

## PROSPECTIVE STUDY OF FUNCTIONAL OUTCOME OF DISTAL FEMUR FRACTURE TREATED WITH MINIMAL INVASIVE PERCUTANEOUS PLATE OSTEOSYNTHESIS (MIPPO)

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### Abstract

**Background:** Study of functional outcome of distal femur fractures treated with minimal invasive percutaneous plate osteosynthesis (MIPPO)

**Methods:** Hospital based Prospective interventional study conducted on 30 Patients in the department of Orthopedics in hospitals attached to S.M.S Medical College and hospital.

**Results:** In our study, 43.33% patients had excellent scoring and 26.67% patients had good results and 30.00% patients had fair result

**Conclusion:** We concluded that three fourth patients functional outcome was excellent/ good.

**Keywords:** Functional outcome, MI-PPO, Femur

### Introduction

In the last few decades, rapid industrialization and the changes in lifestyle of people have brought catastrophe like road traffic accidents has crippled many young productive lives.<sup>2</sup>

Distal femoral fractures account for 6 % of all femoral fractures. and these fractures have a bimodal pattern that is in younger patients they occur as a result of high energy but in older osteoporotic individuals with weaker bones due to just trivial fall.<sup>2</sup>

Various modality of surgical treatment such as closed intramedullary nailing, Open Reduction and Internal Fixation with conventional plate osteosynthesis and external fixation has been tried so far. But none of them have good functional outcome but had high complication rate. Conservative treatment by cast application lead to ankle and knee stiffness affecting quality of life of the patient . Closed intramedullary interlocking nailing of distal tibia fracture can be a good option, but the hourglass shape of the distal tibia does not allow anatomical reduction resulting in rotational and angular malalignment. External fixation is indicated in severe soft tissue injury or as a temporary stabilizing device. Pin tract infection,

malreduction and joint stiffness are the drawbacks of external fixation<sup>3,4</sup>

### Materials and Methods:

**Study Area-** Patients in the department of Orthopedics in hospitals attached to S.M.S Medical College and hospital.

**Study Design** -Hospital based Prospective interventional study.

### Inclusion Criteria-

1. Patients with distal end femoral fractures aged >18 years.
2. Patients giving informed written consent.

### Exclusion Criteria

1. Patients with pathological fractures of distal end femur other than osteoporosis.
2. Associated with ipsilateral neck of femur/ intertrochanteric fracture / fracture leg bone
3. Fractures with neurovascular deficit

### Results

**Table 1: Distribution of patients according to Age and Sex**

Mean age	46.23±12.35 Yrs
Male : Female	12 : 18

**Table 2: Outcome**

Outcome	No of patients
Excellent	13(43.33%)
Good	8(26.67%)
Fair	9(30.00%)

In our study, 43.33% patients had excellent scoring and 26.67% patients had good results and 30.00% patients had fair result.

## Discussion

Various modalities used for the treatment of distal end femoral fracture ranges from conventional plates, dynamic condylar screw to intramedullary nailing. All these various treatment modalities have problems like loss of reduction, excessive soft tissue stripping and violation of joint, joint stiffness, nonunion, malunion, implant failure, malalignment or infections etc, due to the fact that these require excessive stripping to achieve accurate anatomical reduction and prolonged immobilization due to compromised stability.<sup>4</sup> Mast in 1989 first emphasized the importance of reduced surgical dissection at the fracture site, with the aim to maintain the blood supply to the fracture ends and to thus reduce the rate of non-union and utilized the surrounding soft tissues for fracture reduction called as 'indirect reduction' of the fracture.<sup>5</sup> Krettek et al extrapolated the concept of obtaining relative stability rather than absolute stability for internal fixation with plate, as similar to intramedullary nails. They also suggested minimal interference with the zone of injury, which was achieved by sliding plates in the sub-muscular plane on the lateral side of the femur by a minimally invasive method.<sup>6</sup> Distal femoral locking compression plate overcomes both the drawbacks of excessive stripping as it can be done via minimally invasive methods and a fixed locking construct provide stable relative stability which can enhance early joint mobilization and thus prevents these complications, leading to good to excellent functional outcome.<sup>4</sup>

Our results were comparable to the studies of Saini et al, Yeap et al, Liu et al, Doshi et al, Khursheed et al and Girisha et al.<sup>7-12</sup>

## Conclusion

We concluded that three fourth patients functional outcome was excellent/ good.

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