



Response to: Long versus Short Segment Instrumentation in Osteoporotic Thoracolumbar Vertebral Fracture

Massimo Girardo¹, Alessandro Massè², Salvatore Risitano³, Federico Fusini¹

¹Spine Surgery Unit, Orthopaedic and Trauma Centre, Azienda Ospedaliera Città della Salute e della Scienza, Turin, Italy

²Department of Orthopaedic and Traumatology, Orthopaedic and Trauma Centre, Azienda Ospedaliera Città della Salute e della Scienza, University of Turin, Turin, Italy

³Department of Orthopaedic Surgery and Traumatology, Maggiore Hospital of Chieri, Turin, Italy

Dear Editor,

We thank the Author for their interest in our manuscript [1], and we would like to reply to their comments:

(1) It must be taken into consideration that our study is a retrospective evaluation of prospectively collected data from 2015 to 2016, while DGOU (German Society for Orthopaedics and Trauma) recommendations for the treatment of osteoporotic fractures (OF) were not published at that time. We agree that OF4 type fractures were treated with both short and long segment fixation; however, most of them (18 versus 3) were treated with long-segment instrumentation (LSS). As briefly reported in the materials and methods section, fractures with small fragmentation and comminution, with acceptable kyphosis, were treated with short-segment fixation (SSS) with intermediate pedicle screws according to pedicles integrity. In case of significant fragmentation and comminution and segment kyphosis >20°, long-segment instrumentation was preferred. Some of these principles are taken from McCormack et al. [2] in load sharing classification, where higher fracture fragmentation increases the risk of implant failure follow-

ing short segment arthrodesis.

(2) We collected only one proximal junction kyphosis in both groups, and, as reported, we agree with you that there is no statistical difference in terms of proximal junctional kyphosis between groups. However, if we take into account all collected mechanical complications (proximal junctional kyphosis, pullout, and loosening), we reported one complication over 22 cases (4.55%) for LSS and six complications over 15 cases (40%) for SSS. We agree that the power analysis showed a value of 0.7, which is not the optimal value, but it could be considered acceptable for a preliminary study.

(3) We agree that 37 patients are a small sample, as reported in the limitations of the study. However, one of the strengths of our investigation is to have a homogeneous sample of osteoporotic fractures, and it is one of the first studies comparing LSS and SSS in type OF 3 and OF 4 vertebral fractures. Moreover, we believe our study highlight some interesting points to improve medical knowledge of osteoporotic vertebral fracture treatment and a starting point to confirm our preliminary results with further studies including more patients.

Received Oct 5, 2021; Revised Oct 5, 2021; Accepted Oct 20, 2021

Corresponding author: Federico Fusini

Orthopaedic and Traumatology, Orthopaedic and Trauma Centre, via zuretti 29, Torino, 10126, Italy

Tel: +39-0116933290, Fax: +39-0116933291, E-mail: fusinif@hotmail.com

Conflict of Interest

No potential conflict of interest relevant to this article was reported.

References

1. Girardo M, Masse A, Risitano S, Fusini F. Long versus short segment instrumentation in osteoporotic thoracolumbar vertebral fracture. *Asian Spine J* 2021;15:424-30.
2. McCormack T, Karaikovic E, Gaines RW. The load sharing classification of spine fractures. *Spine (Phila Pa 1976)* 1994;19:1741-4.