie, open-cell versus closed-cell) the length of the stent might be an additional factor associated with outcome after CAS. While the length of a stenosis has already been identified as a major risk factor for thrombembolic complications after CAS,3–5 the choice of an adequately sized stent will not only depend on the length of the stenosis, but also on other variables including the tortuosity of the target vessel or the distance of the stenosis from the carotid bifurcation. The stent length could therefore become a useful overall risk marker for CAS, reflecting the length of the lesion, as well as the technical complexity of the procedure. To address this issue, we retrospectively analyzed our updated prospectively evaluated single-center experience of CAS6 and primarily focused on the impact of stent length (20, 30 and 40 mm) on the combined 30 day minor-, major-stroke and death-rate. In addition, if complete data were available, we used the appearance of new diffusion-weighted imaging (DWI) lesions in patients who received pre- and postinterventional DWI7 as a second outcome parameter.

The study population comprised 276 patients (male: 74.6%; mean age: 69.1 ± 9.0 years; symptomatic stenosis: 56.5%) with completed clinical follow-up. Of those, 170 patients (male: 77.6%; mean age: 69.5 ± 9.0 years; symptomatic stenosis: 56.5%) also completed pre- and postprocedural DWI. In all patients only 2 different types of open-cell designed stents were used (Precise and Smart-Stents, Fa. Cordis). Patients who received a stent of 20 mm (n = 60), 30 mm (n = 121) or 40 mm (n = 95) length had a clinical periprocedural stroke and death-rate of 3.3%, 5.0% and 8.4% (black bars; P for linear trend=0.17). Postprocedural new DWI-lesions (20 mm: n = 35; 30 mm: n = 74; 40 mm: n = 61) occurred significantly more often with the increase of stent-length (grey bars: 45.7%, 67.6% and 78.7%; P for linear trend<0.01).

Maybe, Schillinger et al could use their large database to address this important issue.

Disclosures

None.

Klaus Gröschel, MD
Department of Neurology
University of Göttingen
Göttingen, Germany

Sonja Schnaudigel, MD
Department of Neuroradiology
Center of Neurology and Hertie-Institute for Clinical Brain Research
University of Tübingen
Tübingen, Germany

Ulrike Ernemann, MD
Department of Neurology
University of Göttingen
Göttingen, Germany

Katrin Wasser, MD
Department of Neurology
University of Göttingen
Göttingen, Germany

(Stroke. 2008;39:e131-e132.)
© 2008 American Heart Association, Inc.
Stroke is available at http://stroke.ahajournals.org

DOI: 10.1161/STROKEAHA.108.522219
Andreas Kastrup, MD
Department of Neurology
University of Göttingen
Göttingen, Germany
Department of General Neurology
Center of Neurology and Hertie-Institute for Clinical Brain Research
University of Tübingen
Tübingen, Germany

Size Matters! Stent-Length Is Associated With Thrombembolic Complications After Carotid Artery Stenting
Klaus Gröschel, Sonja Schnaudigel, Ulrike Ernemann, Katrin Wasser and Andreas Kastrup

Stroke. 2008;39:e131-e132; originally published online June 26, 2008;
doi: 10.1161/STROKEAHA.108.522219

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/39/8/e131

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/