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The ongoing debate on anesthetic strategies during endovascular treatment: Can local anesthesia solve the puzzle?

Dear Editor,

We read the review by Rabinstein et al. with interest. The authors discussed factors related to poor functional outcomes despite good reperfusion in acute ischemic stroke patients treated with endovascular thrombectomy (EVT).[1] On the subject of anesthetic techniques during the intervention, the authors conclude that equipoise exists between conscious sedation (CS) and general anesthesia (GA) and large multicenter randomized trials are needed to determine whether or not CS and GA are equally safe and effective.

We think that focusing solely on CS and GA does not do justice to a simple and potentially safer anesthetic strategy: local anesthesia at the groin puncture site only (LA). The review mentioned the well-known trials (GOLIATH, SIESTA, ANSTROKE) that randomized between CS or GA during EVT and showed contrasting results.[2–4] In the HERMES meta-analysis non-GA was superior to GA. However, the non-GA group was defined as the composite of local anesthesia (LA) at the groin puncture site only and CS.[5] Therefore, the better functional outcomes in the non-GA arm might well be the result of patients receiving LA only. Recently, we compared the effect of LA only during EVT to CS and we reported better functional outcomes in patients receiving LA.[6] Several mechanisms, present in both GA and CS (e.g. blood pressure drops, impaired airway reflexes), could explain poorer outcomes in the CS group. We think that these results should be taken into account when considering what is the optimal anesthetic approach during EVT. In our opinion, future trials should consider LA as one of the initial anesthetic strategies during EVT.

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References

1. Rabinstein AA, Albers GW, Brinjikji W, et al. Factors that may contribute to poor outcome despite good reperfusion after acute endovascular stroke therapy. *Int J Stroke* 2018; 14: 21–23.
2. Schonenberger S, Uhlmann L, Hacke W, et al. Effect of conscious sedation vs general anesthesia on early neurological improvement among patients with ischemic stroke undergoing endovascular thrombectomy: a randomized clinical trial. *JAMA* 2016; 316: 1986–1996.
3. Lowhagen Henden P, Rentzos A, Karlsson JE, et al. General anesthesia versus conscious sedation for endovascular treatment of acute ischemic stroke: the AnStroke Trial (Anesthesia During Stroke). *Stroke* 2017; 48: 1601–1607.
4. Simonsen CZ, Yoo AJ, Sorensen LH, et al. Effect of general anesthesia and conscious sedation during endovascular therapy on infarct growth and clinical outcomes in acute ischemic stroke: a randomized clinical trial. *JAMA Neurol* 2018; 75: 470–477.
5. Campbell BCV, van Zwam WH, Goyal M, et al. Effect of general anaesthesia on functional outcome in patients with anterior circulation ischaemic stroke having endovascular thrombectomy versus standard care: a meta-analysis of individual patient data. *Lancet Neurol* 2018; 17: 47–53.

6. van de Graaf RA, Samuels N, Mulder M, et al. Conscious sedation or local anesthesia during endovascular treatment for acute ischemic stroke. *Neurology* 2018; 91: e19–e25.

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