

Comment on Zhou et al.: Do we really need closed-suction drainage in total hip arthroplasty? A meta-analysis

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Received: 7 September 2013 / Accepted: 12 September 2013 / Published online: 2 October 2013
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To the Editor:

We read with great interest the article titled: “Do we really need closed-suction drainage in total hip arthroplasty? A meta-analysis”, by Zhou et al. [1]. The authors conducted a meta-analysis to determine whether closed-suction drainage is safe and effective in promoting wound healing and reducing blood loss and other complications compared with no drainage in total hip arthroplasty (THA). The conclusions drawn seem questionable because of several apparent flaws in their study.

Firstly, publication language was limited to English in the meta-analysis; therefore, the authors should consider the potential importance of language bias as a limitation, which was not mentioned. We suggest that publication bias be assessed by visual examination using a funnel plot and statistical tests (e.g. Egger’s linear regression test or Begg’s rank correlation test).

Secondly, a study by Hill et al. [2], which was only a conference abstract, was included in their analysis to minimise bias against smaller studies that were not published in full. We do not agree with this inclusion. Obviously, Hill et al. published their prospective randomised controlled trial (RCT) again in 2005 [3]. To strengthen the credibility of Zhou et al.’s meta-analysis, information from Hill et al.’s abstract should be excluded.

Finally, it is incorrect that summary odds ratio (OR) estimate with corresponding 95 % confidence intervals (CIs) were derived by using the method of Mantel–Haenszel (MH) with the assumptions of a random-effects model. However, studies should be combined by using the DerSimonian and Laird

random-effects model, which considers both within- and between-study variations.

We agree with the following conclusions by Zhou et al.: closed-suction drainage reduces the requirement for dressing reinforcement but increases the rate of homologous blood transfusion. No significant difference was observed in the incidence of infection, blood loss, changes in haemoglobin and haematocrit, functional assessment or other complications when the drainage group was compared with the no-drainage group. Larger, blinded RCTs with a longer follow-up period are still needed to provide a powerful and rational conclusion regarding the use of drainage after THA.

Conflict of interest None

References

1. Zhou X-d, Li J, Xiong Y, Jiang L-f, Li W-j, Li-dong W (2013) Do we really need closed-suction drainage in total hip arthroplasty? A meta-analysis. *Int Orth*. doi:10.1007/s00264-013-2053-8
2. Hill RM, Brenkel I (2003) Drain vs no drain in unilateral total hip arthroplasty: a randomised prospective trial [abstract]. *J Bone Joint Surg Br* 85(Suppl II):104
3. Walmsley PJ, Kelly MB, Hill RM, Brenkel I (2005) A prospective, randomised, controlled trial of the use of drains in total hip arthroplasty. *J Bone Joint Surg Br* 87(10):1397–1401

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