



ANALYSING THE OUTCOME OF PROXIMAL FEMORAL NAILING IN UNSTABLE INTERTROCHANTERIC FRACTURES

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INTRODUCTION

Intertrochanteric fractures are one of the most common injuries sustained predominantly in patients over sixty years of age. Four times more common in women who are osteoporotic; trivial fall being the most common mechanism of injury.¹ Approximately 10 to 30% of patients die within one year of an intertrochanteric fracture.²

The goal of treatment of an intertrochanteric fracture is the restoration of the patient to his or her pre-injury status so concept of internal fixation of these fractures³ It is usually associated with other comorbid conditions.

Thirty patients with fresh unstable intertrochanteric fractures who were operated within 21 days of injury.

Most of the patients scored excellent results according to the harris hip score and they returned early to their functional activities.

Osteoporosis in this age group makes fixation of these fractures a difficult task.⁴ Intramedullary devices like the proximal femoral nail have been reported to have an advantage in such fractures as their placement allowed the implant to lie closer to the mechanical axis of the extremity.

CLASSIFICATION

The AO/OTA classification is best with only level 3 designation: 31A1, 31A2, and 31A3 category⁵.

HISTORICAL REVIEWS

Extramedullary fixation of unstable intertrochanteric fractures with PFN implants showed a low failure rate.^{6,7}

The DHS was ideal for unstable fractures with osteoporosis had a failure rate of more than 50%.⁸ The new intramedullary device, the proximal femoral nail (PFN) is best for the treatment of the unstable inter and pertrochanteric femoral fracture.⁹

we are analysing the outcome of proximal femoral nail in unstable intertrochanteric fractures

AIMS AND OBJECTIVES

- To analyze the results
 - Amount of blood loss during surgery
 - Duration of surgery,
 - Post operative complications
 - Number of implant failures/loss of fixation as seen by neck shaft angle
 - Limb length shortening, full weight bearing

MATERIAL AND METHODS

The good to excellent found in these articles ranges between 70 – 95%.

30 patients were enrolled.

Study Period:

May 2021- Dec2023

All adults of both sexes with unstable IT fractures within 22 days of injury were included in the study.

Preoperative Planning

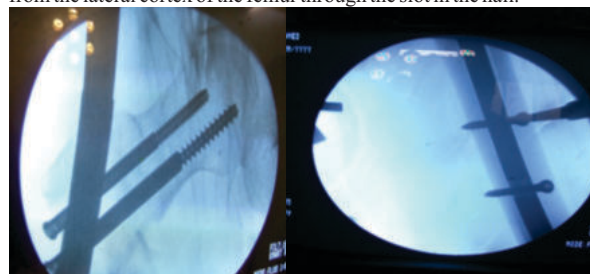
Investigations: All routine investigations for physician and anesthesia fitness is obtained.

DESCRIPTION OF PROCEDURE

Reduction:

The fracture was reduced and checked by anteroposterior and lateral views on the image intensifier.

A lateral skin incision was made .An entry point was made just medial to the tip of the greater trochanter. A 3.2 mm tip threaded guide pin was inserted. The position of the pin was checked on the image intensifier. In this study a 9 or 10 mm nail was used depending on the diameter of the femoral canal. The 6° mediolateral angle of the nail allowed easy insertion. The proximal femoral nail was then attached to the jig and passed over the guide wire into the proximal femur and across the fracture site into the femoral shaft. Under radiographic guidance the hip screw was inserted into the lower half of the neck of the femur within 5-10 mm from the subchondral bone of the femoral head. The antirotation screw was inserted Then distal locking bolts were inserted from the lateral cortex of the femur through the slot in the nail.



NAIL INSERTION WITH GIG Distal Locking Screw Dynamic & Static

Postoperative Care

The patient was allowed to sit up in bed the day after surgery, and active exercises of the operated hip and knee was started.

- Weight-bearing was started using a walker as soon as possible.

Follow up

- Patients were followed clinically at 2, 6, 12 and 24 weeks and were examined clinically and Radiologically.

Observations And Statistical Calculations

Data analysis was done .

OUTCOMES

ANATOMICAL RESULTS	GOOD	FAIR
Shortening	<1cm	>1cm
Varus deformity	Absent	Present

Functional Result

Harris Hip Scoring System (Modified)

Pain relief- 44 Function- 47

Range of motion- 5 Absence of deformity- 4 Activities (14 Possible)

(A) STAIRS

- Normally without use of railing (4)

(C) SITTING

- Comfortably in ordinary chair one hour (14)

(3) Absence of deformity (All yes=4; Less than 4=0)

(4) Range of motion (5 Possible) (*Normal)

Total Harris Hip Score	Score	Rating
90-100		Excellent
80-89		Good
70-79		Fair
<70		Poor

OBSERVATIONS AND RESULTS

Thirty patients with fresh unstable intertrochanteric fractures who were operated within 21 days of injury.

Age: Most of the patients in study belong to age group 51-60 years. The mean age was 51.9 median age 54.5.

Sex Distribution: There were 17 males (56.7%) and 13 females (43.3%) in the study population.

Mode Of Injury: Majority of number of cases were due to fall by self 80% (low velocity) and 20% were due to high velocity trauma.

Side-wise Distribution:

Right sided (53.3%) Left side (46.7%) Most of the cases 50% belonged to the community type that is type II of Boyd Griffin classification. 20% belonged to the reverse oblique type that was type III. Rest 30% belonged to type IV

Blood Loss:

Maximum blood loss was 500ml and minimum was 50 ml. The average blood loss came out to be 190 ml

Neck Shaft Angle:

The neck shaft angle ranged from minimum of 110 degrees to maximum 138, average being 128 degrees.

Limb Length Discrepancy:

The average limb length discrepancy was 0.21 cm

Radiological Union:

The average radiological union was seen at 12.86 weeks the range was from 8 to 24 week

Full Weight Bearing:

In our study we started weight bearing in 14.2 weeks range was from 8 to 24 weeks

CASE 1

PREOP

POST OP

CASE 2

PRE OP X-RAY AP VIEW

POST OP X-Ray

COMPLICATIONS

In our study out of all the 30 cases operated for PFN.

10% of the patients had to undergo open reduction and in 6.7% there was superficial infection. In 6.7% of the patients z effect was seen. 6.7% of the patients developed varus collapse and one of the patient had delayed infection that constituted 3.3% of the total which was treated by draining the pus and parental antibiotics.

CONCLUSION

We conclude that proximal femoral nail is a very good implant in treating unstable intertrochanteric fracture as it is a closed procedure. The blood loss was less. The time duration was less. The incision was small. It is a load sharing implant. The complication were less. Early weight bearing was possible. Most of the patients scored excellent results according to the harris hip score and they returned early to their functional activities

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Conflicts Of Interest: Nil

College research committee permission obtained.

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