

Correspondence

Posterior approach compared to direct lateral approach resulted in better patient-reported outcome after hemiarthroplasty for femoral neck fracture

Sir,—With interest I read the article “Posterior approach compared to direct lateral approach resulted in better patient-reported outcome after hemiarthroplasty for femoral neck fracture” by Kristensen et al. (Acta Orthop 2017; 88(1): 29-34). As I use direct lateral approach in hemiarthroplasty I was interested whether it is time to begin using posterior approach instead. The title and abstract suggest a major difference between the two approaches. However, the data shown does not support the conclusions.

The reported differences in the article between the approaches in the pain (VAS, 100 mm-scale) at any time are between 2.2 and 3.1 mm. This difference reached statistical significance even after adjustment for ASA, cognitive impairment and fixation of prostheses. The reported minimal clinically important difference (MCID) for VAS is estimated to be 14 mm (Tashjian et al. 2009), thus the difference is clinically insignificant. Patient acceptable symptomatic state (PASS) score for VAS (100 mm-scale) is 30 mm (Paulsen et al. 2014). The patients having VAS below 30 mm consider themselves well. Thus, there was no clinically significant difference between the two approaches.

The MCID and PASS values are 0.31 and 0.92 for EQ-5D and 23 and 85 for EQ-VAS (Paulsen et al. 2014). The EQ-5D scores in both groups were (at any postoperative time point) below 0.92 and the adjusted difference between the groups was less than 0.31. For EQ-VAS the values were below 85 mm and the difference between groups less than 3 mm. Thus, the difference between two approaches was clinically insignificant.

When analysing large dataset, such as in the study by Kristensen et al., even small differences reach statistical significance. It is therefore important to estimate whether the difference is also clinically significant. In light of the above, I feel that the title as well as the conclusions of the study are incorrect and misleading.

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Another Correspondence regarding this article was published in Acta's April issue: Rogmark C. Acta Orthop 2017; 88 (2): 234-5

Sir,—We thank Dr Söderlund for his response to our article (Kristensen et al. 2017). Dr Söderlund comments on the issues of minimal clinically important difference (MCID) and patient acceptable symptomatic state (PASS). In light of his comments we want to clarify some important aspects of MCID and PASS.

Firstly, MCID has, in orthopedic literature, most commonly been used to determine the clinical importance of treatment for conditions with chronic pain (rheumatic disease, osteoarthritis, shoulder- or back pain) by analyzing changes in patient reported outcome measures (PROMs) based on pre- and post-operative collected data (Dworkin et al. 2008, Tashjian et al. 2009, Paulsen et al. 2014, Katz et al. 2015). Our study is not evaluating changes in PROMs over time as a result of the hip fracture, but compares the outcome after surgery for hip fracture patients treated with two different surgical approaches.

Secondly, when analyzing differences in PROMs between groups, like in our study, the MCID for individuals cannot be directly applied to the evaluation of clinically important group differences (Dworkin et al. 2008, Glassman et al. 2008, Katz et al. 2015). “It should not be inferred that the difference between the 2 groups must be larger than the MCID before the treatment benefit in one group can be considered clinically important. Even if the difference between the 2 groups is smaller than the MCID, there could be a sizable percentage of patients in one of the groups who reports a clinically important better outcome” (Dworkin et al. 2008).

One recommended way to determine treatment effectiveness to compare the effectiveness of two treatments in clinical trials by using MCID is to calculate the proportion of patients in each treatment group that meet the MCID, defined as individual patients for whom the difference between pre- versus post-treatment pain score is equal to or greater to the MCID threshold. Then, the treatment groups can be compared for the proportion of patients who meet the MCID using a standard statistical method (Katz et al. 2015). In our material we unfortunately don't have pre-treatment PROM score to do these calculations for all outcomes. One alternative way could be to calculate the proportion of patients in each group who has reached a PASS (Fekete et al. 2016). However, as hip fracture patients are old and frail, very few patients will report PROMs higher than the PASS values mentioned by Dr Söderlund. These values were calculated after elective total hip arthroplasty surgery (Paulsen et al. 2014). Hip fracture patients, representing an older and frailer patient group, may be inclined to

accept a lower functional state than these PASS values. Katz et al. (2015) do clearly recommend to use benchmarks for clinical improvement derived from the same patient group as they are applied on. As long as we know, PASS- criterion for patients operated for hip fractures are not determined.

We are aware of the small differences in our study between the surgical approaches. Still, all PROMs after 4, 12, and 36 months including walking ability, were consistently better for the posterior approach, and is reason for the abstract and title. The walking ability is a dichotomous variable and can accordingly not be evaluated by MCID and PASS.

The aim of our article was not to give an absolute recommendation on which surgical approach to use, but our results may contribute in the decision making process.

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