

In Reply: Selective Intensive Care Unit Admission After Adult Supratentorial Tumor Craniotomy: Complications, Length of Stay, and Costs

To the Editor:

First, we would like to thank the authors of this letter¹ for their interest in our work² and their thoughtful comments. Indeed, length of stay as used in our paper is longer than it would be if we only considered the length of stay postoperatively. We adhered with regard to the evaluation to the clinical pathway of these patients in our hospital. The relative effects on costs and length of stay of our regimen change might be even bigger when only postoperative length of stay is considered; however, as results are not based on a randomized controlled trial (RCT) design, we took a conservative approach.

We are aware of the risk of bias toward the underestimation of complications of our intervention cohort, as discussed in our paper.² We do not think this bias affects our results in a major way because of 2 reasons. (1) Intensive care unit (ICU) monitoring is mainly aimed at detecting and treating serious complications, and detection of minor complications would not warrant ICU monitoring. (2) The possibly under-reported minor complications of patients admitted to the ward postoperatively do not seem to harm the patient when they remain undetected as reflected in the same length of stay as the control cohort.


Possibly, strict selection criteria could help select patients at higher risk who might benefit from postoperative intensive monitoring. Others have used age, tumor size, amount of blood loss >500 cc, or duration of >5 h as selection criteria.^{3,4} Since these criteria and their cut-off values have no basis in randomized trials either, in our study we have prioritized feasibility in implementation over strict selection criteria as this facilitates worldwide adoption.

We agree that RCTs (or maybe another design like a prospective registry or pragmatic trial would be more appropriate) could provide valuable knowledge (on causality) for further fine-tuning of monitoring and training. Currently, our paper provides the best available evidence, and, therefore, we recommend our policy of “no-ICU-unless” using a simple selection of patients and changes at the ward aimed at frequent checks and the use of continuous

monitoring, which we have proven to benefit patients and to be cost-effective.

Disclosures

The authors have no personal, financial, or institutional interest in any of the drugs, materials, or devices described in this article.

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REFERENCES

1. Moscote-Salazar L-R. Letter: selective intensive care unit admission after adult supratentorial tumor craniotomy: complications, length of stay, and costs. *Neurosurgery*. 2020;86(6):E572-E573.
2. Laan MT, Roelofs S, Van Huet I, Adang EMM, Bartels R. Selective intensive care unit admission after adult supratentorial tumor craniotomy: complications, length of stay, and costs. *Neurosurgery*. 2019;86(1):E54-E59.
3. Osorio JA, Safae MM, Viner J, et al. Cost-effectiveness development for the postoperative care of craniotomy patients: a safe transitions pathway in neurological surgery. *Neurosurg Focus*. 2018;44(5):E19.
4. Florman JE, Cushing D, Keller LA, Rughani AI. A protocol for postoperative admission of elective craniotomy patients to a non-ICU or step-down setting. *J Neurosurg*. 2017;127(6):1392-1397.

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