

Comment on Zhu et al.: a meta-analysis of bisphosphonates for periprosthetic bone loss after total joint arthroplasty

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Dear Editor,

Recently, we read with great interest the article by Zhu et al. [1] entitled “A meta-analysis of bisphosphonates for periprosthetic bone loss after total joint arthroplasty” published in June 2013 in “Journal of Orthopaedic Science.” Zhu et al. performed a meta-analysis to evaluate the effect of bisphosphonates (BPs) for periprosthetic bone loss after total joint arthroplasty. It is an interesting study. Nevertheless, we have several queries that we would like to communicate with the authors.

1. If studies do not meet the inclusion criteria, the study was excluded from the analysis. We suggest that the real exclusion criteria should be mentioned in the meta-analysis, such as re-analyzed trials, review literature, repeated reports, retrospective studies and so on.
2. In the Results section, the effect size was the “weighted mean difference” for bone mineral density analysis. However, the effect size was the “mean difference” in the forest plots (figures 2 and 3). We suggest that the “mean difference” should be replaced by “weighted mean difference” in the forest plots.
3. In the subgroup analysis section, the authors found that the efficacy of nitrogenous BPs was greater than that of non-nitrogenous BPs at 6 and 12 months. However, we could not find any relevant forest plots in the article.

The authors should provide the plots to make the article easier to read for readers.

4. There are different types of BPs, which would bring different results. If possible, we suggest that a meta-analysis of a certain BP (such as alendronate, etidronate, risedronate or pamidronate) for periprosthetic bone loss after total joint arthroplasty could be conducted.
5. In the adverse reaction section, the authors mentioned the adverse events, such as gastric dyspepsia and osteolytic lesions, in 12 included trials. However, they did not compare the adverse reaction rate between the BP treatment group and control group. We suggest that the comparisons should be made for adverse reactions.
6. It is sufficient that publication bias was assessed by visual examination of a funnel plot and statistical tests (Begg’s test). However, it is not clear for which outcome the publication bias was assessed. Actually, publication bias should be assessed for all outcomes.

Moreover, further high-quality RCTs based on larger sample sizes are still needed to assess the efficacies of bisphosphonates for periprosthetic bone loss after total joint arthroplasty. We believe that our remarks will contribute to more accurate elaboration of the results presented by Zhu et al.

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

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