

Four quadrant parallel peripheral screw fixation for displaced femoral neck fractures in elderly patients

Sir,

We read the article¹ “four quadrant parallel screw fixation for displaced femoral neck fractures in elderly patients” with great interest. We would first like to congratulate the authors for drawing our attention toward head salvage surgery in fracture neck femur in the era of arthroplasty where most of the studies are focused on replacement arthroplasty, but we have some reservations regarding it.

The authors had inserted first guide wire in the inferior posterior part of femoral neck and tightened the screw on single guide wire only. We would like to know whether this may not had resulted in the rotation of the already vascular compromised femoral head and increase further vascular insult to the femoral head.

Second it is recommended in the literature that fracture neck femur may be associated with posterior comminution so, it is advised to compress anterior screws first and posterior screws last to prevent collapse of the posterior aspect of femoral neck, if comminution is present,² but the author has compressed the posterior screw first. This may have reflected as an addition to increased percentage of malunion in this study (70%).

Third, Parker and Blundell³ in a meta-analysis of 25 randomized controlled trials concluded it was not possible to determine the optimum number or types of screws. Patwa *et al.*⁴ in a bio

geometric study on Indian femur concluded that inferior half of femoral neck in Indians is narrower than superior half and implantation of two screws in inferior half of the femoral neck with precision is difficult in Indian patients.

Fourth, study by Zlowodzki *et al.*⁵ had shown that functional outcome is better if screws are used with washers rather than without washers and implantation of four screws may not be possible if washers are used and it is especially, important in osteopenic bone.

Fifth, Subtrochanteric femur fractures after pin or screw fixation of femoral neck fractures have been documented in all age groups. These typically transverse or short oblique fractures are the result of the minimal trauma and have been reported to occur from 1 week to 2 years after femoral neck fracture fixation. Further, two screws at the level of lesser trochanter may predispose the femur in elderly patients to subtrochanteric fractures. Oakey *et al.* in a study on cadaveric femora concluded that using an inverted triangle configuration (apex-distal) is less likely to result in a subtrochanteric femur fracture when compared to an apex-proximal configuration; thus, two screws distally have more chances of subtrochanteric fractures.⁶

Lastly, authors had operated 180 patients, but the study included the followup of only 64 patients, which are approximately one third of the total operated patients. The remaining patients result is unknown so it is very difficult to comment on the results.

**Atin Jaiswal, Yashwant S Tanwar¹,
Masood Habib¹**

Departments of Orthopaedics, Bokaro General Hospital, Bokaro, Jharkhand, and ¹PGIMER and DR. RML Hospital, New Delhi, India

Address for correspondence: Dr. Atin Jaiswal,
Quarter Number - 4172, Sector-4F, Bokaro Steel City,
Bokaro - 827 004, Jharkhand, India.
E-mail: atin.jaiswal@yahoo.com

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