

## A Study of Functional Outcome of Proximal Tibia Fractures Treated with L.C.P

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### Abstract

**Background:** Multiple options are available for treating proximal tibial fractures. Functional outcome of tibial condylar fractures treated with locking plate and the importance of satisfactory reduction and post operative protocols in obtaining good results needs to be evaluated.

**Methods:** A prospective descriptive study was carried out in patients having proximal tibial metaphyseal fractures. In the present study, motor vehicle accident was the most common cause. Wound infections were the most common complications.

**Results:** According to Rassmussen's scoring system, 60% patients had excellent results, 30% had good results and 10% had fair results.

Locking plates give excellent results in tibial condylar fractures with minimum complications. Obtaining and maintaining reduction becomes easy with locking plates, which helps in early mobilization and hence obtaining good functional outcome in tibial condylar fractures

**Keywords:** Tibia condyle fracture, locking plate, anatomic reduction, physiotherapy.

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### I. Introduction

Proximal tibia fractures include articular depression, condylar displacement, metaphyseal fracture extension. Latest implants and techniques have provided better options for the treatment of tibial plateau fractures. These include techniques of minimal incision and reduction for articular surface restoration and using Locking Compression Plate (LCP). Locking plates may decrease the need for dual plating in certain bicondylar fracture patterns. Locking plate in the lateral side in bicondylar fractures might be a stable fixation when there is no separate posteromedial fragment. This study has been done with the aim to study functional outcome of tibial condylar fractures operated with locking plate.

### II. Material and Methods

We studied 30 cases of tibial condylar fractures during the period of two years. Inclusion Criteria : All Proximal Metaphyseal Fractures of Tibia, Closed fractures, Patients above age of 18 years. Exclusion Criteria: All Diaphyseal Fractures, Patients less than 18 Yrs of age, patients who are medically unfit for the surgery. Patients were temporarily immobilized with pop slab and surgery was done after subsidence of swelling. Fractures were fixed with LCP under C-arm intensification using minimal incision technique. Bone grafting was done if needed. Rassmussen's Knee Score was used for evaluation of result.

### III. Results

**Age Distribution:** In our series, the majority of the patients are found to be between the age group of 18-29 years (15) & 30-39 years (10). The least number of cases are found in the age group between 70-79 (5). Average age being 33 yrs.

**Sex Incidence:** There were 27 males (90%) and only 3 females (10%).

**Schatzker's Classification:** There was 1 case of Schatzker type I, 10 cases of Schatzker type II, no case of Schatzker type III, 2 cases of Schatzker type IV, 6 cases of Schatzker type V and 11 cases of Schatzker type VI.

**Range of Motion:** Range of motion of 120 to 140 degrees was achieved in all patients of which 7 achieved it at 3 months follow up, 14 achieved it at 4 months follow up and 9 achieved it at 6 months follow up. According to

Rasmussen's Knee Scoring System: In our series Excellent results were achieved in 18 cases (60%), Good results in 9 cases (30%) and Fair in 3 cases (10%).

#### **IV. Discussion**

Locking plate has evolved to overcome the limitations associated with conventional plates. The use of locked plate allows the orthopaedic surgeon to fix fractures with indirect reduction techniques. Bicondylar tibial plateau fractures, present with severe soft-tissue injury. Extensive dissection may postoperative infection rates. Our results show, that a unilateral plate fixation of the proximal tibial fracture is sufficient. Rasmussen-score of our group showed a result comparable to the results of other authors treating bicondylar tibial head fractures.

Unilateral plate fixation for the treatment of bicondylar tibial fractures and the treatment of osteoporotic tibial plateau fractures with stable implants offer advantages in reducing infection rate and implant failure.

#### **V. Conclusion**

Locking plates gives excellent results in tibial condylar fractures with minimum complications. Achieving anatomical reduction is easy with locking plates and helps in early mobilization and obtaining good functional outcome in tibial condylar fractures.

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