



## Key issues in frailty and postoperative opioid consumption

Guoying Wang<sup>1</sup> · Wenbo Shi<sup>2</sup> · Yanjun Du<sup>2</sup> · Lanyun Xie<sup>3</sup>

Received: 12 January 2025 / Accepted: 15 January 2025 / Published online: 3 February 2025  
© The Author(s) under exclusive licence to Japanese Society of Anesthesiologists 2025

To the Editor:

We read with great interest the article by Sargin et al., “The effects of frailty on opioid consumption after total knee arthroplasty” [1]. The study provides valuable insights into the relationship between frailty and postoperative opioid use in elderly patients. However, we would like to address several critical aspects that merit further discussion and exploration.

First, the study focuses exclusively on opioid consumption within the first 24 h postoperatively, without evaluating long-term opioid use or its implications for chronic pain management. Frail patients often experience prolonged recovery periods and are at a higher risk of developing chronic postsurgical pain [2]. Recent research has demonstrated that early postoperative opioid use can predict long-term dependency and disability, particularly in vulnerable populations such as the elderly [3]. While Sargin et al. acknowledged this limitation in their study, we believe it is important to emphasize the need for future research to address this gap.

---

Guoying Wang and Wenbo Shi are the co-first authors.

---

This comment refers to the article available online at <https://doi.org/10.1007/s00540-024-03420-7>.

---

✉ Lanyun Xie  
787296442@qq.com

<sup>1</sup> Department of Critical Care Medicine, the Second People’s Hospital of Dongying, Dongying, Shandong, China

<sup>2</sup> Department of Medical Oncology, Ruijin-Hainan Hospital, Shanghai Jiao Tong University School of Medicine, Qionghai, Hainan, China

<sup>3</sup> Department of Anesthesiology, Shandong Institute of Anesthesia and Respiratory Critical Medicine, Shandong Provincial Clinical Research Center for Anesthesiology, the First Affiliated Hospital of Shandong First Medical University & Shandong Provincial Qianfoshan Hospital, No. 16766 Jingshi Road, Jinan, Shandong, China

Second, while the FRAIL scale is a practical and rapid screening tool, its predictive accuracy for postoperative outcomes may be limited compared to more comprehensive instruments, such as the Frailty Index or the Clinical Frailty Scale [4]. These tools incorporate a broader range of physiological, cognitive, and social factors, offering a more nuanced assessment of frailty. Furthermore, frailty is a dynamic condition that may worsen postoperatively due to surgical stress and immobility [5]. Although Sargin et al. noted this in their limitations, further exploration of how postoperative changes in frailty status might influence pain perception and opioid requirements would enhance the study’s clinical relevance.

Third, despite higher opioid consumption in frail patients, the study reports no significant differences in pain scores (VAS-R and VAS-F) between groups. This raises questions about the efficacy of opioids in managing pain in frail patients. Psychological factors, such as anxiety or catastrophizing, or differences in pain tolerance, may have influenced these findings [6]. While Sargin et al. briefly mentioned the role of psychological stress in their discussion, a more detailed analysis of these factors could provide a deeper understanding of the observed results.

Finally, the study does not explore the potential adverse effects of higher opioid doses in frail patients, such as respiratory depression, cognitive dysfunction, or gastrointestinal complications. These risks are particularly relevant in geriatric populations with compromised physiological reserves [7]. A detailed evaluation of opioid-related side effects would provide critical insights into the safety and appropriateness of opioid use in this vulnerable population.

In conclusion, while this study highlights the importance of frailty as a predictor of postoperative opioid consumption, addressing the aforementioned limitations would enhance its clinical applicability.

**Data availability** Not applicable.

## References

1. Sargin M, Degirmencioglu S, Uluer MS, et al. The effects of frailty on opioid consumption after total knee arthroplasty. *J Anesth*. 2024. <https://doi.org/10.1007/s00540-024-03420-7>.
2. Jin Y, Tang S, Wang W, et al. Preoperative frailty predicts postoperative pain after total knee arthroplasty in older patients: a prospective observational study. *Eur Geriatr Med*. 2024;15(3):657–65. <https://doi.org/10.1007/s41999-024-00932-z>.
3. Aalberg JJ, Kimball MD, McIntire TR, et al. Long-term outcomes of persistent postoperative opioid use: a retrospective cohort study. *Ann Surg*. 2025;281(1):116–23. <https://doi.org/10.1097/SLA.0000000000005372>.
4. Aucoin SD, Hao M, Sohi R, et al. Accuracy and feasibility of clinically applied frailty instruments before surgery: a systematic review and meta-analysis. *Anesthesiology*. 2020;133(1):78–95. <https://doi.org/10.1097/ALN.0000000000003257>.
5. Lin HS, McBride RL, Hubbard RE. Frailty and anesthesia—risks during and post-surgery. *Local Reg Anesth*. 2018;11:61–73. <https://doi.org/10.2147/LRA.S142996>.
6. Admiraal M, van Zuylen ML, Hermanns H, et al. The effect of preoperative disability, cognitive impairment, frailty and opioid use on acute postoperative pain in older patients undergoing surgery a prospective cohort study. *J Pain*. 2023;24(10):1886–95. <https://doi.org/10.1016/j.jpain.2023.05.013>.
7. Van Zundert TCRV, Gatt SP, van Zundert AAJ. Anesthesia and perioperative pain relief in the frail elderly patient. *Saudi J Anaesth*. 2023;17(4):566–74. [https://doi.org/10.4103/sja.sja\\_628\\_23](https://doi.org/10.4103/sja.sja_628_23).

**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.