

A New Orthogonal Plate Configuration in Treating Periprosthetic Proximal Femur Fractures

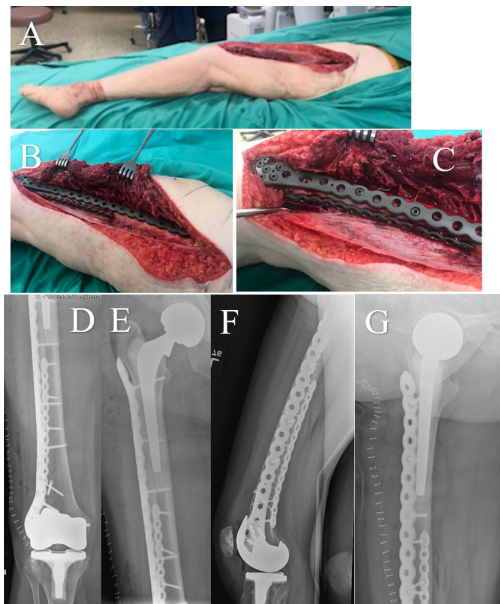
Mohamad Shaath, MD; Elizabeth Gausden, MD; Stephen James Warner, MD, PhD; John Wesley Munz, MD; Timothy S. Achor, MD
University of Texas Health Science Center, Houston, TX, United States

Purpose: The increasing number of total hip arthroplasties performed each year, combined with the increased life expectancy of patients, has resulted in a higher incidence of periprosthetic proximal femoral fractures (PPFFs). We present a series of patients with PPFFs who underwent fixation using a distal femur locking plate, spanning the entire femur, combined with an orthogonally positioned, posterior large fragment locking plate. Patients were allowed to fully bear weight immediately postoperatively.

Methods: Following IRB approval, patients who sustained PPFFs and had fixation with a laterally based, distal femur locking plate and a posterolateral plate were included for analysis. Serial radiographs were used to assess fracture healing and implant status. Fracture union was defined as bone bridging at 2 or more cortices on standard radiographs of the femur. Loss of reduction and failure of hardware were documented as well as the need for subsequent procedures and complications.

Results: 11 patients (9 female, 2 male) met inclusion criteria. The mean age was 79.1 years (range, 58-94). All fractures presented as isolated injuries and occurred around total hip prostheses. Eight patients had sustained acute fractures, and 2 patients had nonunions of a previous fracture treated by an outside surgeon. None of the patients were deceased at our follow-up intervals. Seven patients had extended follow-up with a mean follow-up time of 15.1 months postoperatively. No revisions were required for implant failure. Two patients had postoperative infections requiring irrigation and debridement. All patients with extended follow-up had fracture union and were fully ambulatory without pain at final follow-up.

Conclusion: PPFFs treated with orthogonal plating allow patients to fully weight-bear with minimal concern for fixation failure. Early mobilization in the elderly population may lead to an overall decrease in morbidity and mortality.



Intraoperative clinical photographs and postoperative radiographs

Figure A: Clinical photograph demonstrating the patient in the lateral position.

Figure B: Clinical photograph demonstrating atraumatic elevation of the vastus lateralis after the iliotibial band has been incised.

Figure C: Clinical photograph demonstrating final plate positioning.

Figures D-G: Postoperative radiographs of final construct

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