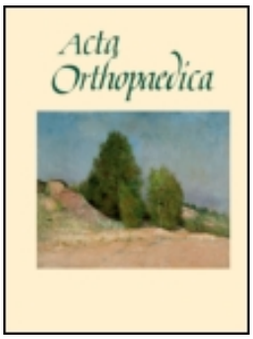

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No clinical benefit of gender-specific total knee arthroplasty: A systematic review and meta-analysis of 6 randomized controlled trials

Xiaobo Xie, Yuexing Zhong, Lijun Lin & Qi Li

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Correspondence

No clinical benefit of gender-specific total knee arthroplasty: A systematic review and meta-analysis of 6 randomized controlled trials

Sir—We read the article regarding "No clinical benefit of gender-specific total knee arthroplasty" by Cheng et al. '' (2014) published in *Acta Orthopaedica* with academic interest. It is appreciable that the authors have presented a detailed comparison of pooled clinical outcomes of gender-specific instruments (GSI) with traditional implants. Conclusion based on this comprehensive search and meta-analysis showed that the theoretical superiority of GSI did not turn into clinical results with regard to postoperative knee pain, range of motion (ROM), knee scores, satisfaction, preference, complications, and radiographic results. However, several problems were noted in this paper, which would hamper the review's validity.

In the search strategy, only randomized controlled trials (RCT) were eligible, case reports, case series, editorials, commentaries, letters to the editor, and reviews were excluded. However, one of those included studies by Kumar et al. (2012) was just a short report in an abstract form. It is well known that uncontrollable factors in an abstract including quality of randomization, surgical procedure, measurement of final results would cause great bias to the meta-analysis. Furthermore, whether selective report can be found in an abstract is unknown. Namely project A and B is your study object, but only A is reported in the abstract, project B would be reported in the whole paper not in the abstract which would cause great bias to the finial results of project B.

Four studies (Kim et al. 2010a, Kim et al. 2010b, Singh et al. 2012, Song et al. 2012) reported a Knee Society score (KSS) (Table). Different style of these scores was reported in their articles, two as X (SD), two as X (range). It can not be simply calculated by weighed mean difference (WMD) in a pooled analysis because it can not be deduced from the range whether it is a range from a minimum to maximum or 95% confidence intervals (CIs). Only CIs can be used indirectly in calculation. Thus conclusion regarding "The KSS was similar between the 2 groups (WMD =–0.45, CI: –1.5 to 0.55; p = 0.4)" was inaccurate.

Postoperative complications was compared in this review (RR = 1.0, CI: 0.42–2.3; p = 1.0, I2 = 0%), there was no statistical difference in GSI and traditional implants. However, it was not well defined the range of complications, because not all authors reported their papers in uniform. For example, we define complication as adverse events a, b, c, d and e. Study A reported adverse events a, b, c, d (n = 4), study B reported adverse events a, b, c, e (n = 4) and study C reported adverse events a, b, c (n = 3). Actually adverse event e was noted in study A but not reported, which may lead to a different conclusion with comparison with study B. False results would be got if we simply defined complications in study A as n = 4. Maybe, in contrast, with the help of event e in study A, the final outcomes will stand on the opposite side.

KSS of included studies

Study	Postoperative KSS		Style
	GSI	Traditional implants	
Singh et al. 2012	95.8 (3.6)	94.9 (4.7)	X (SD)
Song et al. 2012	92.1 (8.7)	92.7 (8.0)	X (SD)
Kim et al. 2010a	93 (70–100)	94 (70–100)	X (range)
Kim et al. 2010b	95.5 (81–100)	96.5 (83–100)	X (range)

Xiaobo Xie[1a], Yuexing Zhong[2], Lijun Lin[1], Qi Li[1b]
[1] *Department of Orthopedics, ZhuJiang Hospital of Southern Medical University, China.*
[2] *Department of Internal Medicine, JiaYing Hospital of JiaYing Medical University, China.*
[a] *first author*
[b] *E-mail: xilubi@163.com*

Sir–We thank Dr. Xie and his colleagues for their great interest in performing such an in-depth methodological assessment of our article (Cheng et al. 2014). We would like to answer their questions that were raised in their letter to the editor.

Our study attempted to include all the available randomized evidence, which was undertaken according to the Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) guidelines to minimize the risk of missing pertinent studies. Thus, we preferred to include such a randomized trial in an abstract form, as clearly indicated in our article, and this was the case for the study by Kumar et al. (2012) Thus, importantly, publication selection bias may be decreased. Although it is not possible to determine from reading the con-

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ference abstract whether there was selective outcome reporting, primary outcomes are provided to analysis for us. Thus, we felt it was more appropriate to include the study.

According to Cochrane handbook, it appears safe to use the mean of standard deviations from other studies in meta-analysis when some included studies do not report the standard deviations (Furukawa et al. 2006). There is no doubt that the conclusions of our study have been inaccurate by the use of imputed standard deviations. However, we think that we have provided the data for future reference, which is better than a descriptive analysis from the study by Dr. Xie et al. (2014)

Different types of postoperative complications were reported in the included 4 studies (Kim et al. 2010a,b, Singh et al. 2012, Thomsen et al. 2012). However, these studies did not document any adverse events related to the knee prostheses. Therefore, it is difficult for us to conduct a detailed analysis according to the kind of complications in our study in consideration with low rate of complications, on which we did not focus our attention. We totally agree that the range of complications should be well defined to present the data to our readers and we look forward to the findings of further investigations.

Tao Cheng
Department of Orthopaedic Surgery, Shanghai Jiao Tong University Affiliated Sixth People's Hospital
Email: dr_tao.cheng@hotmail.com

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