IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 18, Issue 10 Ser.8 (October. 2019), PP 06-19
www.iosrjournals.org

Observation in Management of Elderly Osteoporotic Intertrochanteric Fracture of Hip by Proximal Femoral Nail.

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Place of study:- N.M.C.H. & Oxygen Trauma and Multispeciality Hospital

Abstract: *Unstable Trochanteric Fracture of Femur in the Elderly require osteosynthesis.*
Proximal femur fracture in itself an tough entity to manage. Proximal Femur Nailing is considered to be ideal construct for these fractures.However there is different methods of salvage ,and also Bipolar Replacement Arthroplasty now a days on increasing trends.
Research Question: Proximal Femoral Nail fixation methods and technique when used judiciously can improve the quality and stability of reduction and fixation in these fractures, even in osteoporosed elderly .
Objective :- The present study (systematic review and meta analysis)was conducted to determine the methods and quality of reduction and fixation techniques of Proximal Femoral Nailing.
Outcomes:- Primary outcomes like Harris Hip Scores ,complications and re-operation rates were assessed.Additionally;secondary outcomes like blood loss, duration of surgery, and period of hospital stay were also considered.
Secondary outcomes like mean surgical time was 45 min.
Average blood loss 200ml.
Length of hospitalization 4 days.
Databases of pubmed,IOJR,IOSR were searched for our study.
Conclusion :- Proximal Femoral nailing are very efficient method to deal with intertrochanteric fracture even in elderly osteoporotics.
Keywords:- *Proximal Femoral Nail, unstable intertrochanteric fracture, elderly, osteoporotics.*
Compliance with ethical standards.
Conflict of interest :- Authors declare that they have no conflict of interest.

Date of Submission: 04-10-2019 Date of Acceptance: 21-10-2019

I. Materials and Methods

48 cases of unstable intertrochanteric fractures with significant osteoporosis / A.O. type A2 were selected for this study. All patients were elderly .There were 32 female patients and 16 male patients . The prospective study was done for there management.

Age group : - A. 65 years to 74 years. …. Female 32 and male 08 patients
: - B. 75 years to 90 years…… Female 08 and male 04 patients.

Proximal femoral nails 130 degree and 135 degree of 9 ,10 , 11 mm diameter of stainless steel or, titanium were selected for fixation of such fractures. Hip screw were of sizes 8.0 and 6.4 mm dia. Titanium and stainless steel 315L material selection was considered on the affordability of the patient. However ,titanium implants facilitated future MRI examination ,pacemaker insertion ,angiography needs of the patient.
Radiolucent orthopaedic traction table was used for such cases and IITV with good resolution.
Approach :- open reduction and internal fixation of these fractures were done through lateral approach. In most cases ;the incision required for placement of hip screws through zig were identified and slightly extended as per need.
What was most important in considering the fixation as a treatment methodwas anatomical reduction of the fragments . Calcar and size of the lesser trochanter fragment gave guide to the surgeon for placement of guide wire and screws.

Many a cases were not amenable to closed reduction and open reduction become a necessity. Open reduction done through the extension of hip screw insertion region. Preliminary reduction and fixation done with two anterior k-wires 2.5 mm through shaft neck and head.

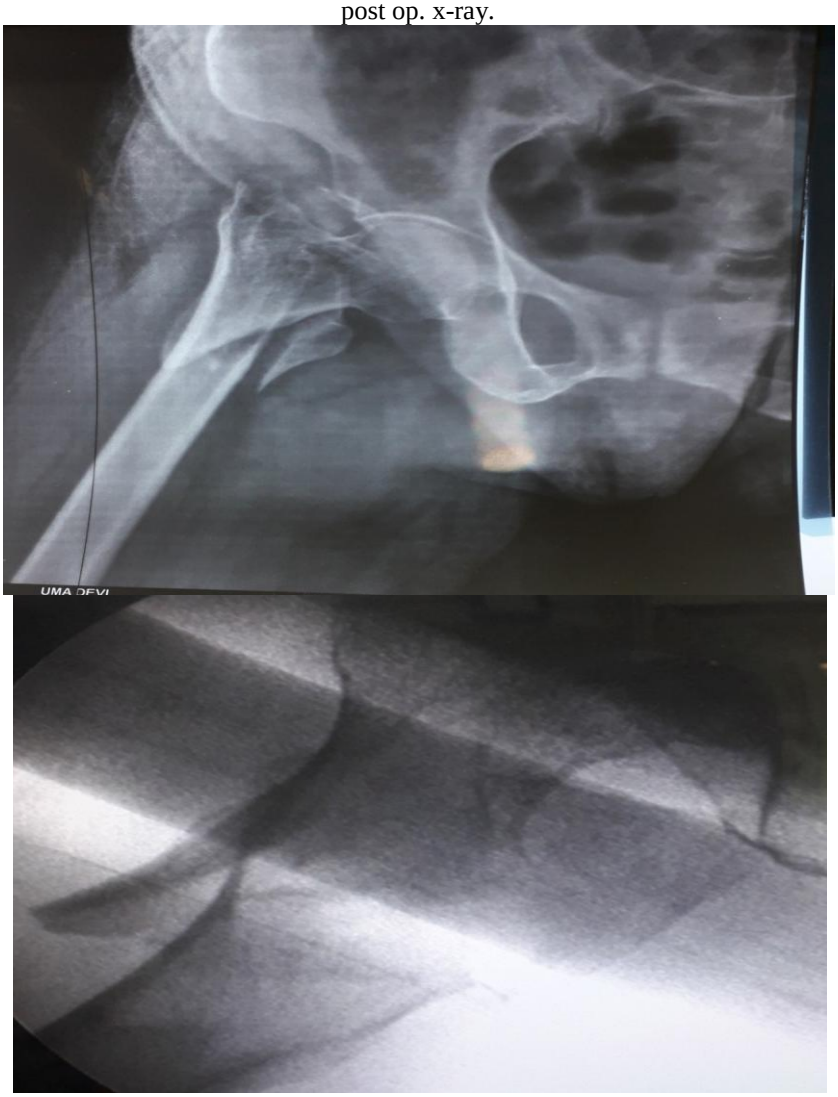
In a study , Hopkins , Dimon et al. 97 % fractures healed uneventfully. But higher age , osteoporosis and comminution were not taken into account there. In many studies, these factors lead to higher failure rates upto 20 %.

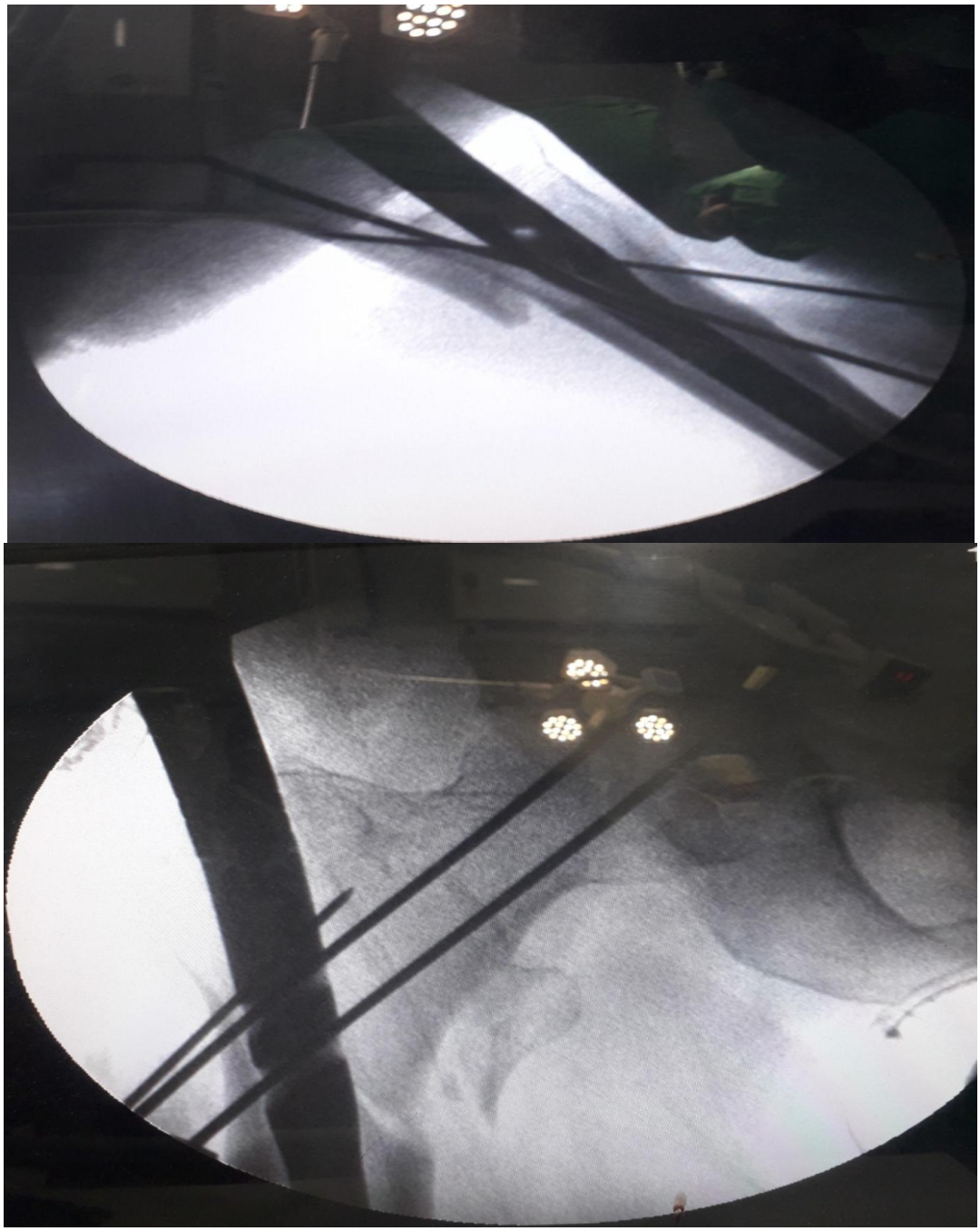
During surgery;it was found that the head and neck fragment was rotated externally and anterioly and calcar was seen as spiky. Open reduction and internal fixation done with two k-wires 2.5mm thick through neck and head anteriorly ; watching in IITV. Sometimes additional k- wires posteriorly helped.

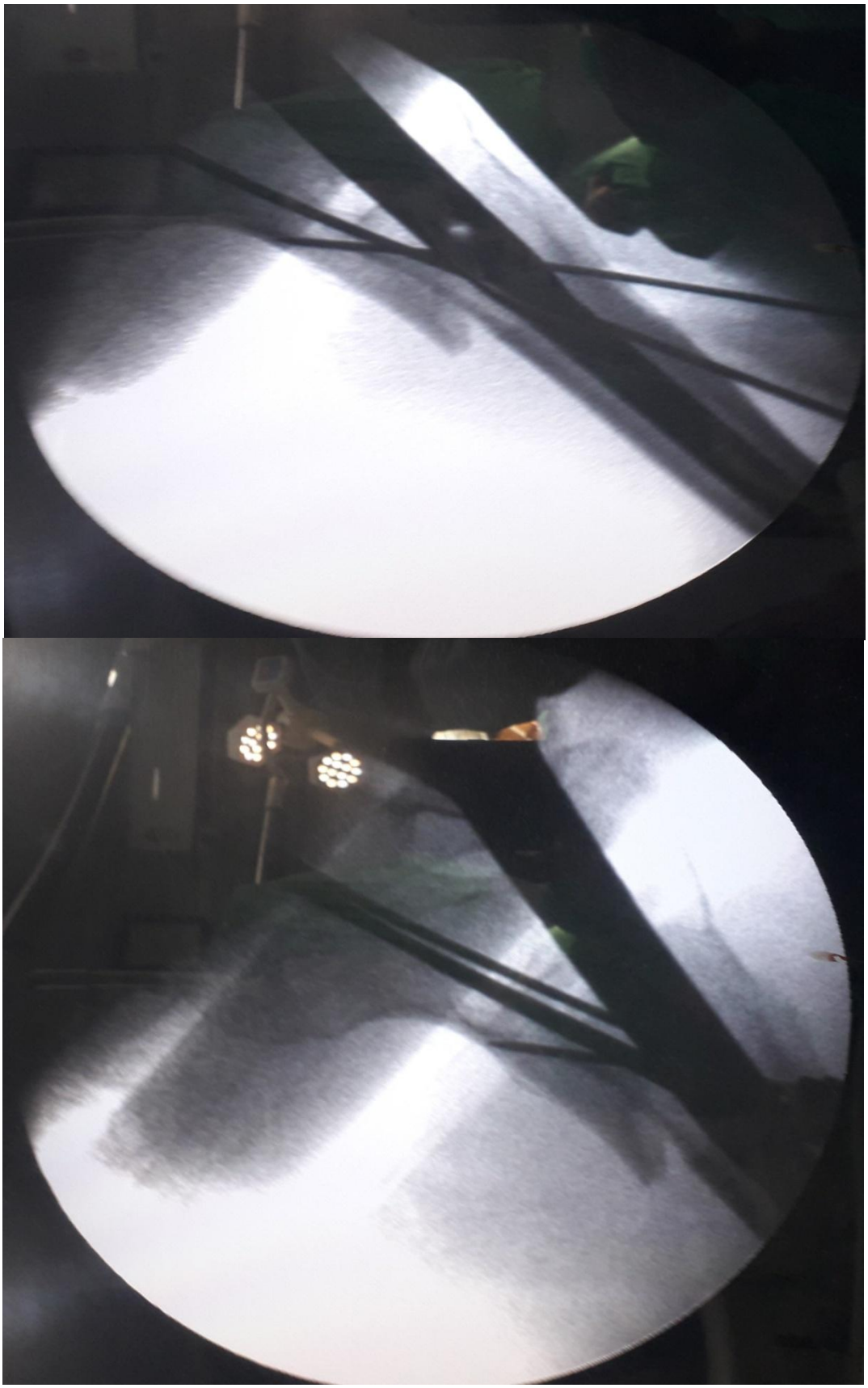
After achieving good anatomical reduction and provisional fixation as above proper placement of intramedullary guide wire done through medial end of tip of greater trochanter done. Neck shaft angle assessed which was found to be 130 degree in most cases. IITV images in true AP and Lat views ,restored and saved. Bone holding forceps required to use in some cases to hold the reduction till the end of the procedure of fixation of proximal femoral nail and hip screws. Reaming of the shaft of femur required occasionally.24 cm long PFN, 130 degree (mostly) of titanium or s.s. of any standard manufacturer were used which had 8.0 and 6.4 mm hip screw holes. Hip screw guide wire inserted to subchondral level and after measurement of screw sizes guide wires were tapped further inside to prevent backout during drilling and tapping. Hip screws inserted to subchondral level for maximum purchase. Normally, tip of nail and both hip screws lied at same level. Wounds closed with vicryl and silk after 5 mm distal locking bolt insertion in dynamic hole in correct rotational alignment. No drain applied.

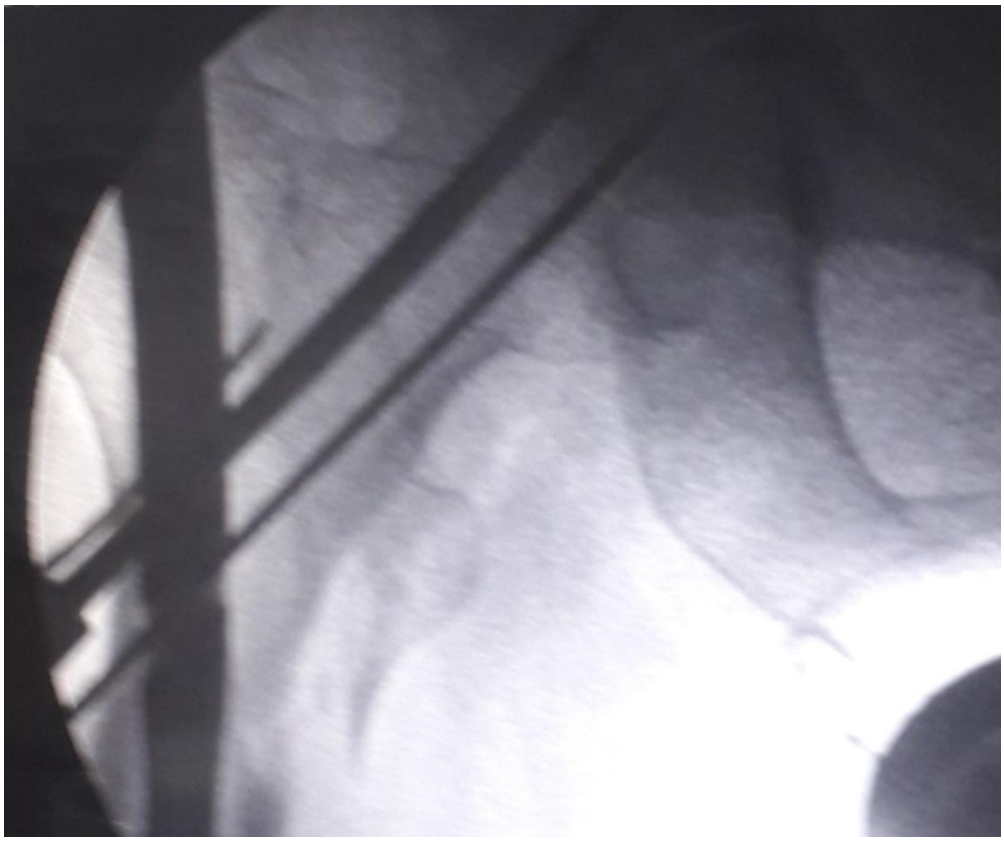
Patients were kept for 48 to 72 hrs. post op

Case:-1) Unstable trochanteric fracture in this elderly osteoporotic patient showing serially pre-op. intra op.& post op. x-ray.

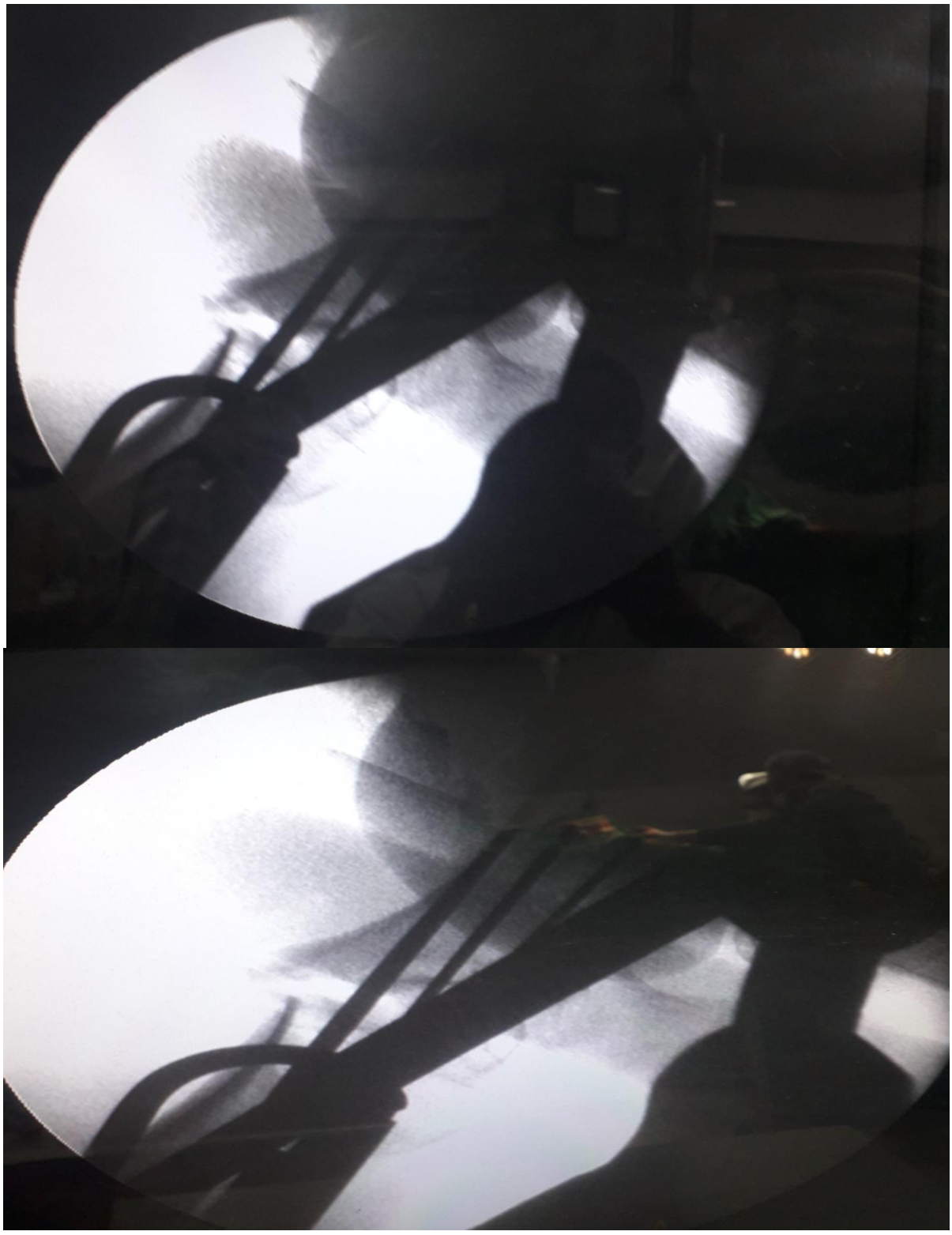


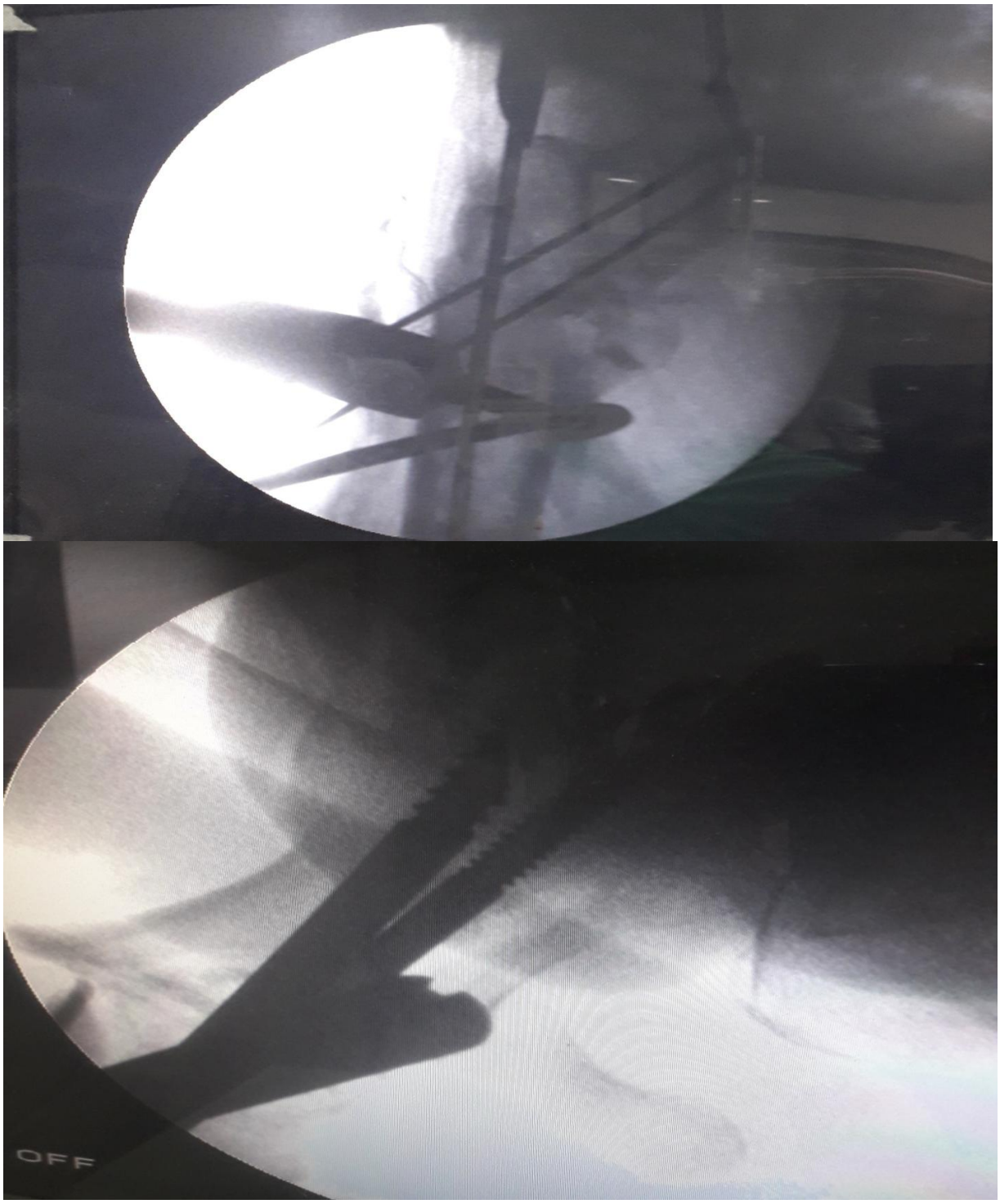






C CASE:- 02) Unstable trochanteric fracture in this elderly osteoporotic patient showing serially pre-op. intra op.& post op. x-ray.

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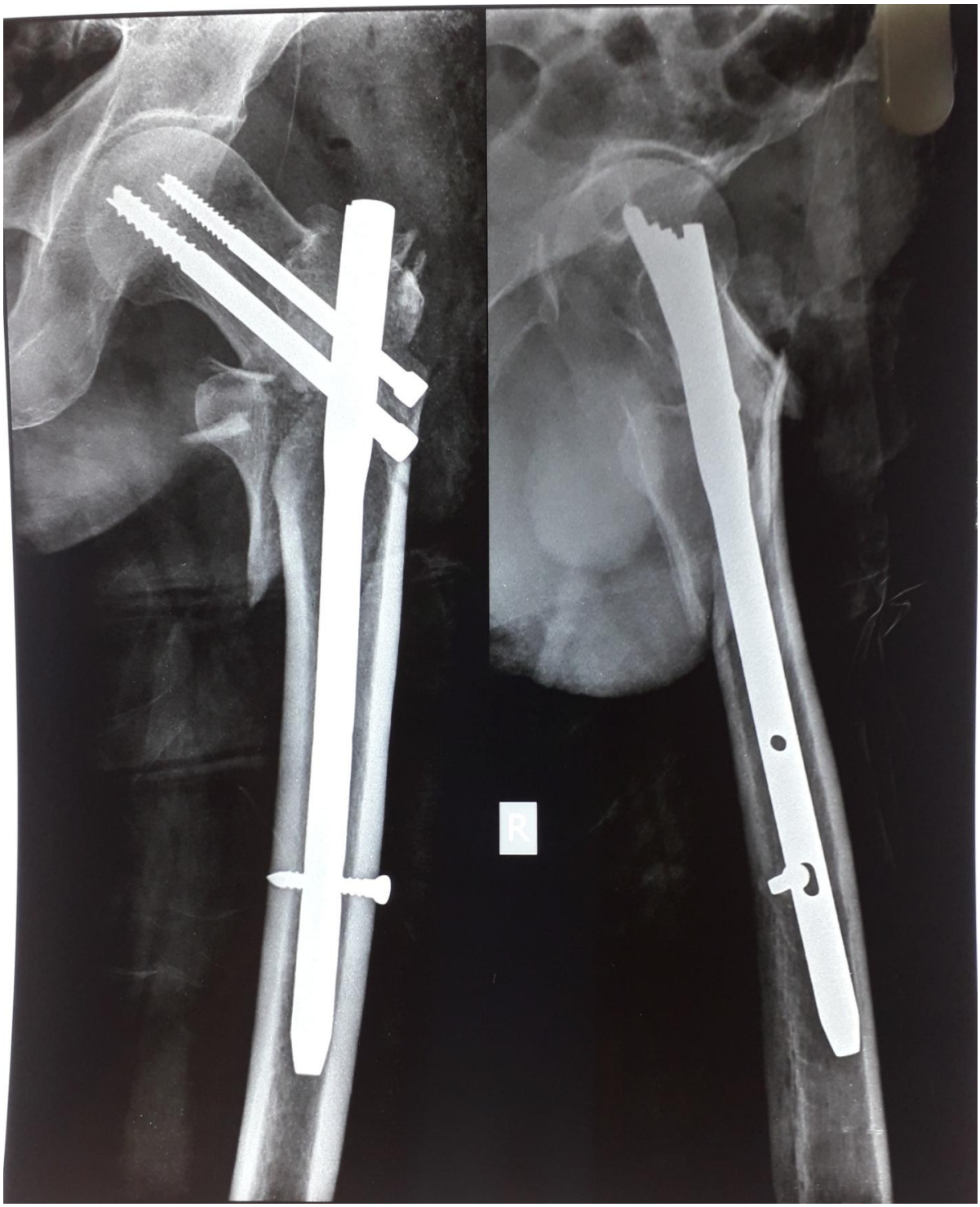
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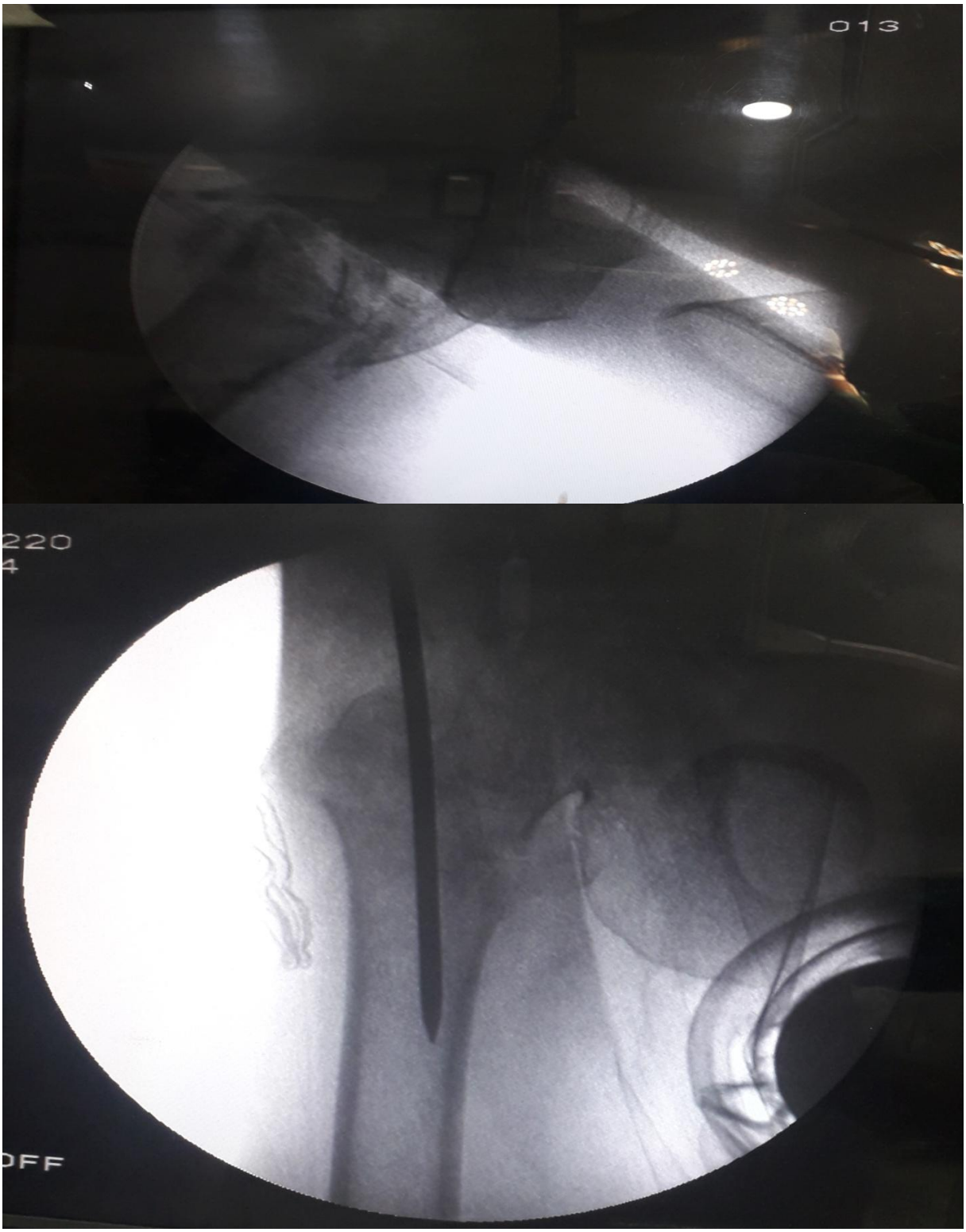
CASE 3:- **Unstable trochanteric fracture in this elderly osteoporotic patient showing serially pre-op. intra op.& post op. x-ray.**

A) Initially , it seemed difficult to consider for osteosynthesis.

B)Traction view:- Helped in planning for fracture fixation as a viable option.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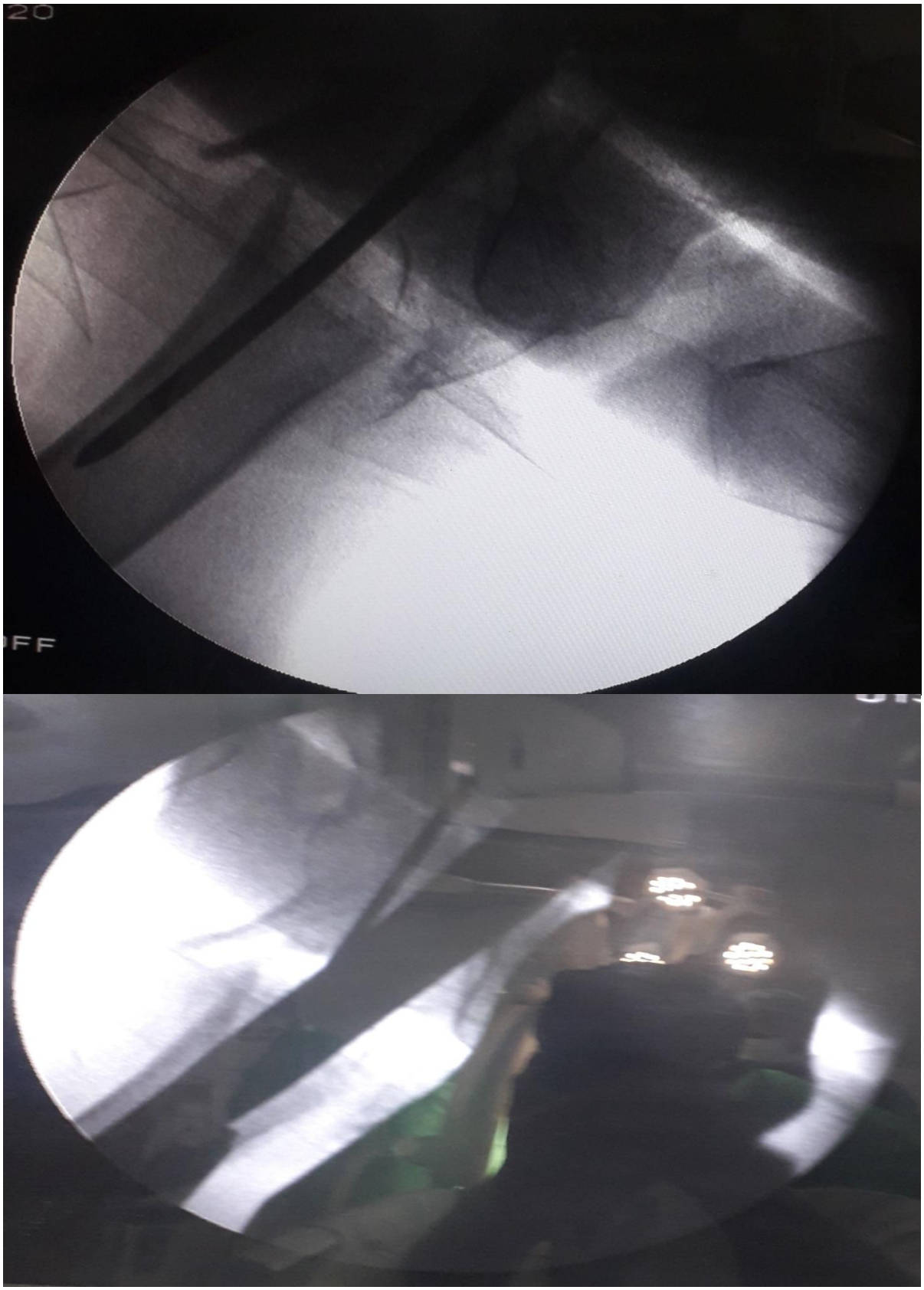

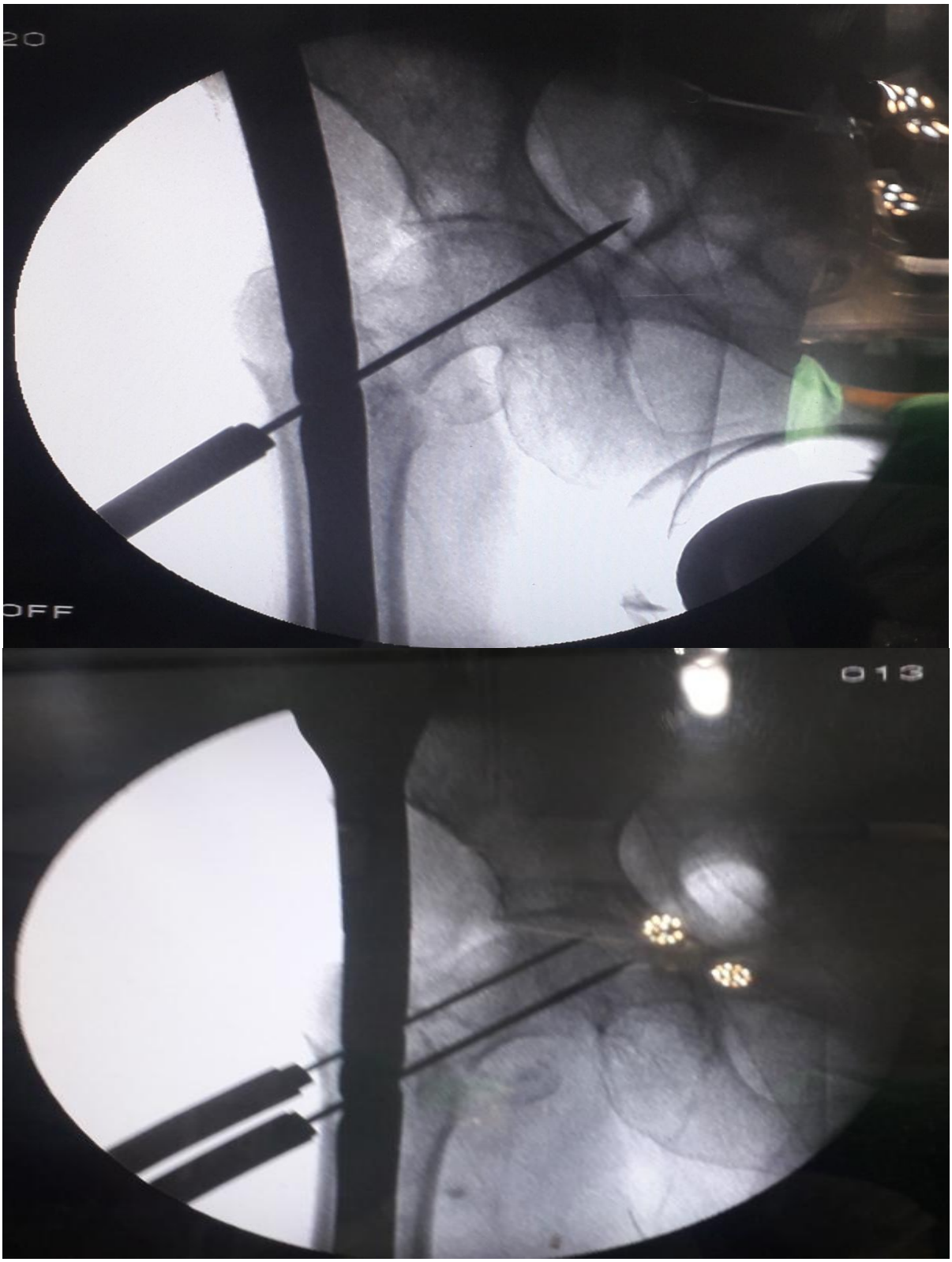
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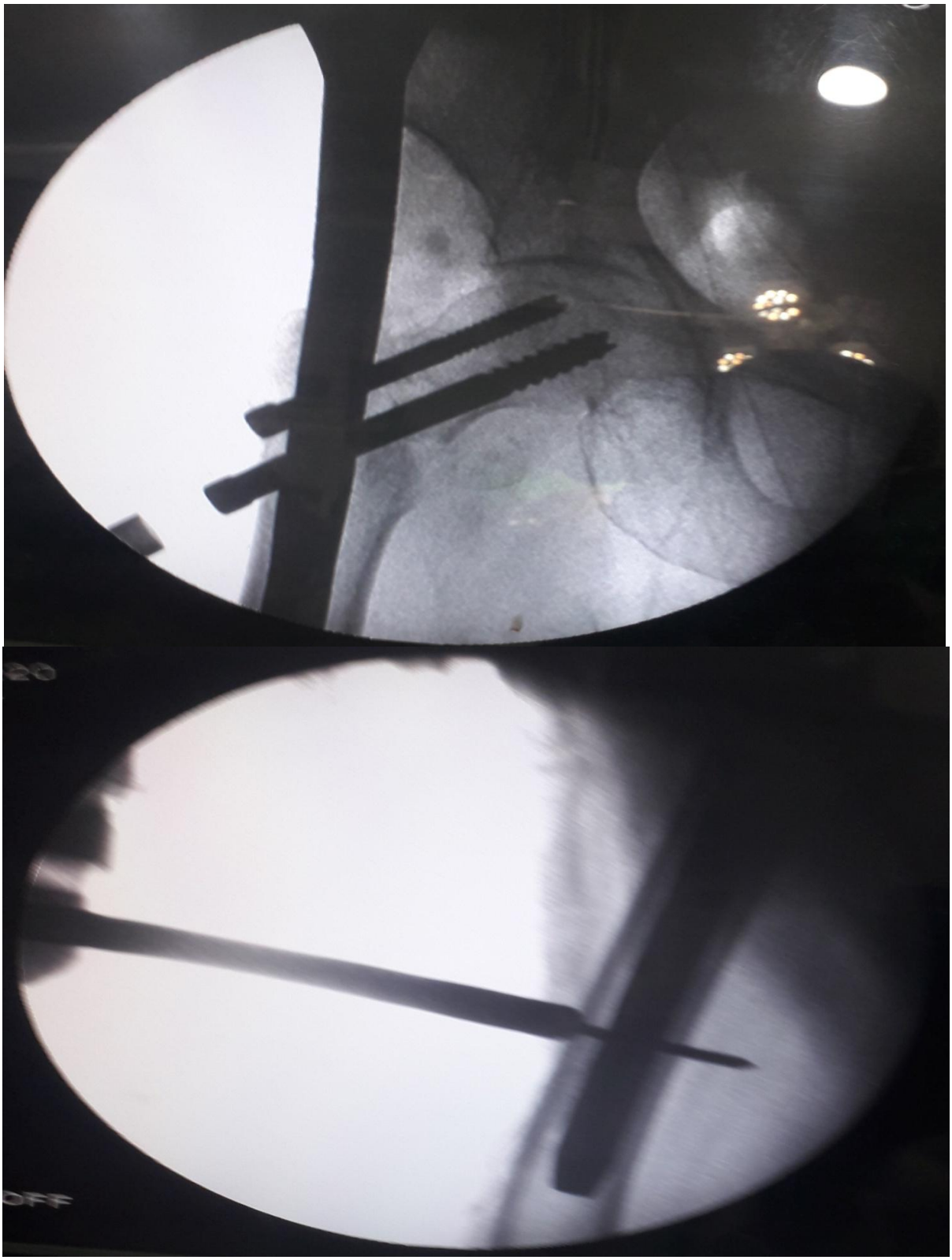

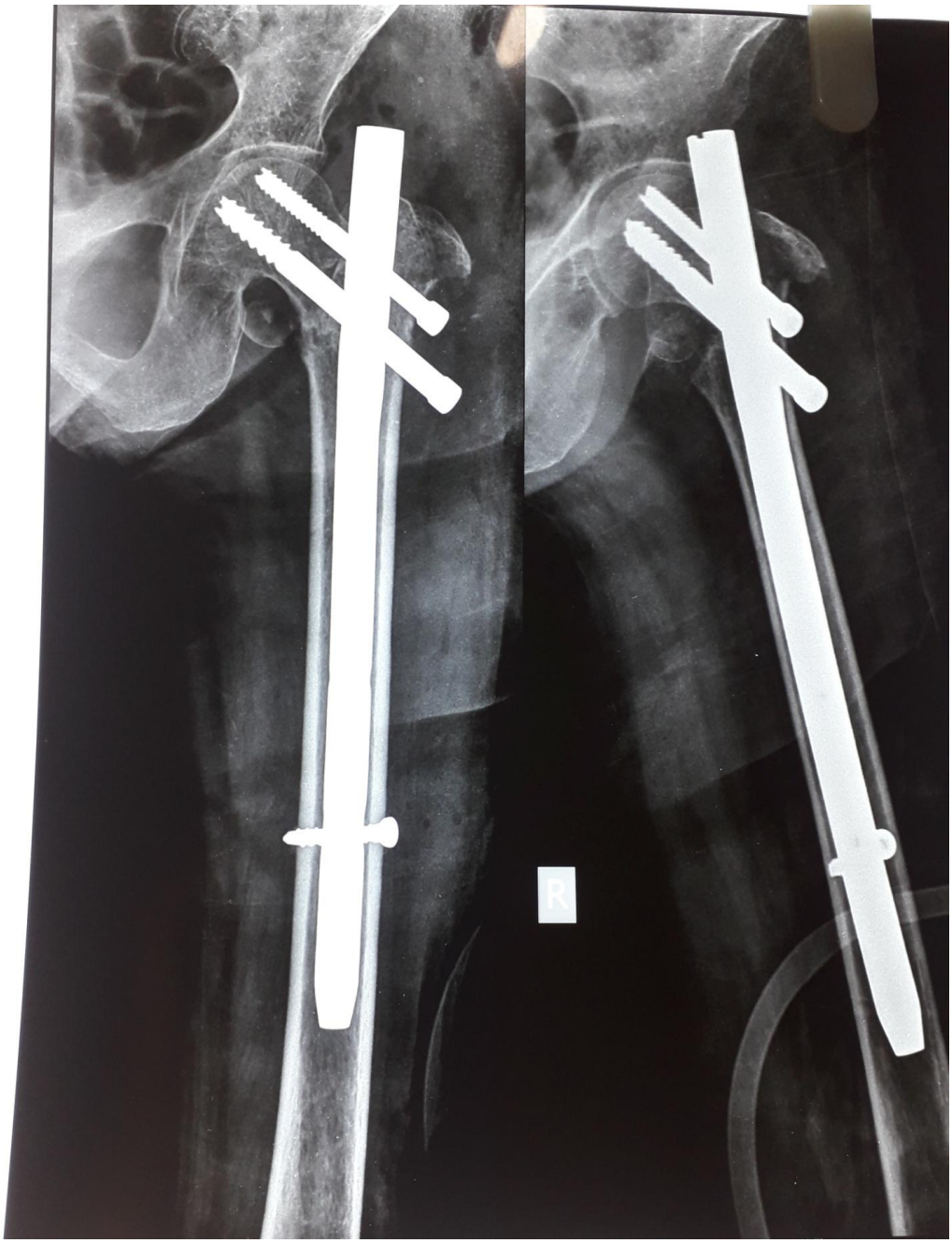

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[3]. Hopkins,Dimon et al. also produced similar results.

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