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Addressing Limitations and Future Directions in Assessing Risk Factors for Pulmonary Complications after Femur Fracture Surgery in Elderly Patients [Letter]

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Dear editor

We commend Chai et al for their insightful study on the incidence and risk factors of pulmonary complications following femur fracture surgery in elderly patients aged 80 and older.[1] This research contributes significantly to geriatric surgery and postoperative care, particularly in addressing this underrepresented population. However, several limitations require further attention to enhance the study's robustness.

First, the study does not provide detailed data on the severity and management of comorbid conditions, which are critical determinants of postoperative outcomes. For example, broad categorizations of chronic lung disease and Parkinson's disease overlook variations in disease severity and treatment, such as the degree of respiratory impairment or functional limitations. Employing standardized tools like the Charlson Comorbidity Index in future research could clarify how specific comorbidities influence complication risks.[2]

Second, while the study mentions venous thromboembolism (VTE) prophylaxis, it lacks data on the timing and dosage of anticoagulant interventions. Evidence suggests that these factors are pivotal in balancing thrombotic and bleeding risks, particularly in elderly populations.[3] Future studies could explore the effects of precise prophylaxis protocols, including dosage and timing relative to surgery, on reducing VTE and related pulmonary complications.

Additionally, the absence of preoperative functional status assessments, such as the Barthel Index or equivalent measures,[4] limits the study's ability to account for patients' baseline physical resilience. Functional capacity is a well-established predictor of postoperative recovery and mortality in older adults. Incorporating such metrics would allow for a more refined understanding of the risk factors influencing adverse surgical outcomes.

Furthermore, the study does not control for variations in perioperative care quality or postoperative rehabilitation, which are known to impact recovery outcomes. The intensity and frequency of rehabilitation, for instance, can significantly affect complication rates and recovery duration.[5] Future research should consider these variables to improve external validity and generalizability across different healthcare settings.

Lastly, this study provides valuable insights for clinical practice, emphasizing that comprehensive preoperative risk assessment, optimal timing and choice of surgical approach, individualized perioperative management, and multidisciplinary collaboration are essential in reducing postoperative pulmonary complications and mortality in elderly patients (aged 80 and above) undergoing femur fracture surgery. Specifically, preoperative evaluations should prioritize identifying high-risk factors such as chronic lung disease and Parkinson's disease. Postoperative management should include vigilant monitoring for pulmonary complications and appropriate prophylactic strategies for venous thromboembolism

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(VTE); for patients at high risk of bleeding, intermittent pneumatic compression devices may be preferred. Additionally, extended follow-up is crucial for detecting and managing long-term complications, supporting overall recovery and quality of life in this demographic. These recommendations not only enhance recovery outcomes but also provide a framework for improving geriatric orthopedic care.

In conclusion, while Chai et al' s study provides valuable insights, addressing these additional factors in future research could yield a more comprehensive understanding of postoperative risk factors in elderly patients. This would enable more targeted interventions, ultimately enhancing surgical outcomes in this vulnerable population.

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References

1. Chai J, Kang J, Seo WJ, et al. Incidence and risk factors of pulmonary complications following femur fracture surgery in patients aged 80 years and older. *Clin Interv Aging*. 2024;19:1843–1854. doi:10.2147/CIA.S481641
2. Bahlis LF, Diogo LP, Fuchs SC. Charlson comorbidity index and other predictors of in-hospital mortality among adults with community-acquired pneumonia. *J Bras Pneumol*. 2021;47:e20200257–e20200257. doi:10.36416/1806-3756/e20200257
3. Anderson DR, Morgano GP, Bennett C, et al. American Society of Hematology 2019 guidelines for management of venous thromboembolism: prevention of venous thromboembolism in surgical hospitalized patients. *Blood Adv*. 2019;3:3898–3944. doi:10.1182/bloodadvances.2019000975
4. Katano S, Yano T, Ohori K, et al. Barthel index score predicts mortality in elderly heart failure - a goal of comprehensive cardiac rehabilitation. *Circ J*. 2021;86:70–78. doi:10.1253/circj.CJ-21-0584
5. Ibrahimoğlu Ö, Gezer N, Öğütlü Ö, Polat E. The relationship between perioperative care quality and postoperative comfort level in patients with hip replacement surgery. *J Perianesth Nurs*. 2023;38:69–75. doi:10.1016/j.jopan.2022.05.068

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