Intracranial angioplasty and stenting

There is little data available to guide optimal anesthesia management during rescue intracranial angioplasty and stenting (ICAS) for failed mechanical thrombectomy (MT). Mohammaden et al. sought to compare the procedural safety and functional outcomes of patients undergoing rescue ICAS for failed MT under general anesthesia (GA) vs non-general anesthesia (non-GA).

They searched the data from the Stenting and Angioplasty In Neuro Thrombectomy (SAINT study). In the review, they included patients who had anterior circulation large vessel occlusion strokes due to the intracranial internal carotid artery (ICA) or middle cerebral artery (MCA-M1/M2) segments, failed MT, and underwent rescue ICAS. The cohort was divided into two groups: GA and non-GA. We used propensity score matching to balance the two groups. The primary outcome was the shift in the degree of disability as measured by the modified Rankin Scale (mRS) at 90 days. Secondary outcomes included functional independence (90-day mRS0-2) and successful reperfusion defined as mTICI2B-3. Safety measures included symptomatic intracranial hemorrhage (sICH) and 90-day mortality.

Among 253 patients who underwent rescue ICAS, 156 qualified for the matching analysis at a 1:1 ratio. Baseline demographic and clinical characteristics were balanced between both groups. Non-GA patients had comparable outcomes to GA patients both in terms of the overall degree of disability (mRS ordinal shift; adjusted common odds ratio 1.29, 95% CI [0.69 to 2.43], P=0.43) and rates of functional independence (33.3% vs 28.6%, adjusted odds ratio 1.32, 95% CI [0.51 to 3.41], P=0.56) at 90 days. Likewise, there were no significant differences in rates of successful reperfusion, sICH, procedural complications, or 90-day mortality among both groups.

Non-GA seems to be a safe and effective anesthesia strategy for patients undergoing rescue ICAS after failed MT. Larger prospective studies are warranted for more concrete evidence [1)]

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Mohammaden MH, Haussen DC, Al-Bayati AR, Hassan AE, Tekle W, Fifi JT, Matsoukas S, Kuybu O, Gross BA, Lang M, Narayanan S, Cortez GM, Hanel RA, Aghaebrahim A, Sauvageau E, Farooqui M, Ortega-Gutierrez S, Zevallos CB, Galecio-Castillo M, Sheth SA, Nahhas M, Salazar-Marioni S, Nguyen TN, Abdalkader M, Klein P, Hafeez M, Kan P, Tanweer O, Khaldi A, Li H, Jumaa M, Zaidi SF, Oliver M, Salem M, Burkhardt JK, Pukenas B, Kumar R, Lai M, Siegler JE, Peng S, Alaraj A, Nogueira RG. General anesthesia vs procedural sedation for failed NeuroThrombectomy undergoing rescue stenting: intention to treat analysis. J Neurointerv Surg. 2022 Dec 8:jnis-2022-019376. doi: 10.1136/jnis-2022-019376. Epub ahead of print. PMID: 36597943.