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LETTER TO THE EDITOR

Letter to the Editor concerning "Is MIS-TLIF superior to open TLIF in obese patients?: A systematic review and meta-analysis" by Tan JH et al. (Eur Spine J; 2018: doi:10.1007/s00586-018-5630-0)

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Dear Editor,

We have read with interest the recent article published by Tan JH et al. [1]. They performed a systematic review and meta-analysis to explicate the clinical outcomes of obese patients who underwent MIS-TLIF when compared to those who underwent open TLIF. We would like to compliment the authors for this research, but this review article raises some concerns to us:

1. We noticed that all included literature is only from four databases (PubMed, Scopus, Web of Science and Cochrane Central Register of Controlled Trials database). Searching for too few databases is not enough to get the most comprehensive literature possible. We suggest more electronic databases should be systematically searched, such as Embase, and Index Medicus for the South-East Asia Region (IMSEAR), as regional electronic bibliographic database, also can be searched. In addition, another reason for the inclusion of only four articles is probably the setting of search terms. Although no search formula is given in the text, "fat", "adiposity", "BMI", "body mass index", etc., should be included in the search terms of this article.
2. As stated in the **statistical analysis**, "The publication bias of the included studies for meta-analysis was calculated with funnel plot analysis". However, the part of **results** did not clarify the analysis results of publication bias. Bedsides, according to *Cochrane Handbook for Systematic Reviews of Interventions (p. 317)*, tests for funnel plot asymmetry should be used only when there are at least 10 studies included in the meta-analysis, because it is hard to distinguish chance from real asymmetry.
3. As we have seen, the results of the meta-analysis suggested that there were significant heterogeneities between studies in Fig. 5 ($I^2 = 89\%$) and Fig. 6 ($I^2 = 96\%$). Although subgroup analysis cannot be completed due to fewer inclusion studies, sensitivity analysis should be performed to test the robustness of the results.
4. We have some suggestions: (1) The Grading of Recommendations Assessment, Development, and Evaluation (GRADE) approach can be performed to give the level of evidence. Thus, the conclusions of this study can be clinically used and easily transferred to guidelines. And it can also be used in conjunction with the trial sequential analysis (TSA). (2) The author did not register the study protocol. Thus, the transparency and quality of meta-analysis may be inadequate. (3) Figure 2 in the article shows the results of meta-analysis of the intraoperative blood loss. According to the article, only three studies were included in this outcome, but Fig. 2 shows four studies, although one study (Adogwa et al.) was not included in the statistical analysis.

We appreciate that Tan JH et al. reported an interesting meta-analysis focusing on comparison of MIS-TLIF and open TLIF for treating obese patients. And also, we believe that our remarks will contribute to more accurate elaboration of the results presented by Tan JH et al.

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Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

Reference

1. Tan JH, Liu G, Ng R, Kumar N, Wong HK, Liu G (2018) Is MIS-TLIF superior to open TLIF in obese patients?: A systematic review and meta-analysis. Eur Spine J 27(8):1877–1886. https://doi.org/10.1007/s00586-018-5630-0