INTRODUCTION
Fracture of proximal femur and hip are relatively common injuries in adults. Females are more prone than males by a margin of 3:1. This fracture is totally extra capsular. In inter-trochanteric fracture, internal rotators of hip remain attached with distal fragment where as some of the external rotators are still attached with proximal fragment. Goal of treatment is early mobilisation and re-turn of patients to their pre-fracture level of functions without long term disabil-ity and avoiding medical complications of prolonged recumbence.

Operative treatment:
The first implant to be used with success was Fixed-angle Nail-plate (e.g., Jewett nail, Holt nail) consisting of Triangled nail fixed to a plate at an angle be-tween 1300 and 1500. Although these devices provided stabi lisation of the femo-ral head and neck fragment to the femoral shaft, they did not allow fracture im-paction. If significant impaction of the fracture site occurred, the implant would either penetrate into the hip joint or cut out through the superior portion of the femoral head and neck. If, on the other hand, no impaction occurred, lack of bone contact would result in either plate breakage or separation of the plate and screws from the femoral shaft. These complications occurred much more fre-quentingly when these devices were used to treat unstable fractures.

The experience with fixed-angle nail plate devices indicated the need for a device that allowed controlled fracture impaction. This gave rise to Sliding Nail-Plate devices which consisted of a nail that provided proximal fragment fixation a sideplate that allowed the telescope within a barrel. Impaction provided bone-on-bone contact, which promoted fracture union; implant sliding also decreased the moment arm and stress on the implant, thereby lowering the risk of implant failure.

Dynamic hip screw (DHS) has been the standard treatment for stable inter-trochanteric fracture patterns, but complications of lag screw cut out from a superior aspect, due to inadequate bone anchorage; occur frequently in elderly os-teoporotic patients. We used 32mm threaded lag screws to observe the re-sults regarding screw cut-out in inter-trochanteric fractures. We used 32mm thread-ed lag screws have more bone anchorage in comparison to conventional screws in DHS plate system. Due to more anchorage the chances of screw cut out and neck shaft angle change are less.

AIMS AND OBJECTIVES
To assess the outcome and efficacy of intertrochanteric femur fractures treated with DHS Plate using 32mm threaded lag screw.
Operative steps of Dynamic hip screw:

Position: The patient is positioned on the fracture table with limb in neutral rotation or slight external rotation and neutral adduction abduction.

Reduction technique: The fracture is reduced by longitudinal traction on abducted and externally rotated extremity. While traction is maintained, adduct the limb and internally rotate it at the same time.

Operative steps: Preoperative planning of fracture reduction and selection of an adequate implant length is performed with specific templates.

Part was prepared on OT table and painted with betadine and extremity draped with sterile sheet.

Fig 16: PATIENT ON TRACTION TABLE

Approach the trochanter from lateral incision over the base of trochanter and split the vastuslateralis muscle and elevate the periosteum and insert guide wire from 2 cm distal to vastuslateralis ridge.

Fig 17: Operating procedure

OBSERVATION

Each patient was followed-up for minimum of 6 month or till the bony union.

AGE: The mean age of the patients was 77.30 years (> 60 years) of age.

<table>
<thead>
<tr>
<th>Age Group (in years)</th>
<th>No. of patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>61-70</td>
<td>10</td>
</tr>
<tr>
<td>71-80</td>
<td>15</td>
</tr>
<tr>
<td>81-90</td>
<td>12</td>
</tr>
<tr>
<td>90-105</td>
<td>3</td>
</tr>
</tbody>
</table>

Fig 18: Distribution of patients according to age

2.SEX: In our study 70% of the patients were female and 30% of the patients were male.

3.Mode of Injury: 80% of the patients in this study had sustained low velocity injuries due to fall on floor or trivial trauma whereas 20% sustained injuries due to RTA.

4.Side of injury: In present study left side is more involved (60%) than right side (40%).

5.CLASSIFICATION

All fractures were classified according to the A.O. classification.

Type of Fracture as per A.O classification

<table>
<thead>
<tr>
<th>Type of Fracture</th>
<th>No. of patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1A.1</td>
<td>5</td>
</tr>
<tr>
<td>3.1A.2</td>
<td>10</td>
</tr>
<tr>
<td>3.1A.3</td>
<td>15</td>
</tr>
<tr>
<td>3.1A.2.1</td>
<td>12</td>
</tr>
<tr>
<td>3.1A.2.2</td>
<td>3</td>
</tr>
<tr>
<td>3.1A.2.3</td>
<td>2</td>
</tr>
</tbody>
</table>

Fig 22: A.O. classification

6.Operative time: The mean time in surgery was 50.4 mins.

<table>
<thead>
<tr>
<th>Duration in Minutes</th>
<th>No. of patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 55 mins</td>
<td>28</td>
</tr>
<tr>
<td>55-65 mins</td>
<td>8</td>
</tr>
<tr>
<td>&gt; 65 Min.</td>
<td>4</td>
</tr>
</tbody>
</table>

Fig 23: Operative time

7.Amount of blood loss:
The mean amount of blood loss in surgery was 160-200 ml (180 ml). It is measured by soaked gauge pieces.

POST-OPERATIVE RESULTS

8.Limb length shortening:

In present study limb length shortening with mean of 0.58 cm.

9.Protected Weight Bearing (with crutch/walker):

1) Non-weight bearing walk - pt started walking with walker by operated limb hanging on 3rd post op day.

2) Partial weight bearing - mean time for partial weight bearing was 9.73 days

10.Walking without support: The mean time for patients to walk without support in case of DHS was 13.2 weeks.

Walking without support

<table>
<thead>
<tr>
<th>Duration in Weeks</th>
<th>No. of patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 12 weeks</td>
<td>3</td>
</tr>
<tr>
<td>12-15 weeks</td>
<td>35</td>
</tr>
<tr>
<td>&gt; 15 weeks</td>
<td>2</td>
</tr>
</tbody>
</table>

11.Union time:
The mean radiological union time for inter-trochanteric fracture fixed with DHS using 32mm threaded lag screw was 13.54 weeks (12 weeks to 16 weeks).

13.Functional status: Salvati and Wilson’s scoring system: (2)

This uses four parameters Pain, Walking, Muscle power and motion, and Function to evaluate a holistic score indicating the level of rehabilitation achieved by the patient.

DISCUSSION

1.Age distribution:

Mean age is 77.30 years. Gallaghar et al (1980) reported an eight fold increase in trochanteric fractures in men over 80 years and women over 50 years of age. (3)

3.Mode of Injury

82% of the patients had sustained low velocity injuries due to trivial trauma whereas 18% sustained injuries due to RTA.

4.Type of fractures

According to A.O. classification 69.69% of patients had unstable type of fractures and 30.30% were of stable type of fractures.
5. Side of fracture
In present study left side is more involved (52%) than right side (48%).

6. Average time of Fracture Union
In present study, mean radiological union time was 13.54 weeks (12 weeks to 16 weeks).

7. Intra operative mean blood loss
The mean amount of blood loss in surgery was 130-160 ml. Amount of blood loss was reduced by using cautery.

8. Operative time
The mean time in DHS surgery was 50.4 minutes (45-70 minute), which is comparable to previous studies.

9. Protect weight Bearing (with crutch / walker) and walking without sup-port:
The mean for starting Protect weight bearing (with crutch / walker) was 9.73 days and without support was 13.2 weeks.

10. Tip apex distance
In present study the average TAD was 20.8 mm. No superior migration of the screw was observed in any of our cases, in spite of the fact that TAD was more than 25 mm in 10 of our cases.(4)

b) Wound Complications
Superficial wound infection was seen in 1 case Superficial wound infection at the suture site.

(c) Implant related complications
(i) Screw Cut out:
No single case of screw cut out was seen in 12 month follow up period.
(ii) Limb length shortening
There were 0.59 cm mean limb length shortening seen in final post operat-ed follow up.

Seven cases had less than anatomical reduction due to comminution of variable degree at fracture site, as observed in the immediate postoperative period& concentric collapse at fracture site resulting in >1cm of shortening.

(iii) Bone necrosis or AVN hip
No incidence of bone necrosis or AVN hip in our series.

12. Functional outcomes (as per Salvati & Wilson score system):
The functional status was excellent in 78%, good in 18% and fair in 5% cases. Most of the patients were able to regain their prefracture mobility status with a mean hip pain score of 8.36, walking capacity score of 8.42, muscle pow-er and motion score of, 7.81 function score of 7.15

CONCLUSION
Fixation of inter-trochanteric fracture femur with dynamic hip screw using 32mm threaded lag screw is likely to reduce the incidence of complications of fix-ation. 32mm threaded lag screws have more bone anchorage in comparison to conventional screws in DHS plate system. Due to more anchorage the chances of screw cut out and neck shaft angle change are less.

REFERENCES
1. Rockwood and Green's fractures in adults 8E