



ARTICLE OF THE MONTH

Effect of Conscious Sedation vs General Anesthesia on Early Neurological Improvement Among Endovascular Thrombectomy Ischemic Stroke Undergoing Endovascular Thrombectomy, Randomized Clinical Trial

Schönenberger S, Uhlmann L, Hacke W, Schieber S, Mundiyanapurath S, Purrucker J, Nagel S, Klose C, Pfaff J, Bendszus M, Ringleb P, Kieser M, Möhlenbruch M, Bösel J. *JAMA* doi:10.1001/jama.2016.16623.

Welcome to the January 2017 installment of the SNACC Article of the Month! This month's study by Schönenberger et al helps elucidate the choice between general anesthesia and conscious sedation in emergent endovascular thrombectomy. While previous evidence for this decision comes from retrospective studies and favors conscious sedation, the results of this prospective trial suggest otherwise.

This article was selected by this month's expert opinion commentator, Ehab Farag. Dr. Farag is a professor of anesthesiology and director of clinical research in the Department of General Anesthesiology at the Cleveland Clinic. His academic interests include anesthetic drug effects in neurosurgery and anesthetic management in neurointerventional radiology. He serves on the clinical affairs and research committees of SNACC.

We encourage all of our readers to tell us what they think by joining us on SNACC [LinkedIn feed](#) the [Twitter feed](#), or the [Facebook page](#).

Adrian Bohdan Pichurko, MD and Oana Maties, MD

Commentary

Ehab Farag, MD, FRCA

SIESTA (Sedation vs Intubation for Endovascular Stroke Treatment) is a single-center, randomized parallel-group, open-label treatment trial with blinded outcome evaluation. The study included 150 patients with acute ischemic stroke in the anterior circulation and NIHSS score greater than ten. The patients were randomized to an intubated general anesthesia group or nonintubated conscious sedation group during stroke thrombectomy. The primary outcome of the study was early neurological improvement on the NIHSS after 24 hours. Secondary outcomes were functional outcome by modified Rankin Scale (mRS) after three months, mortality, and safety.

Conscious sedation did not result in greater improvement in neurological status at 24 hours. The study findings did not support an advantage for using conscious sedation in the procedure. The study has many limitations as mentioned by the authors. Moreover, the authors did not use invasive monitoring for the hemodynamic and respiratory targets. Therefore, we do not know the exact PaO₂, PaCO₂, serum glucose, and lactic acid levels. Because of this, we are not able to determine if the patients developed hyperoxia during the reperfusion period. Another important issue is that there was no mention of the perioperative glycemic control target. Lastly, only 50% of all documented measurements per patient of the systolic blood pressure in both groups were within the target range (140 mmHg-160mmHg) (47.2% for the general anesthesia group vs 49.4% for the conscious sedation group; P=0.59). All three factors potentially affect the patients' neurologic outcome. Despite these limitations, this prospective trial does not demonstrate an obvious mortality advantage of one anesthetic technique over another.