Response to Letter Regarding Article, “Type of Anesthesia and Differences in Clinical Outcome After Intra-Arterial Treatment for Ischemic Stroke”

We would like to thank Schönenberger et al1 for their positive and inspiring comments and important additional questions surrounding our article. We acknowledge their research in peri-interventional endovascular stroke treatment.

First, we would like to point out that the population of our study consists of patients from the pretrial cohort of the Multicenter Randomized Clinical Trial of Endovascular treatment for acute ischemic stroke in the Netherlands (MR CLEAN). This cohort concerns all consecutive patients with acute ischemic stroke treated with intra-arterial therapy (IAT) in 16 stroke centers in The Netherlands before start of the MR CLEAN trial. Information concerning procedures and treated patients was gathered to assess pretrial experience in centers that were committed to participate in the MR CLEAN trial.

In our study, we observed that IAT in patients treated under general anesthesia (GA) was started 20 minutes later than in patients treated without GA. Schönenberger et al1 suggest that centers in our study who use GA as standard policy might not apply intubation standard operating procedures and that an intubation standard operating procedure can eliminate this delay as shown by Hermann et al.2 Although we agree on the potential benefits on eliminating unnecessary delays by implementation of such intubation standard operating procedures, we think there are other important reasons for the observed disadvantage of GA in our as in many other studies. One example is the risk of aspiration after intubation. Although we agree that time can be reduced by implementation of standardized intubation protocols, intubation with the risk of aspiration remains present, especially in patients with acute ischemic stroke of a large artery who may already have a degree of dysphagia.3

Another important reason also mentioned by Schönenberger et al1 is the effect of several anesthetic drugs on cerebral perfusion. Again they suggest an improved GA protocol focusing on cerebral penumbral–directed hemodynamics. In patients who are in need of GA, we share this opinion and underline that data concerning used drugs for analgesia and sedation, as well as peri-interventional blood pressure, need to be collected and analyzed in future studies.

Despite the fact that we lacked this detailed information on peri-procedural blood pressure and used anesthetics, our study still suggests an important benefit of IAT without GA. We realize that our study is yet another retrospective study with risk of selection bias. We therefore agree with Schönenberger et al1 that randomized clinical trials are needed to really elucidate whether non-GA is superior to GA during IAT for acute ischemic stroke. We look forward to the results of the ongoing randomized clinical trials. However in the meanwhile, based on current evidence, GA should be avoided when possible during IAT for acute ischemic stroke.

Disclosures

None.

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*Stroke.* 2015;46:e189; originally published online June 30, 2015; doi: 10.1161/STROKEAHA.115.009988

*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:
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