Reply to comment on Li et al.: Noncontinuous versus continuous wound drainage after total knee arthroplasty: a meta-analysis

Tao Li · Xisheng Weng

Received: 8 April 2014 / Accepted: 8 April 2014 / Published online: 7 May 2014
© Springer-Verlag Berlin Heidelberg 2014

Dear Editor,

We would like to thank Dr. He and Dr. Peng for their interest in our article titled “Noncontinuous versus continuous wound drainage after total knee arthroplasty: a meta-analysis” [1]. We are sincerely thankful for their constructive suggestions and the attention paid to our work, and we are glad to answer their questions in order.

1. Although the study by Eum et al. [2] did not show the standard deviations of continuous variables, dichotomous variables including incidence of blood transfusion and complications were available and were adopted in our meta-analysis.
2. Assessment of methodological quality of clinical trials is very important in meta-analysis. Therefore, we applied the Cochrane Collaboration tool for assessing risk of bias [3], which objectively reflects the following information: random sequence generation, allocation concealment, blinding of outcome assessments, incomplete outcome data, selective reporting, and other bias, to assess methodological quality of included studies. We thought it superfluous to provide detailed scores for each study, which is not the content of the Cochrane Collaboration recommendations.
3. The readers point out that the method of inverse variance (IV) with the assumptions of a random-effects model (Fig. 6) should be changed to the DerSimonian and Laird random-effects model. We appreciate the suggestions, but we could not consider the latter statistical choice due to the functional limitations of the Revman 5.2 software we

adopted. Moreover, we pooled data using the DerSimonian and Liard random-effects model with STATA version 12.0 and found that the result ($P=0.000$) was consistent with the previous pooled results (Fig. 6).

4. Although pooled results with high heterogeneity ($I^2=88\%$) showed that there was a significant difference between NON and CON, a further sensitivity analysis was conducted after these two randomized controlled trials [4, 5] being excluded, and pooled results with low heterogeneity ($P=0.24$, $I^2=27\%$) were in agreement with our previous analysis—NON can obtain less postoperative visible blood loss compared with CON. Therefore, we felt that NON has an advantage in postoperative visible blood loss.
5. As suggested, Egger’s linear regression test and Begg’s rank correlation test were conducted with the STATA version 12.0, and results ($P=0.424$ and $P=0.452$, respectively) were in line with the examination of the funnel plot. Additionally, the readers recommend that publication bias should be assessed for all primary and secondary outcomes. Actually, we considered this issue beforehand. Due to space limitation, we decided to use the funnel plot of the primary outcome.

Acknowledgments We would like to thank Dr. He and Dr. Peng again for their constructive comments and reasonable questions concerning our study.

References

1. Li T, Zhuang QY, Weng XS, Zhou L, Bian YY (2014) Non-continuous versus continuous wound drainage after total knee arthroplasty: a meta-analysis. *Int Orthop* 38:361–371
2. Eum DS, Lee HK, Hwang SY, Park JU (2006) Blood loss after navigation-assisted minimally invasive total knee arthroplasty. *Orthopedics* 29:S152–S154
3. Higgins JPT, Altman DG (2008) Assessing risk of bias in included studies. In: Higgins JPT, Green S, eds. *Cochrane handbook for systematic reviews of interventions*. Wiley 187–241

T. Li · X. Weng (✉)

Department of Orthopaedic Surgery, Peking Union Medical College Hospital, Peking Union Medical College, Chinese Academy of Medical Science, 100730 Beijing, People’s Republic of China
e-mail: xshweng@medmail.com.cn

4. Raleigh E, Hing CB, Hanusiewicz AS, Fletcher SA, Price R (2007) Drain clamping in knee arthroplasty, a randomized controlled trial. *ANZ J Surg* 77:333–335
5. Madadi F, Mehrvarz AS, Madadi F, Boreiri M, Abachizadeh K, Ershadi A (2010) Comparison of drain clamp after bilateral total knee arthroplasty. *J Knee Surg* 23:215–222