Alarming High Serious Complication Rate of Stent-Assisted Coiling in Unruptured Intracranial Aneurysms: The Need for Reflection and Reconsideration

To the Editor:

We read with interest the results of a large series of patients with intracranial aneurysms treated with stent-assisted coiling.\(^1\) A series of 216 patients with aneurysms (181 unruptured and 35 ruptured) were treated with this technique. Direct procedure-related mortality occurred in 10 of 216 (4.6%) and procedure-related permanent neurological deficit occurred in 16 of 216 (7.4%). In other words, 12% of patients either died or had permanent neurological deficit as a direct consequence of the treatment. This is an alarmingly high rate of serious complications, especially in a population harboring mostly unruptured aneurysms (with benign natural history) located on sites that are easily accessible for surgery. We cannot think of an unruptured aneurysm with a cumulative risk that outweighs this high complication rate. It is difficult to conceive that future patients with incidentally found unruptured aneurysms will consent to a proposed therapy with an almost 1-in-8 chance of death or permanent deficit.

In our opinion, this type of therapy and its indication should be reconsidered to significantly decrease the complication rate. We have some suggestions. In general, in patients with unruptured aneurysms, the complication rate of the proposed therapy should be close to 0%. This means that for most anterior circulation aneurysms only simple coiling (without assistance of stent or balloon) may outweigh the small risk of future rupture. Direct surgical clipping can be a valuable and low-risk alternative for coiling in patients with wide-neck aneurysms in the anterior circulation. Another suggestion is to use only a stent in those cases in which it is absolutely necessary because placement of the stent with the inherent need for prolonged antiplatelet therapy induces a substantial increase in chance of complications. Piotin et al\(^1\) placed the stent in more than half of the cases after successful coiling to “divert the flow and diminish intra-aneurysmal flow.” In our view, expecting flow diversion from a self-expandable stent is unrealistic.

The authors are to be praised for coming public with these figures. We hope they will adapt their endovascular policy in such a way that serious complications in this patient group with mostly unruptured aneurysms will decrease dramatically.

Disclosure

None.

Willem Jan van Rooij, MD, PhD
Menno Sluzewski, MD, PhD
Jo P.P. Peluso, MD, PhD
Department of Radiology
St. Elisabeth Ziekenhuis
Tilburg, the Netherlands

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Willem Jan van Rooij, Menno Sluzewski and Jo P.P. Peluso

Stroke. 2010;41:e191; originally published online February 18, 2010;
doi: 10.1161/STROKEAHA.109.575928
Stroke is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
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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/41/4/e191

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