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LETTER TO THE EDITOR

Comment on Li et al.: Non-continuous versus continuous wound drainage after total knee arthroplasty: a meta-analysis

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To the Editor:
In this meta-analysis, Li et al. [1] assess the efficacy and safety of non-continuous and continuous wound drainage after total knee arthroplasty. They reached an important conclusion that noncontinuous drainage can achieve less haemoglobin loss (especially the four to six hour drain clamping) and postoperative visible blood loss with no increased risk of postoperative complications compared with continuous drainage. It is a valuable study. Nevertheless, there are some comments we would like to raise related to this article.

1. Due to the absence of standard deviations in the study of Eum et al. [2], a previously published systematic review [3] estimated the standard deviations based on the range of data value, assuming the data as normally distributed data, which will inevitably generate bias. In this meta-analysis, the authors included the study by Eum et al. once again. Because of the absence of standard deviations, we suggest that the study by Eum et al. should be excluded from the meta-analysis by Li et al.
2. Bian YY and Zhuang QY independently used the Cochrane Collaboration recommendations [4] to assess methodological quality of clinical trials. However, there were no detailed scores for each included trial.
3. It is not appropriate that summary mean difference (MD) estimate with corresponding 95 % CIs were derived by using the method of inverse variance (IV) with the assumptions of a random-effects model (Fig. 6 in [1]). However, studies should be combined by using the DerSimonian and Laird random-effects model.
4. The results of the meta-analysis further suggested that the heterogeneity (I^2) between studies in Fig. 6 was found to be 88 %. This showed significantly higher variations between studies and cannot be comparable, which could potentially bias the results of this study. Moreover, I^2 values above 90 % are very rare in any meta-analysis. We are eager to know the authors' opinion about this.
5. It is not sufficient that publication bias was only assessed by visual examination of funnel plot. Funnel plot symmetry should be further assessed by statistical tests (e.g., Egger's linear regression test or Begg's rank correlation test). Moreover, in the meta-analysis, publication bias was only assessed for haemoglobin loss. Actually, publication bias should be assessed for other comparisons (such as postoperative visible blood loss, range of motion, incidence of blood transfusion and postoperative complications). Therefore, publication bias may be present, distorting the meta-analysis.

We agree on the following conclusions of the authors: noncontinuous drainage can achieve less haemoglobin loss (especially the four to six hour drain clamping) and postoperative visible blood loss with no increased risk of postoperative complications compared with continuous drainage, and more carefully and scientifically designed RCTs with large samples and long-term follow-up are required to further prove the claim.

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