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CORRESPONDENCE

Bilateral scalp blocks help reduce postoperative pain and opioid requirement, but the impact cannot be so huge

Pradipta Bhakta, MD, MNAMS, FCAI, EDRA, EDIC · Harihara Dash, MD, FAMS

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To the Editor,

We thank Rigamonti *et al*. for their timely and relevant study of the effects of bilateral scalp nerve blocks on post-craniotomy pain.[1] Indeed, optimal pain management after craniotomy is still a much debated and often neglected issue because of concerns of opioids impacting postoperative neurologic evaluation. Practically speaking, the use of balanced analgesia, including a regional nerve block, can reduce the postoperative opioid requirement and thereby eliminate several relevant issues. Nevertheless, we would like to highlight a few pertinent points from their study that should be considered before changing existing practices.

First, some clarification is needed related to the study design, especially as to how the use of opioids were protocolized. Although the aim of the study was to examine the opioid-sparing effect, it appears that even the interventional group received fentanyl-remifentanil followed by longer acting hydromorphone as standard practice. Titration of remifentanil was left to the discretion of the anesthesiologist as opposed to a protocol-based guideline. This may have increased the risk of bias regarding amount of remifentanil used.

The minimum alveolar concentration (MAC) of sevoflurane was maintained at half the recommended limit (0.8–1.2 MAC), likely because a remifentanil infusion was also used. Nevertheless, the depth of anesthesia was not monitored, raising the question of an increased risk of intraoperative awareness, especially when it is well known that opioids cannot prevent it, and potentially increase the awareness risk at high doses.[2]

Regarding the use of scalp blocks, the surgeon infiltrated the pin site at the start of surgery, and then either the surgeon or anesthesiologist did the scalp blocks at the end of surgery when the head was still in the head frame. We are not clear as to how one can do a complete scalp block when the head is still in the head frame. Moreover, if the aim was to evaluate the impact of scalp blocks on craniotomy pain, no explanation was given as to why a block was not performed before the start of surgery (with its known nociceptive stimulation) than at the end of surgery when it is arguably difficult to perform the block.[3] Also, the rationale behind adding epinephrine both in the sham block and in the bupivacaine group is uncertain, particularly as epinephrine adds little benefit to any bupivacaine effect.

The visual analogue scale (VAS) scores and cumulative opioid requirements were not significantly different between the groups, although in the *post hoc* analysis, they found a time-based non-linear trend favouring a beneficial impact in the study group. Although in the first 12 hr, the VAS scores were lower and the subsequent VAS scores were not different afterwards, the opioid requirement was actually higher in the study group after 12 hr. Even though the authors explained that decreased opioid use could have been the reason behind it, in reality it appears that the opioid use was similar (statistically) between the groups in the first 12 hr. In addition, although

This letter is accompanied by a reply. Please see Can J Anesth 2020; 67: this issue.

P. Bhakta, MD, MNAMS, FCAI, EDRA, EDIC (✉) ·
Department of Anaesthesia and Intensive Care, Cork University Hospital, Cork, Ireland
e-mail: bhaktadr@hotmail.com

H. Dash, MD, FAMS
Department of Neuroanaesthesia and Intensive Care, Fortis Memorial Research Institute, Gurgaon, India

there was no statistical difference in 24-hr cumulative opioid consumption, time to discharge to ward, or long-term pain score between the groups, the authors claimed that scalp block benefited their patients. Most studies (including meta-analyses) have shown that scalp block can help in the initial few hours after surgery, but that the overall benefit is negligible.[4] Lastly, the authors assessed chronic pain at 30 and 60 days; other studies have used a more conventional time point of 90 days as suggested by the International Association for the Study of Pain.[5] This may affect the interpretation of their data on the impact of scalp blockade on chronic postoperative pain.

Based on the above, further clarification is needed before being convinced to change our existing opioid practices to address post-craniotomy pain.

Conflicts of interest None.

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