Reviewers report

Title: Treatment of Periprosthetic Femoral Fractures after Femoral Revision Using a Long Stem

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Reviewer: Andreas Leonidou

Reviewers report:

MAJOR COMPULSORY REVISIONS

This is a retrospective study that looked at 11 patients with periprosthetic femoral fractures following femoral revision with a long stem. 9 patients were treated with ORIF and 2 had revision with a long stem. 1 patient from the ORIF group failed to united, the plate broke and revision to a long stem was performed. Average time of union was 5 months. The authors concluded that in this situation most cases of B1 fractures can be treated with ORIF and advocated for femoral component revision in patients with a transverse fracture and a poor bone quality.

The following clarifications need to be made before this paper gets accepted for publication.

Abstract page 2, line 3: I cannot see the relevant of mentioning specific bipolar hemiarthroplasty. Periprosthetic femoral fractures (PFFs) happen also following standard monopolar hemiarthroplasty

Abstract page 2, line 8: please rephrase the sentence. The mean numbers of previous...... Most likely take out the word “times”.

Background, page 4 line 4: again PFFs happen also after monopolar hemis.

Background, page 5 line 7: correct spelling is Orthopaedic

Methods, page 6: line 6. Please rephrase and exclude times

Methods general question: How many surgeons?

Results, page 8, line 8: Why two different treatments with ORIF, why some got locking plates and 2 dall miles?

Results, page 8, line 9: what was the criteria for adding bone graftin?

Results, page 8, line 11. On the second case of long stem revision you have to give more info here at the results. I appreciate you mention more details in the abstract and in the discussion but the authors who reads that here does not understand why the second case had long stem revision and why it was reinforced with a locking plate.

Results, page 9, line 1: Union did not occur in all patients, as you mentioned 1 patient had failure of metalwork and in your abstract I guess this is the same patient you describe as not united.

Results, page 9, line 3: One implant had to be revised, it was the broken plate.
Results, page 9, line 4: you have to elaborate slightly more and explain things in relation to the JOA hip score. Also how has this developed / improved from post op to the final follow up? Or was it done only at the final follow up?

Discussion page 10. You write: we found several important features that might influence the outcome of the patients. But then you do not elaborate. On first instance you mention that all cases were Vancouver B1. How is this an important factor? Second you mention the transverse fractures, you have to elaborate slightly more. There is recent literature to suggest that transverse fractures in poor bone quality are unstable and should not be treated just with locking plates.

Discussion Page 11, line 6: You have not defined as yet how you assess bone quality. Is it with the Dorrs index? With the canal thickness ratio?

Discussion, page 12, lines 11-12. Please reference both these statements.

Discussion, page 12, line 13: Can you please explain in more detail what was this matched group?

Conclusions, page 13: you mention that a transverse fracture with poor bone stock needs femoral revision. But 4 out of the 9 patients you treated with ORIF had transverse bone fractures and some of them had bone graft which means that you thought the bone quality was not adequate. The question that rises is why you did not chose to revise the femoral component then.

Also the limitations paragraph should be before the conclusions.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests