

“Preoperative Central Sensitization in Pilon Fracture Outcomes: Considerations on Grouping, Analgesia, and Data Interpretation” [Response to Letter]

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Dear editor

We sincerely thank Dr. Bohui Gao for his interest in and valuable comments on our article titled “The Impact of Preoperative Central Sensitization on Postoperative Outcomes in Distal Tibial Fractures: A Retrospective Study,” published in the *Journal of Pain Research*. Dr. Gao's letter raised many constructive points and suggestions, which we have taken very seriously and discussed thoroughly. Below, we provide our responses to the main recommendations:

Regarding the Grouping Method

Dr. Gao pointed out that fracture severity was not considered in our grouping methodology, which may lead to misattributing the prognostic impact of the fracture itself to central sensitization (CS). This is a very important observation. We agree that fracture severity is indeed a key factor that may influence postoperative recovery. Although our study primarily focused on the impact of CS, we also recognize that differences in fracture severity could affect the outcomes. In future research, we will consider adopting more refined stratified analyses or adjusting through multivariate regression to more accurately assess the independent effect of CS.

Regarding the Analgesic Protocol

Dr. Gao noted that we did not provide detailed information on postoperative analgesic protocols, nor did we analyze the interaction between analgesic strategies and CS. This is indeed an area that requires improvement. We acknowledge that CS patients have heightened pain sensitivity, and thus a uniform analgesic regimen may not meet the needs of all patients. In future studies, we will meticulously document and analyze the implementation of analgesic protocols and explore the impact of individualized analgesic strategies in CS patients. This will help us more accurately evaluate analgesic efficacy and provide more specific guidance for clinical practice.

Regarding Radiological Outcomes and Biomarker Monitoring

Dr. Gao also highlighted that our study did not explore the association between CS and postoperative radiological outcomes, nor did we monitor inflammatory biomarkers. We fully agree that these factors are crucial for a comprehensive assessment of CS's impact. In future studies, we will include radiological evaluation indicators such as the quality of articular surface reduction and the progression of post-traumatic arthritis, to more fully assess the influence of CS on postoperative recovery. Additionally, we will consider monitoring inflammatory biomarkers (eg, IL-6, TNF- α , etc) to better understand the pathophysiological mechanisms underlying CS.

Regarding the Presentation of Conclusions

Dr. Gao pointed out a logical inconsistency between the statements in the abstract and conclusion sections and the actual results. We are very grateful for this reminder—it is indeed an issue that needs to be corrected. In future research, we will more carefully verify the data and conclusions to ensure accuracy and consistency in presentation. We will clearly distinguish between “poorer absolute postoperative scores” and “smaller degrees of improvement” to more accurately reflect the study findings.

Conclusion

We are deeply grateful for Dr. Gao’s valuable comments and suggestions. We highly value this feedback and will seriously consider and incorporate it into our future research. We believe that through these improvements, our studies will become more rigorous and comprehensive, providing more valuable insights for clinical practice.

If you have any further suggestions or comments, please do not hesitate to contact us. We look forward to continued communication and collaboration.

Best regards,
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Disclosure

The authors report no conflicts of interest in this communication.

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