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Clinical study of distal femur fracture treated operatively- Minimum 6 months of follow-up

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ABSTRACT

Fractures in the distal femur have posed considerable therapeutic challenges throughout the history of fracture treatment because they are usually compound, comminuted, readily deformed because of muscle forces acting on the distal fragment, prone to result in functional impairment of the knee joint and ankle joint because of injury to quadriceps system and often occur in elderly patients with osteoporosis.

Keywords: Distal femur fracture, Functional outcome, Radiological outcome

1. BACKGROUND

Fractures in the distal femur have posed considerable therapeutic challenges throughout the history of fracture treatment because they are usually compound, comminuted, readily deformed because of muscle forces acting on the distal fragment, prone to result in functional impairment of the knee joint and ankle joint because of injury to quadriceps system and often occur in elderly patients with osteoporosis.

2. AIMS AND OBJECTIVE

Evaluate the results of Less Invasive Stabilisation System (LISS) plating in different types of distal femoral fractures (open and closed) both clinically as well as radiologically and to assess achievement of anatomic reduction of the articular surface, restoration of limb alignment, length and rotation and early mobilization.

3. METHOD

The retrospective study was carried out in the selected group of patients treated for fractures of distal end of the femur with LISS plating from 2014 to 2016 in the Department of Orthopaedics, at M.P.Shah Medical College, Jamnagar.

4. RESULTS

30 cases of fracture of the distal femur (Supracondylar and intercondylar fracture of femur) treated with Less Invasive Stabilisation System (LISS) plate & screw fixation were studied in our study and had varying degrees of close 20(67%) and open 10(33%) injuries. There were 16 (54%) cases of extra-articular supra condylar fracture and 14(46%) cases of intraarticular intercondylar, fracture. AO / OTA classification was used to classify these fractures. 73% fracture were associated with high energy vehicular trauma. 27% Fracture was associated with the history of fall from height. 33% cases had left side fractures & 67% cases had right side fracture. There were no cases of infection even in open injuries Average duration of follow up was –12.3 months. 87% fractures healed uneventfully. Average union time was 17.25 weeks (range 15-20 weeks) Union rate 87% 2 cases of nonunion seen. 6 patients had a union at >20 weeks follow up. 2 patient required a secondary procedure like bone grafting and additional plating. There were 2 cases of implant failure. The average knee range of motion in our study was 103 degrees. Only 20% of our patients were unable to squat and sitting cross-legged. 80% of patients could walk normally and 60% of patients had returned to their pre-injury lifestyle without any modification. “knee society score” showed, 17 excellent (57%), 8 good (27%). 3 fair (10%) and 2 poor (7%) results.

5. CONCLUSION

With early post-injury intervention, good surgical technique, anatomical reduction, stable and rigid internal fixation and early postoperative mobilization, one can achieve acceptable results with Less Invasive Stabilisation System (LISS) plate and screw fixation in fractures of distal end of the femur (close and open fractures).