Stent Placement in Acute Cerebral Artery Occlusion

To the Editor:
We read with great interest the article by Brekenfeld et al.1 The authors treated 12 patients with self-expandable intracranial stents (Wingspan) as a rescue procedure for acute cerebral artery occlusion. They showed that stent placement was feasible in all procedures and resulted in partial or complete recanalization (TIMI 2/3) in 92%. No vessel perforations, subarachnoid, or symptomatic intracerebral hemorrhages were reported. At 3 months follow-up, 3 patients (25%) had a good outcome, 3 (25%) had a moderate outcome, and 6 (50%) had a poor outcome. Mortality was 33.3%. The study’s results are consistent with another study by Zaidat et al2 in the journal. Among the options of multimodal reperfusion therapy being evaluated, stent placement seems to have the highest recanalization rate. However, there was a mismatch between high recanalization rate and poor clinical outcome in both studies. This fact implied that an open vessel could not always be a good thing. As the authors pointed out, poor clinical outcome might be explained by the long time from symptom onset to recanalization. The goal of acute revascularization should not be just to open occluded vessels, but to open them quickly.3 The possibility of stenting as first line endovascular therapy rather than a rescue procedure might be explored for shortening the time to recanalization.4

Similar to the development of percutaneous cardiovascular intervention, neuroendovascular physicians began with arterial thrombolysis, experimented with mechanical clot disruption and thrombectomy, and are now interested in intracranial angioplasty and stenting for acute cerebral artery occlusion. However, there is significant difference of underlying pathophysiology responsible for vessel occlusions between cerebral and coronary vasculature; it should be prudent for neuroendovascular physicians to follow up what interventional cardiologists have done.

We consider that the authors of this article1 need to be more specific with regard to the etiology of intracranial occlusion. Stroke attributable to cardioembolism may have higher risk of early hemorrhagic transformation. Furthermore, antithrombotic therapy after stent placement will complicate the setting in which anticoagulation is necessary such as mechanical heart valve replacement. Such patients may be unsuitable for permanent stent placement. Stroke attributable to intracranial atherosclerosis is prevalent in Asian countries. In Chinese populations, intracranial atherosclerosis is estimated to account for 33% to 50% of stroke and >50% of transient ischemic attacks, in Thailand 47% of stroke, in Korea about 28% to 60% of stroke, and in Singapore about 48% of stroke.5 It is difficult to recanalize an occluded vessel with a thrombolytic agent alone in patients with atherothrombotic intracranial large-vessel occlusion. Another disadvantage of thrombolytic therapy is the risk of reocclusion in such patients. We think that stenting is indicated in certain patients with stroke attributable to intracranial atherosclerosis.

It is remarkable that Brekenfeld et al1 observed no hemorrhagic complications in their cases. One possible explanation is that their perioperative antithrombotic therapy protocol was significantly different for others, although publication bias might have occurred.

We agree with the conclusion of Brekenfeld et al1 that controlled randomized trials to prove its safety and efficacy in a larger number of patients are needed.

Disclosures

None.

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