

Correspondence

Outcome of total hip arthroplasty, but not of total knee arthroplasty, is related to the preoperative radiographic severity of osteoarthritis

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Sir—We read the study of Tilbury et al. with great interest (Tilbury et al. 2016). Without doubt, the topic of their article, the impact of radiographic severity of hip and knee osteoarthritis on patients' quality of life after joint replacement is important. The authors found an association between higher arthritis grading and better pain relief and functional outcome after total hip replacement. However, the PROMS analysis of 271 included total knee arthroplasty patients showed no influence of the preoperative arthritis severity on the postoperative quality of life. In 2013, we published an analysis of patients' quality of life after total knee arthroplasty (Schnurr et al. 2013). We included 996 TKA patients into our study and used a logistic regression model to detect influence of demographic factors, operative and radiologic parameters on patients' satisfaction after operation. In comparison to high-grade osteoarthritis Kellgren Lawrence IV°, the risk for dissatisfaction was about 2.5–3 fold elevated for the lower arthritis grades. Indeed, methods of our study and the publication of Tilbury et al. differ with view to assessment of patients' quality of life. However, as the authors mention in their discussion other studies show better outcomes in TKA patients with a higher preoperative arthritis grade. We would like to point out, that besides our study, there are other publications, indicating better outcome for TKA patients with higher osteoarthritis severity (Merle-Vincent et al. 2011, Polkowski et al. 2013). In summary, most studies show a strong association between low osteoarthritis severity and worse outcome after total knee arthroplasty.

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Sir—We thank Christoph Schnurr and Dietmar Pierre König for their valuable comments on our paper entitled “Outcome of total hip arthroplasty, but not of total knee arthroplasty, is related to the preoperative radiographic severity of osteoarthritis (Tilbury et al. 2016). As they point out rightly, in contrast with the findings in our study and other previous reports (Dowsey et al. 2012), there are a number of studies showing better outcomes of TKA in patients with a higher preoperative osteoarthritis grade. In particular, the designs of the studies by Merle-Vincent et al. (2011), Polkowski et al. (2013), Schnurr and König (Schnurr et al. 2013), are comparable with our study, warranting the need for a thorough exploration of potential explanations for the observed discrepancy. First, the study by Polkowski et al. cannot be directly compared with our study, as that study only included patients who were having a painful knee without objective signs of loosening. Regarding the studies by Schnurr et al. and Merle-Vincent et al., it is unlikely that differences in the patient characteristics play a role in the explanation for the discordant results, as the age, sex distribution and mean BMI appear to be in the same range. However, the distribution of patients over the different categories of radiographic severity varied, with the proportion of patients with KL 1–2 being 27% in our study, but only 5% (Merle-Vincent et al. 2011) and 10% (Schnurr et al. 2013) in the other 2 studies. Moreover, the definition of outcome varied, with Schnurr et al. only using satisfaction as the endpoint, whereas Merle-Vincent et al. combined several dimensions of outcome into one composite satisfaction index. In our study, the analyses were done for multiple endpoint measures reflecting various aspects of outcome separately (pain, quality of life and function).

In conclusion, there are a number of methodological differences between studies on the relationship between preoperative radiological grade and outcome of TKA which may explain the observed differences among studies regarding the presence and strength of such an association. This underlines the need for a larger, preferably international, study using uniform inclusion criteria and a standard set of endpoint measures. Joint implant registries with the collection of preoperative radiographs and PROMS alongside the register could probably provide the necessary data to perform such an analysis.

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