



Three are better than two: redefining prophylaxis for postoperative nausea and vomiting

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Postoperative nausea and vomiting (PONV) remain a common yet distressing problem for surgical patients [1]. Although not life-threatening, PONV can significantly affect comfort, recovery, and overall satisfaction after surgery and anesthesia. For patients waking from anesthesia, the first moments of awareness should bring calm and relief—not discomfort from nausea or vomiting.

In this issue of the *Journal of Minimally Invasive Surgery*, Bala et al. [2] invite us to reconsider that delicate phase of awakening. Their randomized controlled trial compared a triple antiemetic regimen—aprepitant, dexamethasone, and ondansetron—with the conventional dual regimen of dexamethasone and ondansetron in high-risk female patients undergoing laparoscopic surgery.

The results are both clear and meaningful. When aprepitant 80 mg was added to dexamethasone and ondansetron, the incidence of PONV decreased from 22.7% to 10% at 2 hours and from 29.7% to 10% at 24 hours after surgery. In practical terms, this means that about one in five patients benefited from adding aprepitant, and only five patients needed to be treated to prevent one case of PONV. These improvements were achieved without additional side effects or complications. At first glance, this may seem like a simple benefit of adding one more drug, but it represents something deeper: progress in periop-

erative care often comes from small, thoughtful refinements—understanding physiology more closely, combining drugs more wisely, and focusing on how patients actually recover.

Prophylaxis means prevention, but in the case of PONV, it also reflects compassion. Preventing nausea is not only about protecting the stomach; it is about helping patients recover with comfort and dignity. The use of triple therapy, as shown in this study, is not simply a matter of pharmacologic escalation—it is a more considerate and humane approach to patient care and to the challenges of recovery.

Aprepitant works by blocking the neurokinin-1 receptor, which plays a key role in triggering vomiting [3]. Stopping this pathway prevents the chain of signals that lead to nausea and vomiting. When combined with drugs that block serotonin and corticosteroid pathways, it offers a balanced and effective approach to controlling PONV, helping patients recover more comfortably and smoothly.

Although Bala et al. [2] present strong clinical data, the message of their study goes beyond numbers and *p*-values. It challenges the assumption that fewer drugs always mean better practice. In this case, three drugs truly are better than two—because the goal is not minimalism, but meaningful comfort and better care. The findings also raise important questions about the cost-effectiveness of aprepitant, its role in day-surgery

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settings, and how best to prevent post-discharge nausea and vomiting.

However, the fact that aprepitant is currently available only as an oral formulation may limit its use in certain surgical situations, especially when patients cannot take medications by mouth perioperatively [4]. This limitation highlights the need for further development of intravenous or alternative formulations to expand their clinical applicability. Even without all the answers, this study delivers a clear message: better prevention is possible, and it should begin before surgery starts.

Minimally invasive surgery has always aimed for balance—less pain, faster recovery, and greater patient satisfaction [5]. This study extends that same principle to both surgery and anesthesia, emphasizing the control of postoperative symptoms. It reminds us that true clinical excellence lies in balancing effectiveness with compassion at every stage of care. For anesthesiologists and surgeons alike, this is more than just another drug combination; it is a reaffirmation that the art of anesthesia is not only about inducing sleep but ensuring a peaceful and comfortable awakening.

Notes

Conflict of interest

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REFERENCES

1. Kim IJ, Choi GJ, Hwang HJ, Kang H. Effect of prophylactic tropisetron on post-operative nausea and vomiting in patients undergoing general anesthesia: systematic review and meta-analysis with trial sequential analysis. *J Pers Med* 2024;14:797.
2. Bala S, Meshram TM, Bhatia P, Rathod D, Kaur M, Kumiri K. Comparison of aprepitant, dexamethasone, and ondansetron with dexamethasone and ondansetron for prevention of postoperative nausea and vomiting in high-risk patients undergoing laparoscopic surgeries: a randomized controlled trial in India. *J Minim Invasive Surg* 2025;28:176-183.
3. Yeo G, Lee MK, Kim H, et al. Aprepitant prophylaxis effectively reduces preventing postoperative nausea and vomiting in patients receiving opioid based intravenous patient-controlled analgesia. *Anesth Pain Med* 2018;13:256-263.
4. Hwang HJ, Choi GJ, Choi YS, Kim BG, Kang H. Effect of neurokinin-1 receptor antagonists on experimental postoperative adhesion: a systematic review and meta-analysis with trial sequential analysis of preclinical studies. *Medicina (Kaunas)* 2025;61:1933.
5. Kim Y, Jeong SY. A long journey with minimally invasive surgery. *J Minim Invasive Surg* 2025;28:117-121.