



Opioid free anesthesia: is it too early to bid adieu?

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To the Editor,

Opioids have continued to be the mainstay of anesthetic management for decades. Recently, the concept of opioid-free anesthesia (OFA) has been introduced into perioperative practice¹ evoking considerable debate as to its indications and potential benefits.

The rationale behind OFA emanates from the adverse effects and addiction potential attributable to the use of perioperative opioids.² The embracing of enhanced recovery after surgery protocols further promotes the notion with literature supporting the effectiveness of an OFA technique in laparoscopic cholecystectomy and bariatric surgery, and breast surgery.^{1,3,4} Most of these studies show lower pain scores, reduced incidence of postoperative nausea and vomiting, as well as lower use of rescue analgesics in patients receiving OFA compared with those receiving intraoperative opioids.

With the increasing perioperative incorporation of various non-opioid analgesics (non-steroidal anti-inflammatory drugs), N-methyl-D-aspartate antagonists [ketamine], alpha-2 agonists [clonidine, dexmedetomidine], lidocaine, and gabapentin) and novel loco-regional techniques, the opioid-sparing potential continues to grow. Nevertheless, the effects of non-opioid adjuncts are variable—some are short-acting and require a continuous infusion, while others are long-acting and delay awakening.⁵ These non-opioid adjuvants also have peculiar adverse effects and their administration should be meticulously considered in light of the overall risk.

Despite the increasing motivation towards OFA, there is a scarcity of high-quality evidence that could prompt switching from a contemporary multimodal analgesic regimen to a complicated and expensive OFA regimen. Most small studies supporting OFA have been conducted in a carefully chosen subset of patients, which raises concerns as to whether it is scientifically prudent, or merely prompted by inherent novelty. Moreover, it is proposed that the early weaning of opioids in the background of sensible opioid-sparing strategies could be as productive in controlling the rising tide of opioid use and abuse as the painstaking conduct of OFA in the operating room alone.

There are additional impediments to the widespread application of OFA. First and foremost, the conduciveness of the surgical procedure is a primary concern with a doubtful feasibility of OFA in certain perioperative scenarios involving a particular surgical subset of patients. Secondly, there are no clear-cut evidence-based regimens available to guide anesthesiologists in contemplating OFA. At the same time, the question of uniform implementation also arises in the background of constantly evolving analgesic techniques. Well-designed randomized-controlled trials evaluating OFA with regards to intraoperative nociception, hemodynamic and metabolic stress responses, as well as short-term and long-term outcomes are needed.

To conclude, the exclusion of opioids from the perioperative analgesic armamentarium should only be based on the latest evidence-based scientific developments and not just eminence-proclaimed opinions if we are to avoid having patients becoming victims to yet another swing of the pendulum.

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References

1. Bakan M, Umutoglu T, Topuz U, et al. Opioid-free total intravenous anesthesia with propofol, dexmedetomidine and lidocaine infusions for laparoscopic cholecystectomy: a prospective, randomized, double-blinded study. *Braz J Anesthesiol* 2015; 65: 191-9.
2. Rudd RA, Seth P, David F, Scholl L. Increases in drug and opioid-involved overdose deaths - United States, 2010-2015. *MMWR Morb Mortal Wkly Rep* 2016; 65: 1445-52.
3. Tripathy S, Rath S, Agrawal S, et al. Opioid-free anesthesia for breast cancer surgery: an observational study. *J Anaesthesiol Clin Pharmacol* 2018; 34: 35-40.
4. Mulier JP, Wouters R, Dillemans B, Dekock D. A randomized controlled, double-blind trial evaluating the effect of opioid-free versus opioid general anaesthesia on postoperative pain and discomfort measured by the QoR-40. *J Clin Anesth Pain Med* 2018; 2: 1-6.
5. Wardhan R, Chelly J. Recent advances in acute pain management: understanding the mechanisms of acute pain, the prescription of opioids, and the role of multimodal pain therapy. *F1000Res* 2017; DOI: <https://doi.org/10.12688/f1000research.12286.1>.

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