

Modified valgus osteotomy of the femoral neck for late presenting femoral neck stress fractures in military recruits

Sir,

We read the article by Sen *et al.*¹ with great interest. The authors have done modified valgus osteotomy of femoral

neck for displaced tensile stress fracture in an adult with good result. However, we have a few concerns.

The authors have taken care to see that they do not disturb the posterior capsule and, so, the medial circumflex artery. But posterior capsule is naturally preserved because capsule is deficient posteriorly at the lateral third of neck; more so, the osteotomy site is toward trochanteric fossa, so it is totally protected. But my concern is about lateral ascending artery which traverses the capsule at posterior trochanteric fossa and is present exactly at the osteotomy site. This is a major blood supply to the femoral head, neck, and to the trochanter in the adult.² We would like to know how the authors managed it.

This study states that osteotomy leads to shortening of femoral neck and the abductor lever arm, resulting in diminished efficiency of abductors, which is clearly evident in the figures in the article. Many studies have evaluated the importance of femoral neck length influencing the functional outcome. Zlowodzki *et al.*³ reported that femoral neck shortening had a negative impact on the SF-36 score. Similarly, Boraiah *et al.*⁴ reported that bodily pain subscore of the SF-36 correlated with the “abductor lever arm.” So, how will the authors justify changing the anatomy of proximal femur and its biomechanics?

The authors have stressed about inferomedial osteoperiosteal hinge to maintain the continuity of bony trabeculae which has an important role in union. We would like to know how the authors managed to maintain the trabeculae in partially displaced varus fracture, that too, after the abduction osteotomy and multiple bone drilling.

**Satya Prakash Singh, Yashwant Tanwar,
Atin Jaiswal¹, Masood Habib**

Department of Orthopaedics, PGIMER, Dr. RML Hospital, New Delhi, ¹Bokaro General Hospital, Bokaro, Jharkhand, India

Address for correspondence: Dr. Satya Prakash Singh,
Room No. 302, Dr. Hostel, Dr. RML Hospital,
New Delhi - 110 001, India.
E-mail: spsingh_5@yahoo.co.in

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