INTER TROCHANTERIC # NECK FEMUR FIXATION WITH TFN– 250 CASES.

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INTRODUCTION: Increasing number of hip fractures constitutes a health care burden .Unstable intertrochanteric fractures treatment has a moderate complication rate.

Osteoporosis, fracture geometry, and the success of surgical treatment are strong predictors of outcome.

The surgeon can control fracture reduction , implant selection, and implant placement.
Options available for Unstable Intertrochanteric Neck Femur Fracture Fixation are:-

1. DYNAMIC HIP SCREW AND SIDE PLATE.WITH OR WITHOUT USE OF DEROTATION SCREW OR TROCHANTERIC STABILISATION PLATE.
2. 95^ FIXED ANGLE DCS SCREW+ PLATE OR BLADE PLATE.
3. PROXIMAL FEMORAL NAIL.

4. Trochanteric Femoral Nail (INDIAN MAKE) – Newer Implant and technique.

AIMS AND OBJECTIVES- Purpose of the Article.

- To give a solid construct intramedullary while fixing the fracture.
- To evaluate the success of this newer technique
- Rapid rehabilitation, earlier weight bearing, earlier discharge from acute care settings.

MATERIAL AND METHODS: Between October 2008 to December 2012 – 250 cases were done.

Age range from 50 yrs to 95 yrs,- mean age was 70yrs.

Fractures were classified according to OTA classification system.A2 being the most common.

All were able to walk before the h/o fall.

130 were males and 120 were females were present in this study.

No special selection criteria regarding co-morbidities taken.

All fractures were fixed with TROCHANTERIC FEMUR NAIL –INDIAN MAKE .

Pre-operative evaluation and anesthesia work up was carried out.

Osteoporosis was graded according to Singh's index.

Spinal Anesthesia and or Epidural anesthesia according to medical co-morbidities was given Procedure included pt. on fracture table, supine position was given, adduction of the affected limb done, Closed reduction achieved on table and checked under c arm image as shown in the photographs.

Operative time from 30 min to 45 min mean -40 min .

2 cm incision 2 finger breadth above the greater trochanter was taken.

2nd incision for cervical pins and distal locking screws was taken according to the zig placement

Two guide pins inserted in the neck and head and reamed accordingly one after the other after confirming the placement under c arm. Main inferior neck screw 8 mm in the neck and another de-rotation screw 6.5 mm superiorly according to the length measured on the reamer are put.

One or two distal locking bolts 4.9 mm fixed through the zig as per requirement .all this done through two small incisions as mentioned above.

All this operative procedure is being shown in the following photo pictures taken in operation theater during operation

OBSERVATION AND RESULTS:-

No controls used.

Age group 50 to 95 yrs- mean age-70,130 females and 120 males.

All patients Walking with or without support before trauma.

Patient walking with partial weight bearing with support on 10th day.

Full weight bearing after 3 wks

Harris hip score improved significantly post operative and follow up period.

Full hip and knee flexion achieved immediate post operative.

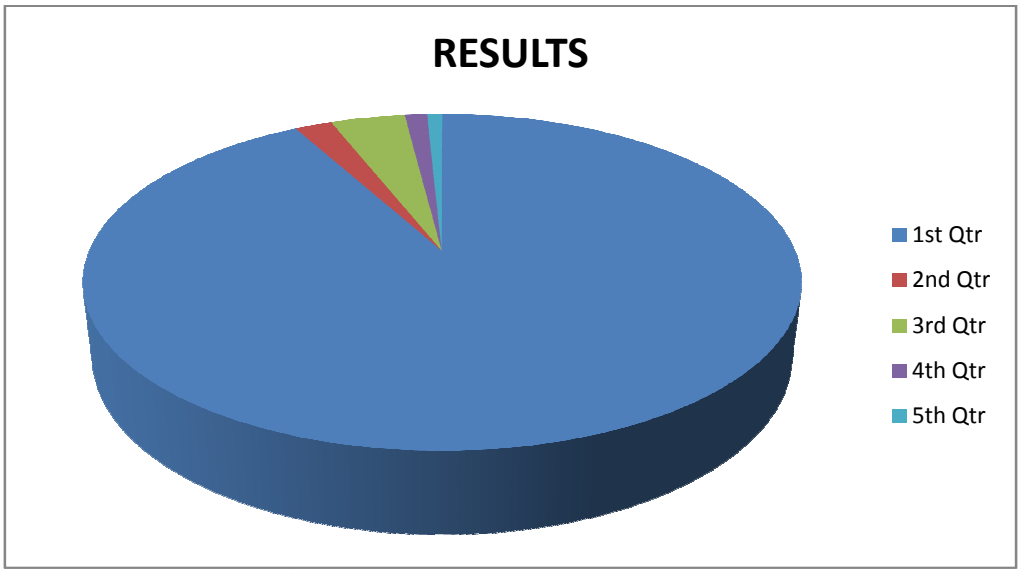
RESULTS were evaluated according to <u>Sanders scoring system</u> in Excellent, Good, Fair and Poor.

The patients were followed up for 1 yr. after the operation

sex	male	female
	120	130

total cases	250
complete union without complications	230
lost for f/up	010
z effect	005
non union	003
screw cut out	002

result	total cases-250	percentage
excellent	230	92%
good	5	2%
fair	3	1.2%
poor	2	0.8%



94% EXCELLENT TO GOOD RESULTS according to Sanders scoring system .
10 PTS I.E 4 % LOST FOR F/UP

COMPLICATIONS:-

- Outward migration of the lower cervical screw.
- Mild z effect.
- Fracture united.
- Percutaneous removal done in 2 patients.
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LIMITATIONS OF THE PROCEDURE: - In severe osteoporotic fractures the fixation of the neck screws may not be solid leading to failures.

DISCUSSION: - This is a retrospective study of 250 patients with unstable fractures around intertrochanteric neck region fixed with newer implant i.e. trochanteric femur nail .INDIAN MAKE- ORTHO CARE & CURE MAKE.

ADVANTAGES OF THIS IMPLANT OVER OLDER ONES- Smaller incision, less blood loss, less muscle stripping, rapid rehabilitation, earlier wt. bearing, earlier discharge from acute care settings.

Potential mechanical advantage– reduced lever arm of the implant limiting the amount of collapse at the fracture site.

BIOMECHANICS- Using of the screw plate principle intramedullary.
Intramedullary device provides a more effective counteraction to the gluteus and psoas muscle.
Intramedullary distribution of loads occurs more proximal to the calcar, reduces the medial torque.
Construct absolutely stable ,Good pain relief ,Faster rehabilitation achieved.
Methods already published using Gamma Nail/ Dynamic Hip screw for intertrochanteric fractures. **Reference to 5,6,7,and 10 bibliography.**

CONCLUSION:-

- It's a new technique in evolution.
- 3 yrs follow up and 94 % excellent to good results.
- Rapid rehabilitation is achieved with this type of fixation.
- Earlier wt. bearing is achieved.
- Earlier discharge from acute care settings is possible.
- This technique can be mastered by an average orthopaedic surgeon.
- Only constraint is the cost of implant which is higher than the older implants.
- In comparison with Dynamic hip screw especially very good results are achieved in severe osteoporotic bones and very unstable comminuted fractures with this technique. Thus it can be said that Trochanteric Femur nail is a very good and valid option for unstable and complicated fractures around trochanteric region

  But good understanding of # biomechanics and exactly performed osteo-synthesis is the key for success.

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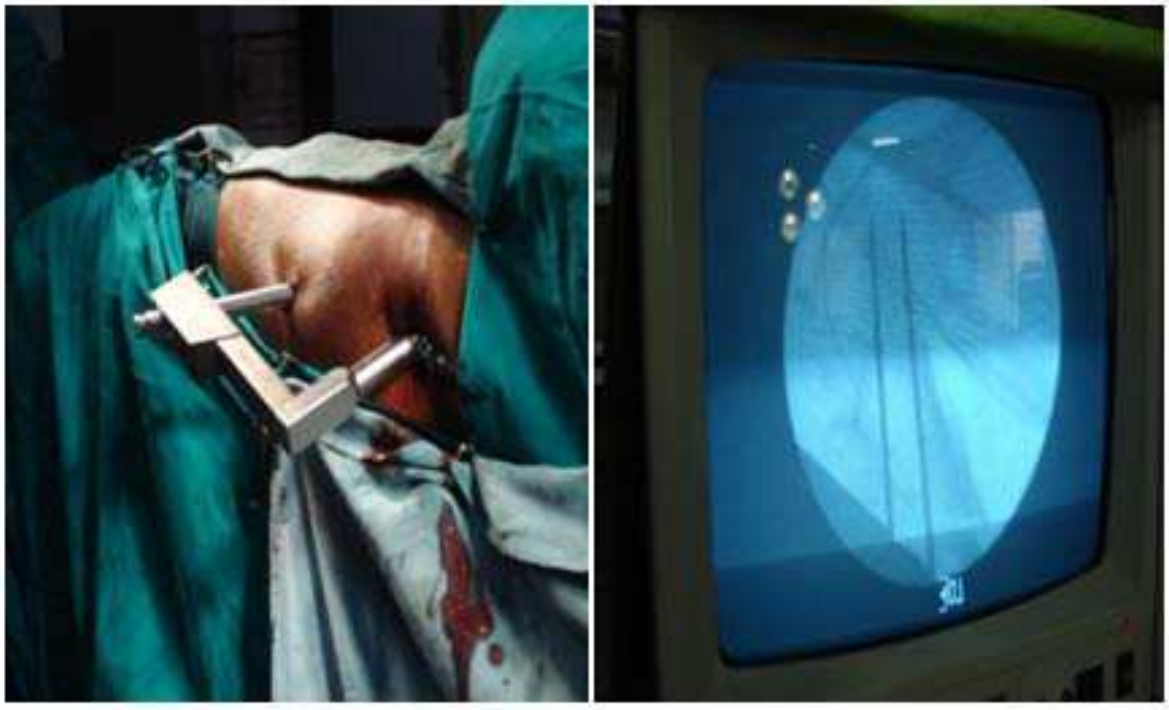
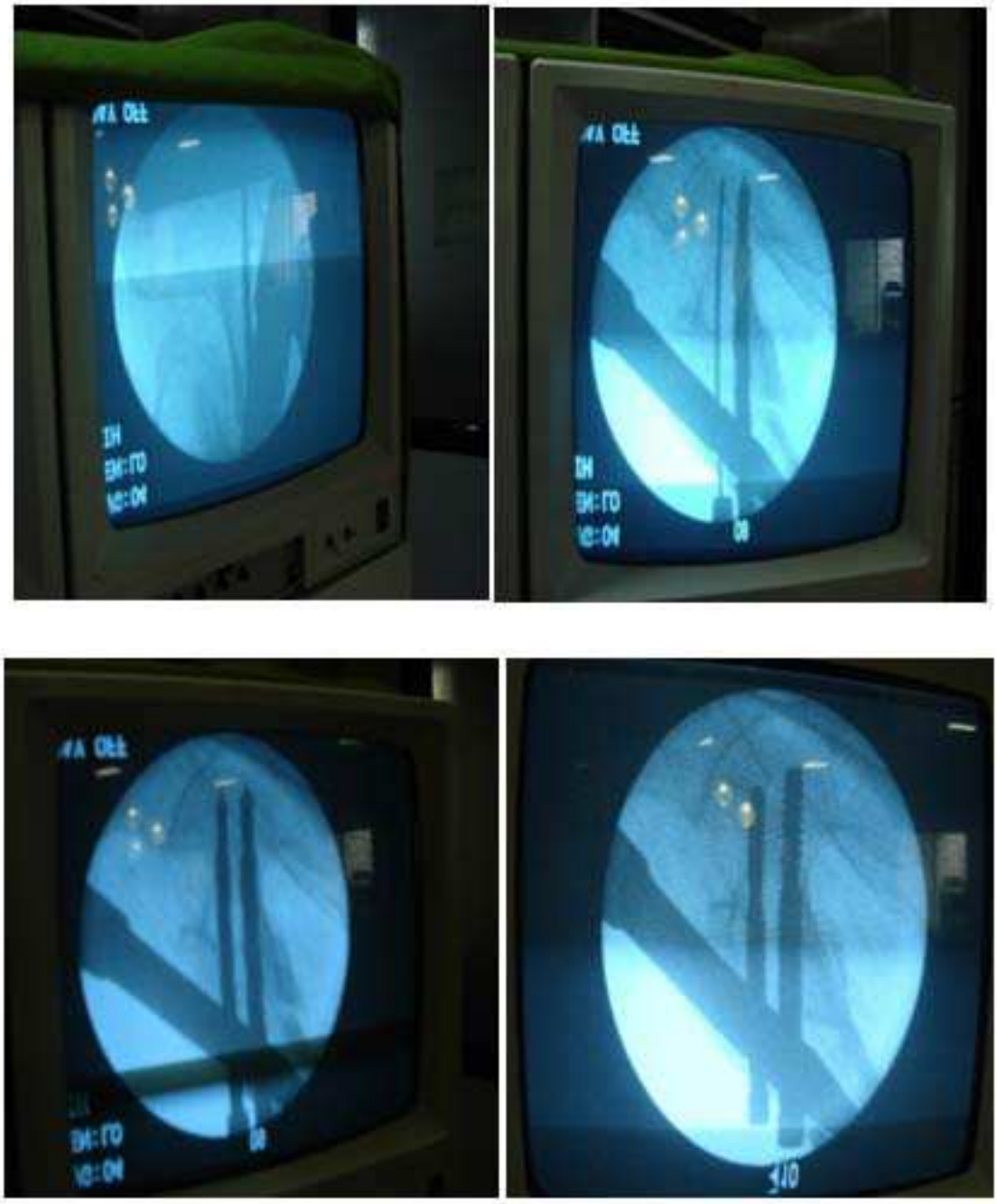
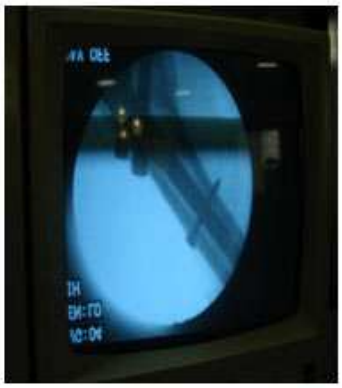
11. Other pub med searches regarding intramedullary fixation of intertrochanteric neck femur #'s.

X ray pelvis with both hips – ap view in 15 ^ internal rotation,x ray femur shaft with hip and knee ap view.x ray hip lateral view.all these x rays evaluated pre and post operative.

X rays taken on day 1 , 1 month post operative , 3 months post operative , 6 months post operative and then 1 yr post operative.



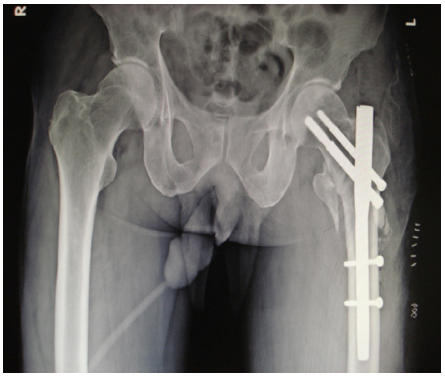




Ilustrations

Case 7

Case -6



85yr. old male pt. 4 part A2 ao classification. Osteoporosis++.

CASE – 6
osteoporotic #

Case no 10 – 3 part # itnf with instability

CASE – 6
osteoporotic #

Case -6

85yr. old male pt. 4 part A2 ao classification. Osteoporosis++.

Case no - 3

- 75 yr old pt.
- 3 part # itnf

3 months f/up # united

Case no 10 – 3 part # itnf with instability

3 months follow up