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Letter to the Editor

Authors' Reply to Letter to the Editor: Commentary on In-Fracture Pedicular Screw Placement During Ligamentotaxis Following Traumatic Spine Injuries, a Randomized Clinical Trial on Outcomes (*Korean J Neurotrauma* 2023;19:90–102)

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▸ See the article "Letter to the Editor: Commentary on In-Fracture Pedicular Screw Placement During Ligamentotaxis Following Traumatic Spine Injuries, a Randomized Clinical Trial on Outcomes (*Korean J Neurotrauma* 2023;19:90–102)" in volume 19 on page 268.

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Dear Editor,

We have read the letter to the editor note that was previously published in your journal.[3,5] We would like to thank the author who have read our paper and evaluated it scientifically.

Dr. Lee questioned multiple topics that needs to be addressed for better clearance. As provided the commentary they asked about the pedicle status of our cases. To equal the severity indices in both groups, before group allocation, we did not include obvious and dislocated bilateral pedicular fractures to prevent selection biases. However, it is worth mentioning pedicular fracture has no prognostic role in Thoracolumbar Injury Classification and Severity Score (TLICS)/Arbeitsgemeinschaft für Osteosynthesefragen (AO) classifications.

The 2nd exclusion was when we had iatrogenic bilateral pedicular fractures in case groups, so the exclusion was inevitable. We would like to highlight that we have clearly stated in the operation section and FIGURE 1, that those with bilateral pedicle fractures or inappropriate screw-grip during surgery were not suitable for our study, and were excluded from the trial (n=4). This awareness happens during the operation. It is obvious that the control group is not biased with this feature since the pedicular status in the index vertebra does not affect the control group, since there is no index vertebra instrumentation on controls.

The authors stated the need for unilateral screw selection and ligamentotaxis reduction mechanisms.[3] Many studies have used index vertebra instrumentation with great results, however, their study design and primary outcomes were not focused such as ours, making them all precious to read.[1,2] As supported by biomechanical studies, index vertebra

Conflict of interest

The authors have no financial conflicts of interest.

instrumentation plays exactly like long segment fusions and provides a more stable fusion construct.[4] Since it was a clear concept for neurosurgeons, we had skipped the discussion but for your clearance, we mention that there is no difference between the index vertebra or control group ligamentotaxis sequence over the distraction phase, and the screw was used as a direct reduction tool to move away the retropulsed fragment out of the spinal canal. Distraction forces are applied on one-above and below screws without any maneuver on the index screw.[2] Regarding the retropulsion cut-off for ligamentotaxis, we have discussed this issue in the text, but we would like to re-emphasize that the intact neurological state and absence of neurological deficits are the only pre-requisites for a successful taxi and the retropulsion percent is not determinant. You can find our cases had even >65% retropulsion rates still, received ligamentotaxis.[5]

Dr. Lee has hypothesized about the possible mechanisms of pain reduction in index-vertebra instrumentation.[3] We have discussed our possible explanations to support this incidental finding as you can see in the discussion section.[5] To our knowledge, there is no well-delineated evidence explaining this finding, but the authors hypothesize that stronger solid fixation via 1-extra pedicle screw (PS), further reduction, neural decompression, and nociceptive-ablative procedures during PS placement at the fracture site could be explanations. However, cannot disagree with the Lee's hypothesis and the authors would like to encourage further research from this perspective in future studies.

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