Two Different Studies on Carotid Stent Cell Design Importance, or Are We Just Saying the Same Thing?

To the Editor:

On behalf of the Belgium-Italian Carotid (BIC) Registry, we would like to reply to the article entitled “Does carotid stent cell design matter” by Shillinger et al, which contradicts our study many times. The authors investigated the impact of different cell stent design on neurological adverse events and mortality after carotid artery stenting, and reported a better rate of combined neurological complications at 30 days with open cell (4.1%) compared to closed-cell stents (6.1%) (P=0.077, P=0.38, respectively), without reporting any difference in asymptomatic and symptomatic patients. When investigated by multivariable analysis, the risk for acute events on the day of the procedure (adjusted odds ratio=0.83, P=0.57) and the risk for subacute events at days 1 to 30 (adjusted odds ratio=1.61, P=0.51) also were not significantly different between the 2 groups. They conclude that current data do not support the superiority of a specific carotid stent cell design with respect to neurological complications, stroke, and mortality risk.

Although these conclusions appear to be in contrast to the results of the BIC study, by carefully analyzing the author’s Table 2, it seems that these results are not so far from our own. The BIC study focused the attention on postprocedural events (defined as all neurological complications that occurred “after the removal of all endovascular material”) when the struts of the stent and its scaffolding properties are the only protection against plaque embolization. The take-home message from our study was that in the symptomatic population only late complication rates are highest for the open cell types and increase with larger free cell area.

So, after a cautious view of Table 2, it is evident that Schillinger et al too reported a lower rate of postprocedural results, so called “subacute events” (from day 1 to 30), with closed cell stents (combined transient ischemic attack, stroke & death rate of 0.7% versus 1.6%, and combined stroke and death rate of 0.3% versus 1.3%, respectively, for closed versus open stents in the symptomatic population) (P>0.05). The same results in favor of closed cell, limited to subacute events, are also valid for the asymptomatic population and are even statistically significant if considering the stroke and death rate in the total population (0.1% closed cell versus 0.8% open cell, P=0.035). These findings are very similar to the results from the BIC registry.

Moreover the authors by collecting their subacute events (defined as “postprocedure events at day 1 to day 30”) didn’t include those events that occurred in day 0 after the procedure, which, in our opinion, are related to the scaffolding of the ruptured plaque against the vessel wall by means of a stent. These early postprocedural events must be included in the analysis of postprocedural complications, rather than considering them as procedural events which are related to many variables (single operator’s experience and skill, operative strategy, complex anatomy etc).

Shouldn’t the authors reconsider this point and reanalyze their subacute events including all the events that occurred in day 0 after completion of the procedure? Can this reanalyzing better clarify the behavior of different cell design after the procedure?

So if we focus on the scaffolding properties of different stents by a correct analysis of postprocedural events in symptomatic patients, aren’t these 2 studies saying exactly the same thing? And isn’t this the message particularly understood by many companies which are now working on a next generation stent which emphasizes on scaffolding improvement?

Disclosures

None.

Carlo Setacci, MD
Gianmarco de Donato, MD
Department of Vascular and Endovascular Surgery
University of Siena
Siena, Italy

Marc Bosiers, MD
Department of Vascular Surgery
AZ St-Blasius
Dendermonde, Belgium

on behalf of the Belgium-Italian Carotid Registry


(Stroke. 2008;39:e129.)
© 2008 American Heart Association, Inc.

Stroke is available at http://stroke.ahajournals.org

DOI: 10.1161/STROKEAHA.108.519389
Two Different Studies on Carotid Stent Cell Design Importance, or Are We Just Saying the Same Thing?
Carlo Setacci, Gianmarco de Donato and Marc Bosiers
on behalf of the Belgium-Italian Carotid Registry

Stroke. 2008;39:e129; originally published online June 26, 2008;
doi: 10.1161/STROKEAHA.108.519389

Copyright © 2008 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/39/8/e129

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/