

Correspondence

Obesity in total hip arthroplasty—does it really matter?

Sir—I read with great interest the meta-analysis “Obesity in total hip arthroplasty—does it really matter?” by Haverkamp et al. published in the August 2011 issue. However, it seems to me that there is an error in their analysis regarding the outcome “aseptic loosening”.

Figure 4. Forest plot aseptic loosening (below) contains wrong numbers producing a wrong overall result and wrong study conclusions with respect to revision for aseptic loosening (abstract and result section).

The numbers in the study by McLaughlin et al. (2006) should read: 71 – 109 – 56 – 100. (I assume that the column “Experimental” should read “BMI < 30” and the column “Control” “BMI > 30” as in the other figures).

The resulting OR for this study should then be 1.16 (95% CI 0.9; 1.5) instead of 0.45. And as a consequence, the total events and total OR are incorrect as well.

Furthermore, there are three other issues I would like to address:

1. The study by Andrew et al. (2008) included in the analysis for Figure 4 does not specify the reason for revision, and the numbers of revision indicated here (14 in non-obese and 5 in obese) can theoretically also contain cases with revision for septic loosening, dislocation or other.

2. A large study (n = 2026 primary THAs) conducted by Jackson et al. (2009) with the title “The effect of obesity on the midterm survival and clinical outcome of cementless total hip replacement” has not been included in the meta-analysis.

3. The authors write in their discussion (page 441, 2. Paragraph): “Previous studies have suggested that dislocation occurs more often in obese people (Paterno et al. 1997, Sadr et al. 2008).” However, the study by Paterno et al. does not report on a higher risk in obese. He found a dislocation risk of

3% in obese vs. 5% in non-obese patients. To the best of my knowledge the studies by Lübbecke et al. (2007) and Sadr et al. (2008) were the first to demonstrate a significantly higher rate of dislocation in obese patients.

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Sir—We would like to thank Dr Lübbecke for her critical analysis of our manuscript. The main concern is the interpretation of the aseptic loosening in our meta-analysis and our conclusion regarding the occurrence of aseptic loosening in obese compared to non obese.

The study of McLaughlin et al. (2006) shows no difference between obese and non-obese with regard to the long term outcome, however in both groups more than 55% were revised for loosening at the time of analysis. We agree that we made a mistake in the data extraction, and that the McLaughlin study was not correctly cited. The small difference that seems to be in the disadvantage of the obese disappears, the correct odds ratio is 1.2 (95% CI 0.78–1.8). Since the study of McLaughlin has 50% of the weight in our comparison, based on the large number of revisions, we also made an analysis without this study showing a similar outcome (OR 0.97 (95%CI: 0.53–1.77)). Therefore it cannot be said that obese have a higher risk of revision for aseptic loosening as stated earlier.

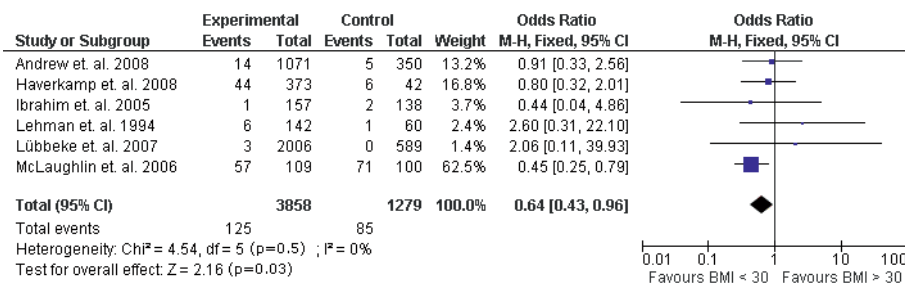


Figure 4. Forest plot, aseptic loosening.

In the study of Andrew et al. (2008) it is correct that the reason for revision is not specified as being aseptic, however all the complications like deep infection and dislocation are mentioned separately and for none it is mentioned that this resulted in a revision surgery. Based on a critical analysis of this manuscript we assumed that the revisions mentioned were performed for aseptic loosening. Leaving this study out of the pooling did not change the abovementioned outcome.

The study of Jackson et al. (2009) concerns the survival of THA in the obese compared to the none obese and this study appears valid to be included in our analysis. Data extraction results in 8 revisions in 1,652 (0.5%) non-obese and 3 revisions in 414 (0.7%) obese for aseptic loosening. Including this in the meta-analysis changes OR to 1.1 (0.8–1.7).

The main concern of Dr Lübbecke is correct, we cannot prove a difference in aseptic loosening in obese versus non-obese. Based on the current evidence it cannot be excluded either. The main concern is the large heterogeneity between the studies; comparing revision rates of 65% (McLaughlin) and 0.5% (Jackson) is difficult.

Regarding the last remark, we obviously cited the wrong article in the discussion. While Lübbecke et al. and Sadr et al. are mentioned in the text and should be cited, we cited Paterno instead of Lübbecke. Of course Dr Lübbecke was the first to show the difference in dislocation rate between obese and non-obese.

The main outcome of our study was a higher infection rate in obese compared to non-obese and a higher dislocation rate

in obese, no doubt about this. Regarding the occurrence of aseptic loosening we did not find a difference between obese and non-obese.

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