

Authors' reply

Sir,

We thank you for the interest and raising concerns¹ in our article.²

Regarding the utility of proximal femoral nailing (PFN) in osteoporotic fractures for which the authors quote Simmermacher *et al.*'s study³ as the concrete evidence of usefulness of PFN. 46 of 315 patients (almost 15%) had implant-related problems, leading to 28 reoperations in that series. We have also stated that the role of PFN in unstable osteoporotic and severely comminuted intertrochanteric fractures is yet to be defined and have not stated against its use. We have presented primary hemiarthroplasty as a viable treatment modality for such fractures. A larger prospective randomized study comparing the use of intramedullary devices against primary hemiarthroplasty for unstable osteoporotic fractures needs to be conducted.

We performed two staged resection of femoral neck. The primary higher neck cut allows the head to be removed easily. The intermediate fragment is then reposed back on the proximal femur. With proper reduction of the fracture, assessment of the neck cut becomes easy.

Leaving the lesser trochanter unattended in case shown in Figure 4 of the article is the third query.² The case is shown to highlight the complication in our series. This patient had severe osteoporosis and wafer thin lesser trochanter. The attempt to tension this thin bone was going to fail hence both lesser and greater trochanter were left unfixed and calcar was build up using cement. The use of calcar replacement prosthesis could have been ideal in cases with severe comminution; however, financial constraints did not allow us that and we build up the calcar using bone cement. However, on followup we observe no loosening hence this appears to be a good option in these cases.

Regarding "loose" reattachment of the comminuted trochanter to the shaft. The ethibond sutures were used to suture together the trochanter pieces and the soft tissue to make a stable construct in cases of comminuted greater trochanter. The gluteus medius, greater trochanter, and the vastus lateralis apparatus were maintained in continuity as a stable lateral sleeve. This was then fixed loosely to the shaft fragment with steel wires or ethibond sutures. Thus, in these cases, the stability was dependent on this lateral sleeve of soft tissue and not on the greater trochanter reattachment.

Thus, there was no alteration in the postoperative rehabilitation protocol and all patients underwent standard protocol as mentioned.

The anteversion is decided on the basis of orientation of the flexed leg as vertical axis and the horizontal plane. While deciding the anteversion, the flexed leg is kept at 90° to the horizontal plane and the implant is inserted with proximal end rotated downward to replicate an anteversion of 10° to 15° with respect to leg axis. The trochanters were reattached after cementing and clearing of the fracture surfaces of any bone cement was done. Thus, no cement could creep into the fracture site.

We did not encounter stem subsidence as interpreted in Figure 3. Both the radiographs are of different magnification and rotation, so no such comment can be made from it. Also, conventionally, loosening is defined as component migration or a continuous lucency of >1 mm.⁴ What was seen in the patient seen in Figure 4 was nonprogressive radiolucencies at stem cement junction. There was no subsidence and patient was symptom free.²

The last point raised was of trochanteric nonunion seen in Figure 3. In cases with comminuted greater trochanteric fracture, the stability depends on the lateral soft tissue sleeve maintaining continuity between gluteus medius and vastus lateralis. Thus, an abductor lurch is not function of trochanteric union in these cases. Initially 22 patients had abductor lurch at 3 months postoperative; however, only six had abductor lurch at final follow-up. On review of the radiographs of these 6 cases, trochanter was found to be united in all cases. Thus, the most important reason for continued abductor lurch was lack of postoperative rehabilitation and not trochanteric nonunion.

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