Extramedullary Fixation For Pertrochanteric Femur Fractures: A Comparison Between Proximal Femur Locking Compression Plate And Reversed Contralateral LISS Distal Femur Plate

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PURPOSE:

Pertrochanteric femur fractures are well known for being notoriously challenging to achieve optimal fixation. The objective of this study is to compare the outcome between proximal femur locking compression plate (PFLCP) and reverse LISS (Less Invasive Stabilization System).

MATERIALS AND METHODS:

This retrospective study included 30 patients with pertrochanteric fractures who were treated with either PFLCP or reverse LISS(RL). Demographic parameters, fracture configuration, surgical details, radiological outcomes and complication were reviewed.

RESULTS AND DISCUSSION:

This study included a total of 30 patients (19 males and 11 females). There was no significant difference in the preoperative demographic data. Although there was no statistical difference in the duration of surgery and blood transfusion requirements, it was found that both of these variables were lower in the RL group compared to the PFP-LP group. The duration of hospitalization after surgery was 11.33 days in PFP-LP compared with 10.50 days in Group B ($p= 0.754$). It was observed that patients treated with RL were full weight bearing earlier (1.50 ± 2.32 months) compared to PFLCP group of patients (2.25 ± 3.09 months). The average immediate postoperative neck–shaft angle was 134.06 ± 3.32deg in PFLCP group compared with 136.92 ± 6.05deg in the RL group. Broken implant were found in 4 patients in the PFLCP group and 2 patients in the RL group in which all of them proceeded with a second operation. 3 patients developed varus malunion in PFLCP group as compared to 2 patients in the RL group.

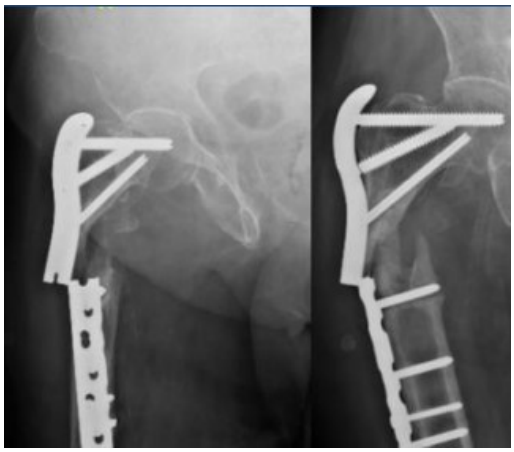

Figure 1: Implant fracture of a PF-LCP in a non-union case

The extramedullary locked plates are modern implants that allows angular-stable plating for the treatment of complex comminuted fractures. An extramedullary device can be utilized in cases where there is greater trochanter comminution and displacement which hinders the insertion of an intramedullary nail from the correct entry point. There is a tendency for over-lateralisation of the nail, which leads to a loss of the lateral wall buttress and subsequent failure if nail is inserted via an incorrect entry point.[1]

CONCLUSION:

Locked plates confer several advantages such as greater stability with its locking screws, different angles screw placement and ability of plate insertion using MIPO technique. However, there are implant-related complications reported in this series especially in fractures with lack of medial support. Careful selection of patients and fractures to be treated with locked plates is vital for successful union.

REFERENCES:

1. Vaidya SV, Dholakia DB, Chatterjee A. The use of a dynamic condylar screw and biological reduction techniques for subtrochanteric femur fracture. Injury 2003 Feb; 34(2):123–8.