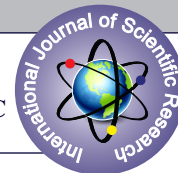


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AN OBSERVATIONAL STUDY TO ASSESS AND COMPARE THE FUNCTIONAL AND RADIOLOGICAL OUTCOME USING PROXIMAL FEMORAL NAILING (PFN) AND PROXIMAL FEMORAL NAILING ANTI-ROTATION (PFN-A) IN INTER-TROCHANTERIC FRACTURE OF FEMUR



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ABSTRACT

Intertrochanteric fractures are the most frequently operated fractures and has the highest mortality and morbidity rates. The present study was undertaken to assess outcome of 40 patients of intertrochanteric fractures treated with proximal femoral nail and proximal femoral nail anti-rotation. 40 cases of intertrochanteric fractures in adults treated by proximal femoral nail and proximal femoral nail anti-rotation were studied. Results assessed by Harris Hip Score at the end of 12 weeks. Maximum age was 87 years and minimum age was 52 years. 22 patients were male and 18 were female. Most common type of intertrochanteric fracture was AO type 31A3. Average time for union was 14 weeks in PFN and 10 weeks in PFN-A. Results of the study concluded that the functional and radiological outcome of intertrochanteric femur fractures treated with proximal femoral nail anti-rotation were better than patients treated with proximal femoral nail.

KEYWORDS

Inter-Trochanteric, Proximal Femoral Nailing Antirotation, PFN, PFN A

INTRODUCTION

Intertrochanteric fractures are the most frequently operated fractures and has the highest mortality and morbidity rates. More than 20000 fractures occur every year in India, and the incidence is expected to double by year 2024.

With advancement in orthopaedics, patient started to be treated with DHS (dynamic hip screws), but DHS showed higher failure rate, implant infection, screw back-out, bleeding and intra-operative and postoperative complications of surgery were more. After DHS, PFN (proximal femoral nailing) was introduced. PFN proved to be better than DHS in intertrochanteric fractures in terms of decreased blood loss, small incision, reduced duration of surgery, early weight bearing and mobilization, reduced hospital stays, decreased risk of infections and decreased complication.

MATERIAL AND METHODS

It is a type of observational comparative study. Patients were selected as and when they presented to the department of Orthopedics, AIMS Bathinda.

Sample Size: 40 (20 for PFN and 20 for PFN-A)

Follow up:

Patient was followed up for 9 months after the surgery. Patient was followed up at 15 days, 1 month, 3 months and 9 months for assessment.

Inclusion Criteria-

An acute intertrochanteric fracture of femur who will undergo PFN (group 1) OR, PFN-A (group 2) as decided by treating surgeon, Age 50 years or older, Sufficient follow up to confirm fracture union, Patient who gives consent for surgery

Exclusion Criteria:

OA hip, Segmental fracture, Fracture older than 1 month, Poly trauma patient, High risk for fat embolism (those have old history)

RESULTS-

In our study maximum number of patients (27%) were from 51-60-year age group followed by 41-50-year group with 23% of the total patients. The mean age of the patients was 60.8 years.

In the current study trivial fall was the most common mode of injury with 27 patients (67.5%) suffering from intertrochanteric fractures after a trivial fall out of which 14 were female, 13 were male and 13 patients (32.5%) cases were of road traffic accident with 6 males and 7 females

Mode Of Injury	Number	Percentage
RTA	13	32.5

Trivial Fall	27	67.5
Total	40	100

In the current study, in patients operated with PFN majority of the fractures (55%) united by 12th postoperative week, one fracture had delayed union which united by 18th week.

Period for union (weeks)	Number of patients treated with PFN	Percentage
10	4	20
10-12	7	35
12-16	8	40
More than 16	1	05
Total	20	100

In patients operated with PFN-A majority of fractures (75%) united by 12th postoperative week.

Period for union (weeks)	Number of patients treated with PFN-A	Percentage
10	6	30
10-12	9	45
12-16	4	20
More than 16	1	05
Total	20	100

Harris Hip Score Grading	Number For PFN	Number For PFN - A	Percentage PFN	Percentage PFN-A
Poor (<70)	1	-	2.5	-
Fair (71-79)	1	3	2.5	7.5
Good (80-89)	5	10	12.5	25
Excellent (>90)	8	12	20	30
Total	15	25	37.5	62.5

DISCUSSION-

Earlier conservative treatment was followed for IT fractures which resulted in delayed mobilization, malunion and non-union as the patients were bed ridden for long periods resulting in various conditions like bed sores, deep vein thrombosis, wound infection etc. In the current study we aim to compare the functional as well as radiological outcome using PFN and PFN-A.

In our study almost all patients started partial weight bearing two weeks postoperatively. Majority of the patients were full weight bearing by 12th postoperative week while all other patients were weight bearing by 18th postoperative week.

More than 50% of the fractures united by 12th postoperative week which is similar to studies conducted by Dousa and Zhao which published average time to fracture union as 12 weeks and better than study conducted by Lonikar in which average time to fracture union was 15 weeks.

In the current study only 4 patients required blood transfusion postoperatively proving the claim that proximal femoral nailing anti-rotation is a minimal invasive procedure with less blood loss and soft tissue dissection.

CONCLUSION-

Results of the study concluded that the functional and radiological outcome of intertrochanteric femur fractures treated with proximal femoral nail anti-rotation were better than patients treated with proximal femoral nail. In addition, the PFN-A requires shorter operative time and a smaller incision, it has distinct advantages in the treatment of intertrochanteric fractures.

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