Letter regarding article by Xu et al.: anterior versus posterior approach for treatment of thoracolumbar burst fractures: a meta-analysis

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To the Editor,

Xu et al. [1] conducted a meta-analysis to compare the results of surgery via an anterior approach and that via a posterior approach for the treatment of thoracolumbar burst fractures. They calculated the pooled risk difference (RD) and mean difference (MD) using different effects models and concluded that the posterior approach may be more effective than the anterior approach. Before their results can be accepted, we would like to express some concerns in relation to their meta-analysis.

Firstly, manual searches were not clearly stated. Meanwhile, they included three studies with quality-assessment scores of below 14. The lack of a manual search protocol and low qualities of included studies may be considered a weakness of the meta-analysis.

Secondly, it is not appropriate that pooled MD estimate with corresponding 95 % CIs was derived using the method of inverse variance (IV) with the assumptions of a random-effects model (Figs. 2, 6). However, studies should be combined using the DerSimonian and Laird random-effects model.

Thirdly, Esses et al. [2] evaluated the effects of anterior versus posterior approach for thoracolumbar burst fractures, with 16 cases in the anterior group against 22 in the posterior group. However, Xu et al. did not provide us the

age, gender and fracture level of the patients in the posterior group. To strength the credibility of meta-analysis, we suggest that Xu et al. should provide us the complete data to study the meta-analysis well.

In conclusion, I agree on the results of this meta-analysis by Li et al. the posterior approach may be more effective than the anterior approach. However, more high quality, randomized controlled trials are still required to compare these approaches and guide clinical decision-making. We believe that these remarks will contribute to further, more accurate elaboration and substantiation of the original results presented by Xu et al. [1].

Conflict of interest None.

References

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