

A Candid Look at Stroke Guidelines

Summary, significance, and the reasons why the SNIS published its own guidelines.

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The year 2015 will be forever linked with a tectonic shift in stroke care. Five landmark trials definitively showed that there is a dramatic benefit to rapid intra-arterial embolectomy above and beyond standard medical treatment in patients with an emergent large vessel occlusion (ELVO).¹⁻⁵ As a result, the biggest winners are the countless patients who will be saved from the leading cause of long-term disability, as we optimize our systems of care to account for this change.

In recognition of these trials, the Society for NeuroInterventional Surgery (SNIS), as the largest multidisciplinary society in the neurointerventional field in the United States, released a guidelines document within weeks of the 2015 International Stroke Conference.⁶ The conclusions of the SNIS are summarized as follows: "For patients with anterior circulation stroke and documented ELVO affecting the internal carotid artery or M1 segment of the middle cerebral artery and a corresponding clinical deficit, the addition of endovascular embolectomy results in superior clinical outcomes compared with best medical therapy alone. Embolectomy needs to be performed as rapidly as possible for the greatest clinical benefit and is best when performed within 6 hours from onset of symptoms."⁶

Subsequently, the American Heart Association and American Stroke Association (AHA/ASA) published their 2015 guidelines on endovascular treatment of patients with acute ischemic stroke.⁷ Although there is considerable overlap between the recommendations of the SNIS and the AHA/ASA, there are two important differences that are worth discussing.

DISCUSSION

The first difference between the SNIS and AHA/ASA guidelines is that the AHA/ASA guidelines recommend that patients receive endovascular therapy "with a stent retriever." Certainly, the current-generation stent retriev-

ers are a significant improvement over the older Merci retriever (formerly Concentric Medical). However, limiting the choice of endovascular therapy could potentially prohibit the use of a newer device (or perhaps one yet to be developed) that could increase recanalization rates or decrease procedure times when compared with the current-generation devices. For example, direct thrombus aspiration is a viable treatment option that has been shown to have high rates of recanalization and is preferred at some centers over stent retriever-based embolectomy. We all agree that older-generation devices are not as efficacious, but the goal should be rapid, complete recanalization regardless of the choice of device.

Second, for patients ineligible for intravenous (IV) tissue plasminogen activator (tPA) therapy, the AHA/ASA recommendation is that "In carefully selected patients with anterior circulation occlusion who have contraindications to intravenous [recombinant] tPA, endovascular therapy with stent retrievers completed within 6 hours of stroke onset is reasonable." However, they caution that, "There are inadequate data available at this time to determine the clinical efficacy of endovascular therapy with stent retrievers for those patients whose contraindications are time-based or non-time-based." This is an important point of contention and a major difference between the SNIS and AHA/ASA guidelines. Of the five major trials, two trials (SWIFT-PRIME and EXTEND-IA) only randomized patients who received IV tPA. The other three trials included a total of 186 patients who were randomized but did not receive IV tPA. Prespecified subgroup analyses from ESCAPE and REVASCAT showed a statistically significant benefit from embolectomy in patients who did not receive IV tPA, with common odds ratios of 2.6 and 2.7, respectively.^{1,2} We feel that excluding this group from a class IA recommendation may withhold a highly efficacious treatment from patients who stand to benefit.

As the physicians who treat these patients on a regular basis, it is our duty to achieve the best possible outcomes for our patients. If a future technology can achieve higher rates of complete recanalization (thrombolysis in cerebral ischemia score of 3), it may be preferable over currently available stent retrievers. However, an overly prospective guideline could hinder future growth in the field. Suppose for a moment that the randomized studies using the Merci device had shown a benefit compared with best medical therapy alone. What if the recommendation at that time had been that endovascular therapy should be performed using the Merci retriever, rather than stating that embolectomy is more effective than best medical therapy alone? Would the stent retriever ever have been developed? What about the innovators who developed this latest technology? Would they have been hesitant to do so over concerns about what has been established as the “standard”?

SUMMARY

In summary, the SNIS felt it was important to have a guideline for patients with ELVO. As physicians, we have a responsibility to this group of patients. We appreciate the input of the AHA/ASA and agree with the vast majority of their recommendations. However, patients with ELVO who are ineligible for IV tPA should still have access to embolectomy, which should be performed using the devices and technique with the highest rates of rapid complete recanalization. ■

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