

Format for ANSWERING REVIEWERS

August 25, 2014

Dear Editor,



Please find enclosed the edited manuscript in Word format (file name: 17782-review.doc).

Title: Subtrochanteric fractures after retrograde femoral nailing

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Name of Journal: *World Journal of Orthopedics*

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The manuscript has been improved according to the suggestions of reviewers:

In response to reviewer 00505420:

1. In response to comment xyz1:

- a. Regarding the rarity of event - Revised title: SUBTROCHANTERIC FRACTURES AFTER RETROGRADE FEMORAL NAILING
- b. Line no. 10, abstract from "We are not aware of any similar reports in the literature" to "Only a few reports in the existing literature have described these fractures"
- c. Retrospectively, considering the peri-implant subtrochanteric fractures, it seems reasonable to assume that both these patients could have been managed with antegrade femoral nailing as the index procedure.
- d. The imaging which was available to us illustrated both fractures occurred through the interlocking screws in the peri-implant area
- e. Our recommendations to prevent subtrochanteric, peri-implant fractures after retrograde femoral nailing would be to wisely choose the initial implant in light of the probability of this complication and opt for antegrade nailing where possible.

2. Grammar correction: "Two young men after sustaining a fall presented to us with pain, swelling and deformity in the upper thigh region"

3. In response to comment xyz2:

- a. Was there an interlocking screw in this hole? "The fracture was through the distal of the two interlocking screw-containing holes at the subtrochanteric area." As shown in figure 5.
- b. Was the implant intact on retrieval? "Yes, the implants were intact on retrieval."

4. In response to comment xyz3:

- a. Was the implant intact or broken?
 - i. "The implant appeared intact on imaging"

ii. "The implants were intact on retrieval"

5. In response to comment xyz4:

- a. Previous FIGURE 8: "The fracture was a short oblique one through the distal of the two interlocking screw-containing holes at the subtrochanteric area."

6. In response to comment xyz5:

- a. Previous FIGURE 11: the shaft fracture was seen to be uniting, as after the index procedure in a progressive yet delayed manner – please see NEW FIGURE 8.

7. In response to comment xyz6: metabolic and osteoporotic workup in both patients did not reveal anything significant

8. In response to comment xyz7, new reference no. 15 added:

O'Mara T, Barei DP, Taitsman LA, Vallier H, Chapman JR. Pertrochanteric femur fracture at the proximal end of a retrograde intramedullary nail—a case report. *Injury Extra* 2005; 36:271–276. DOI:10.1016/j.injury.2004.12.048

In response to reviewer 03069451:

1. Table to be added listing all other similar cases – table 1

2. Revision of grammatical mistakes

3. Merge pictures

- a. FIGURES 1 and 2 = FIGURE 1
- b. FIGURE 3 = FIGURE 2
- c. FIGURES 4 and 5 = FIGURE 3
- d. FIGURES 6 and 7 = FIGURE 4
- e. FIGURE 8 = FIGURE 5
- f. FIGURE 9 = FIGURE 6
- g. FIGURES 10 and 11 = FIGURE 7
- h. FIGURES 12 and 13 = FIGURE 8

4. Analysis of non-union in discussion:

- a. Our second case did show evidence of delayed union following both surgeries. In a case-control study by Taitsman et al, identified risk factors for nonunion after femoral nailing of diaphyseal femur fractures were open fractures, tobacco use and delayed weight bearing [16]. Modalities of managing femoral nonunions following nailing have included exchange nailing, plating and augmentative locking plating. All of these have shown excellent results[17-19]. In a recent retrospective cohort study, Swanson et al described various strategies of exchange nailing for femur nonunions with nail in-situ including larger nails (at least 2mm larger in diameter), nails from a different manufacturer, static interlocking, correction of metabolic and endocrine disorders and secondary dynamization.

In response to reviewer 00728561:

1. Number of retrograde nails used by a year at our center – around 75

In response to reviewer 00467045:

1. Change of “The last two decades have witnessed” to “In the last two decades, a significant increase in the use of this technique has been witnessed in patients with difficult access to the proximal femur”
2. The sentence: “Premature failure of orthopedic implants before fracture healing is well known which include either the nail or locking screws” revised to “Complications associated with nailing include implant failure, angulation, shortening, malunion and nonunion of the fracture with associated migration of the nail.”
3. Revision of “He had internal fixation of both femora with a retrograde nail during his previous skydiving accident and also had internal fixation of a burst fracture of the third lumbar vertebrae in addition to cannulated screw fixation of the right femoral neck” to “In a similar skydiving accident in the past, he had sustained bilateral femur fractures in addition to a burst fracture of the third lumbar vertebra. He had been operated for the same with bilateral retrograde femoral nails, cannulated screw fixation in the right femur and internal fixation of the L3 burst fracture.”
4. Addition of A: “A CT scan confirmed the fracture at the locking screw site”
5. Addition of the: “His fracture showed full union at six months postoperatively (Figures 4 and 5) and he had full range of movement of the hip and knee.”
6. Rewording:
 - a. “In a prospective randomized controlled trial, Ostrum et al compared the results, function, and complications of antegrade and retrograde femoral nailing for femoral shaft fractures in one hundred consecutive patients and concluded that both groups yielded high union rates.”
 - b. “In a paper on proximal femoral fractures associated with ipsilateral shaft fractures managed by hip screws and reamed retrograde intramedullary (IM) nails, Ostrum et al reported union rates of 98% and 91.3% for the femoral neck and shaft fractures respectively.”
 - c. “In a systematic review of literature, Papadokostkis et al analyzed retrograde nailing of 544 femoral shaft fractures and reported an overall union rate of 94.6 % and a mean time to union at 3.2 months.”

In response to the changes suggested by the editor:

1. Comment 1: Change in format of listing authors with institution addresses and details
2. Comments 2 and 3: being a case report, the IRB and informed consent were waived by the Ethics Committee

3. Comment 3: please see above
4. Comment 4: change in the format of listing corresponding author details
5. Comment 5: telephone and fax numbers
6. Comment 6: revised keywords
7. Comment 7: audio core tip