

# A biomechanical evaluation of proximal femoral nail antirotation with respect to helical blade position in femoral head: A cadaveric study

Sir,

We read with interest the study entitled “A biomechanical evaluation of proximal femoral nail antirotation with respect to helical blade position in femoral head: A cadaveric study”<sup>1</sup> and believe that the results of the study provide substantial contribution to the literature. However, the proximal femoral nail antirotation (PFNA) II implant used in this cadaveric study has a version designed for the Asian population which has two different angular options (125° and 130°) for the helical blade which is different from the regular PFNA II which has three (125°, 130°, 135°) options. The authors did not specify which version and angle was used in their study.<sup>2</sup> The mean collodiaphyseal angle was reported as 133° in the study. In this instance, if PFNA II was fixed at 125°, the tip – apex distance (TAD) for center – center or center – inferior should be measured higher than normal. We believe that angle helical blade of PFNA fixed should be determined depending on the radiological measurement of the collodiaphyseal angle of the samples for standardization of the results.

As stated in the study, the TAD index is not the only prognostic factor for implant failure, but also quality of the fracture reduction, varus angle, and quality of the bone are important parameters.<sup>3-5</sup> Osteoporosis is known to increase the risk for hip fractures, so we believe that osteoporotic study models for hip fractures will give more accurate results.

Z and reverse Z effects are reported in the literature especially for osteoporotic femur intertrochanteric fractures with classical double lag screw proximal femoral nails.<sup>5</sup> How does the mineral density difference between femoral head and Ward’s triangle affect the fixation stability against axial and rotational forces for helical blade systems are the questions yet to be answered. We believe that this cadaveric study would yield more accurate results if performed in bone models with different osteoporosis levels of the femoral head and neck and if ideal position of the helical blade in the femoral head is also evaluated.

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