Reviewer's report

Title: Histological, histomorphometric and microtomographic analyses of retrieval hip resurfacing arthroplasty failed at different times.

Version: 2 Date: 17 October 2012

Reviewer: Sokichi Maniwa

Reviewer's report:

Minor Essential evisions

(General opinion)
This paper is very interesting and important because no studies have used histomorphometric and microtomographic evaluation to study the retrieved metal-on-metal hip resurfacing. But the advantage of your methodology (combination of 2D and 3D quantitative measurements) is not so clear. I would like you to exaggerate the superiority of your method over the other methods in the past.

(Methods)
Authors divided the cases into 3 groups according to the time to fracture. Some authors divided the patients into 2 groups: the patients failed within one month and the patients failed after one month, for example (Steffen RT et al., 2010). Reasons for your classification should be mentioned in comparison with the other papers.

Page 5, line 111: I think that “Fractures were divided into three groups.”

More information about the existence of pseudotumor, ALVAL, and the extent of metallosis in each group should be expressed.

Were there any cases with malposion of the implant in retrieved specimen?

Page 6, line 156: Is Toluidine Blu correct?

(Discussion)
Page 12, line 308: If a vascular injury causes osteonecrosis in the central and bottom regions in group 1, the same finding also could be seen in the top region. But your study demonstrated less empty lacunae in the top region in group 1. I would like you to show the reason and further consideration.

Page 13, line 319: Osteonecrosis started from the bottom in the specimen in groups 2 and 3. This finding is very interesting part of your study. I would like you to add more consideration from your observation or from the literature.

(Conclusion)
Purpose of your study was to evaluate the characteristics of bone quality and its microarchitecture in the retrieved specimen after hip resurfacing. I would like you to remark the answer to your original purpose in Conclusions.

(References)
#19: “J of Microscopy “ # “J Microscopy”

(Figures)
Are data expressed correctly as mean ± SD in figures 4, 5, and 6?

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests.