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AUTHOR'S REPLY

Answer to the Letter to the Editor of A. Goel concerning "Biomechanical evaluation of the Facet Wedge: a refined technique for facet fixation" by R. Hartensuer et al.; Eur Spine J (2014) 23:2321-2329

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The aim of our study was to evaluate the primary stability of the so-called Facet Wedge. This new implant combines mechanical distraction and friction-based blocking as well as angular stable screw fixation of the facets of the lumbar spine. To our knowledge, it is the first technique that combines these two principles in facet fixation and was, therefore, called "refined" [1].

Multiple techniques to just distract and to block the facet joint can be found in the literature. Already, in 1949, McBride described a technique to mortise bone blocks in the facet joints [2]. This approach was modified using different implants. A biomechanical evaluation of a facet interference screw also based on facet distraction and blocking was published in 2005 by Kandziora et al., demonstrating less biomechanical stability than the pedicle screw fixation [3].

The mentioned clinical article of a preliminary report on intra articular spacers as treatment for lumbar canal stenosis, published in 2013 [4], indicates the essential role of facet joints but does not necessarily contribute to the discussed issue in our biomechanical paper.

The authors appreciate to be encouraged to review several of published papers on facet joint fixation. Unfortunately, most of them are focused on the cervical spine [5–7] and were, therefore, irrelevant to discuss in context with a lumbar spinal implant. Our study is based on a sedulous literature review. Focused on the aim of our study, we discussed selected publications related to our work rather than generally debating about facet fixation, e.g., in the cervical spine [7].

Conflict of interest None.

References

1. Hartensuer R, Riesenbeck O, Schulze M, Gehweiler D, Raschke MJ, Pavlov PW, Vordemvenne T (2014) Biomechanical evaluation of the Facet Wedge: a refined technique for facet fixation. Eur Spine J 23(11):2321–2329
2. McBride ED (1949) A mortised transfacet bone block for lumbosacral fusion. The Journal of bone and joint surgery American 31A(2):385–393
3. Kandziora F, Schleicher P, Scholz M, Pflugmacher R, Eindorf T, Haas NP, Pavlov PW (2005) Biomechanical testing of the lumbar facet interference screw. Spine 30(2):E34–E39
4. Goel A, Shah A, Jadhav M, Nama S (2013) Distraction of facets with intraarticular spacers as treatment for lumbar canal stenosis: report on a preliminary experience with 21 cases. J Neurosurg Spine 19(6):672–677
5. Goel A (2011) Facet distraction-arthrodesis technique: Can it revolutionize spinal stabilization methods? J Craniovertebr Junction Spine 2(1):1–2
6. Goel A, Shah A (2011) Facetal distraction as treatment for single- and multilevel cervical spondylotic radiculopathy and myelopathy: a preliminary report. J Neurosurg Spine 14(6):689–696
7. Tan LA, Gerard CS, Anderson PA, Traynelis VC (2014) Effect of machined interfacet allograft spacers on cervical foraminal height and area. J Neurosurg Spine 20(2):178–182

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