

CASE BASED APPROACH TO COMMINUTED AND DISPLACED 4 PART PROXIMAL HUMERUS FRACTURE MANAGED BY HEMIARTHROPLASTY USING A FRACTURE STEM

First Author- Dr. Ketan Kulkarni (Resident), Dr. DY Patil medical college, pune,411018
email-ketankulkarni360@gmail.com, 8408863832

Second Author- Dr. Ashwin Deshmukh (Associate professor), Dr. DY Patil medical college, pune,411018

Third Author- Dr. Rahul Salunkhe (Professor and HOD), Dr. DY Patil medical college,pune,411018

Fourth Author- Dr. Vellanki Sai Sravan, Resident, Dr. DY Patil medical college, pune,411018

Fifth Author- Dr. Ishan Shevate, Assistant professor, Dr. DY Patil medical college, pune,411018

Corresponding author-Dr. Ishan Shevate*, Dr. DY Patil medical college,pune,411018
Designation-Assistant professor, Dr. DY Patil medical college, pune,411018
Email- ishanshevate@gmail.com

Abstract-An elderly male presenting to the Orthopaedics OPD with complaints of pain and swelling over left shoulder for 2 days with a history of trauma. Radiological investigations were done and suggestive of Left proximal humerus fracture with multiple displaced fragments with Acromioclavicular joint arthropathy¹. After extensive planning, he was operated on with left hemiarthroplasty. Post-op regular follow up undertaken and post-op rehabilitation under expert guidance.

Key Words- Proximal humerus fracture, Fracture stem, Hemiarthroplasty

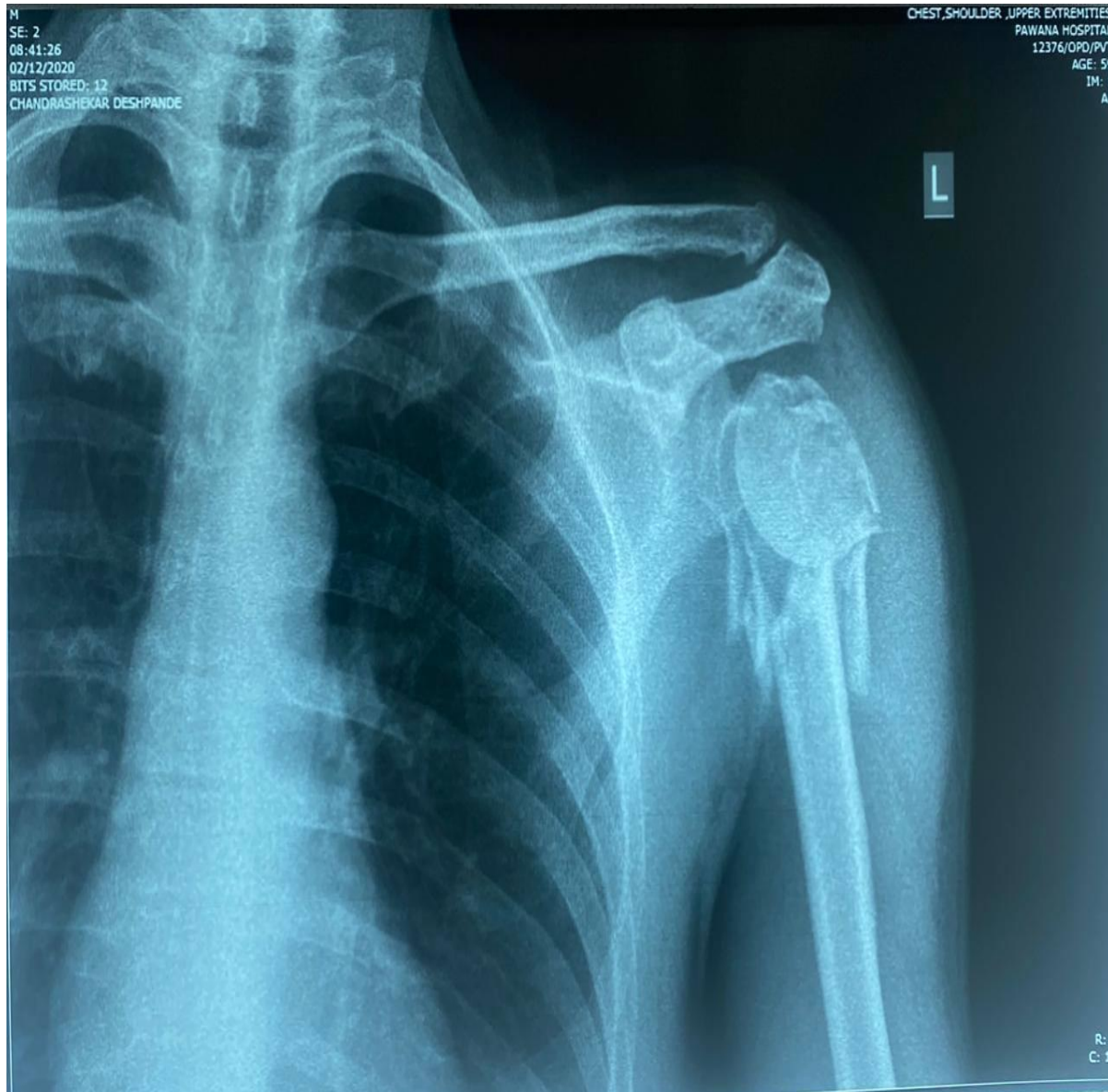
Introduction -Proximal humerus fractures are most common in the elderly. Proximal humerus fractures account for 4-5% of the geriatric population. Most proximal humerus fractures are managed by the definitive fixation that is Open reduction internal fixation with Plating but in the case of severe comminution, loss of bone and dislocation shoulder there is a scope of hemiarthroplasty of the shoulder^{2,3}. To perform Hemiarthroplasty one should have an understanding of the anatomy, absolute patient selection and appropriate surgical planning⁴. Classical Indications of hemiarthroplasty are

- 1)Osteoarthritis and Rheumatoid arthritis
- 2)Avascular necrosis

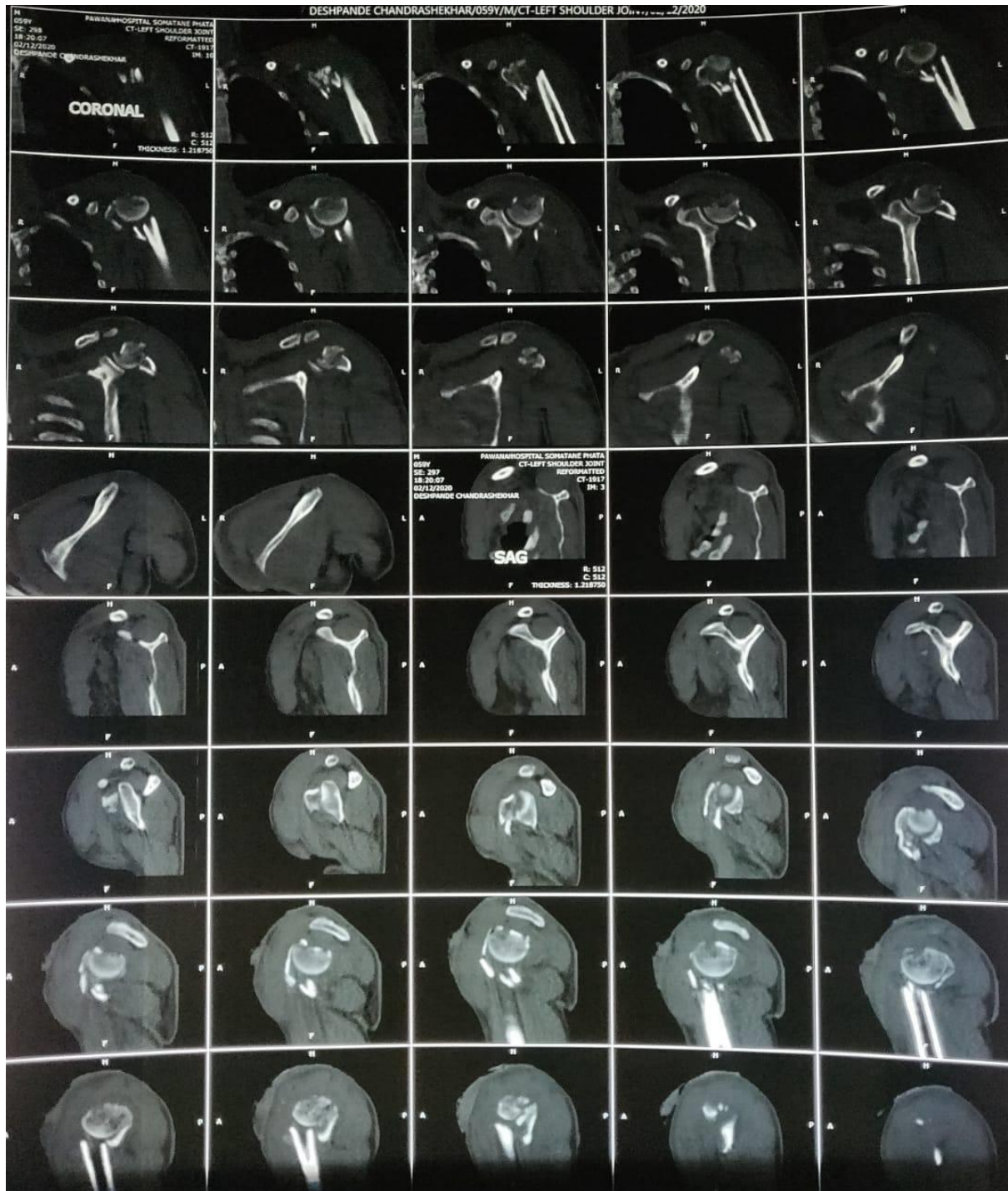
Materials and Methods: A 59-year-old male presented with pain and swelling over the left shoulder and a radio-graphical evaluation and CT scan were done which confirmed the diagnosis of Comminuted, displaced Left proximal humerus fracture. The patient was planned for surgery left shoulder hemiarthroplasty with fracture stem considering fracture anatomy and patient requirement. The patient is a known case of Diabetes Mellitus with

uncontrolled sugars. The patient was started with shoulder range of motion on post-op day 1. The patient advised follow-ups at regular intervals and adequate physiotherapy under expert guidance.

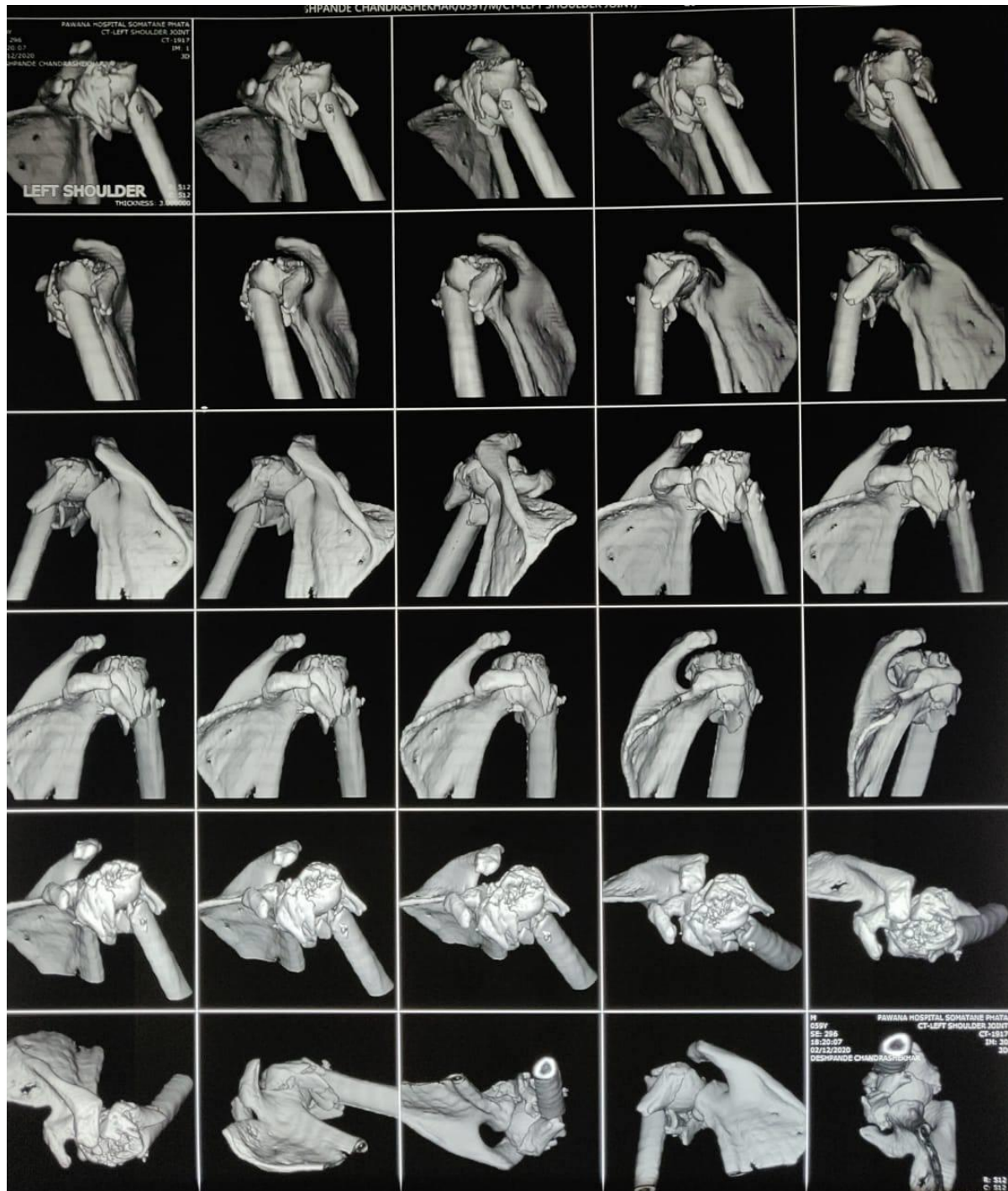
PRE OPERATIVE XRAY



CT SCAN OF LEFT SHOULDER



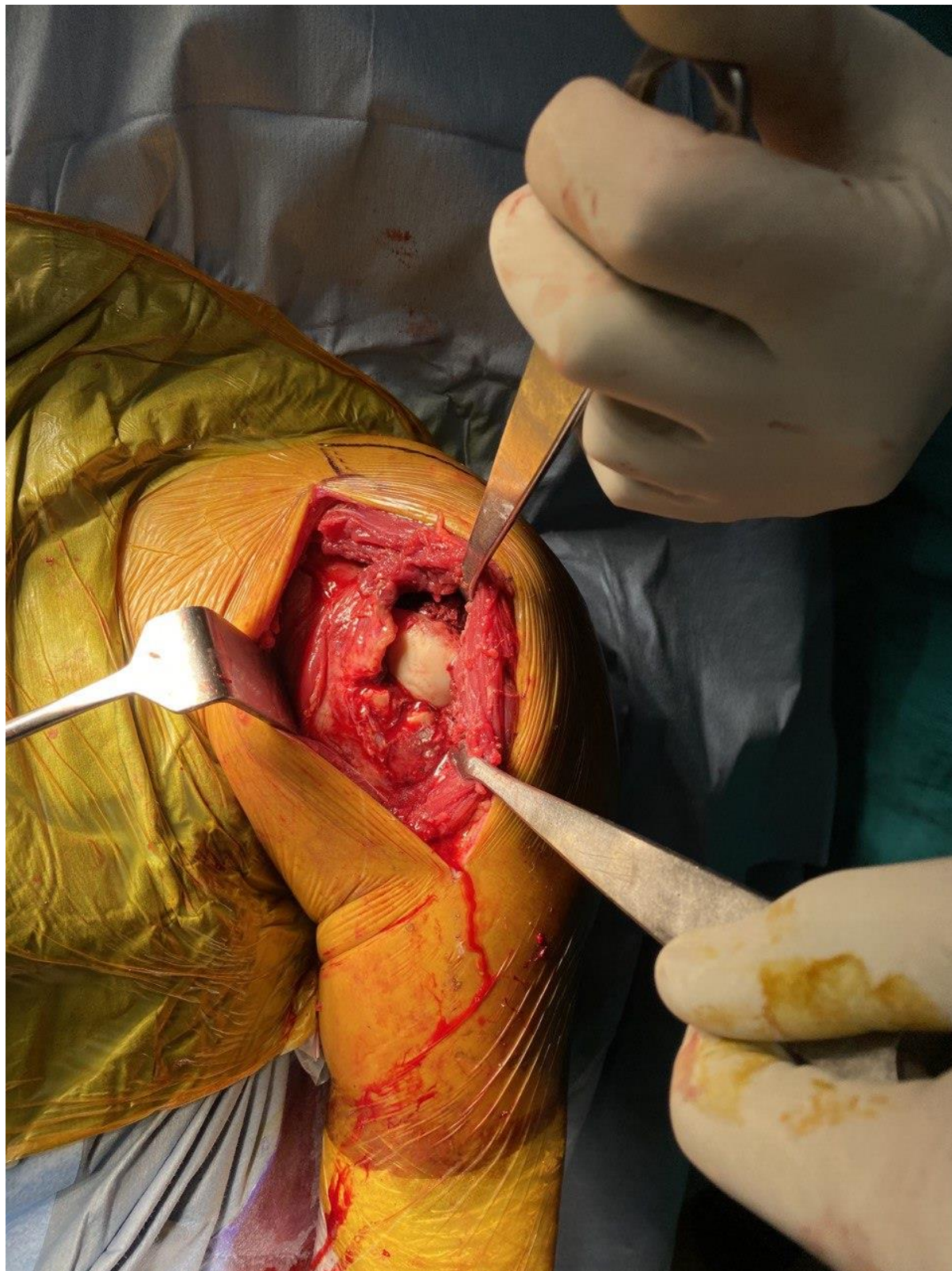
CT SCAN OF LEFT SHOULDER

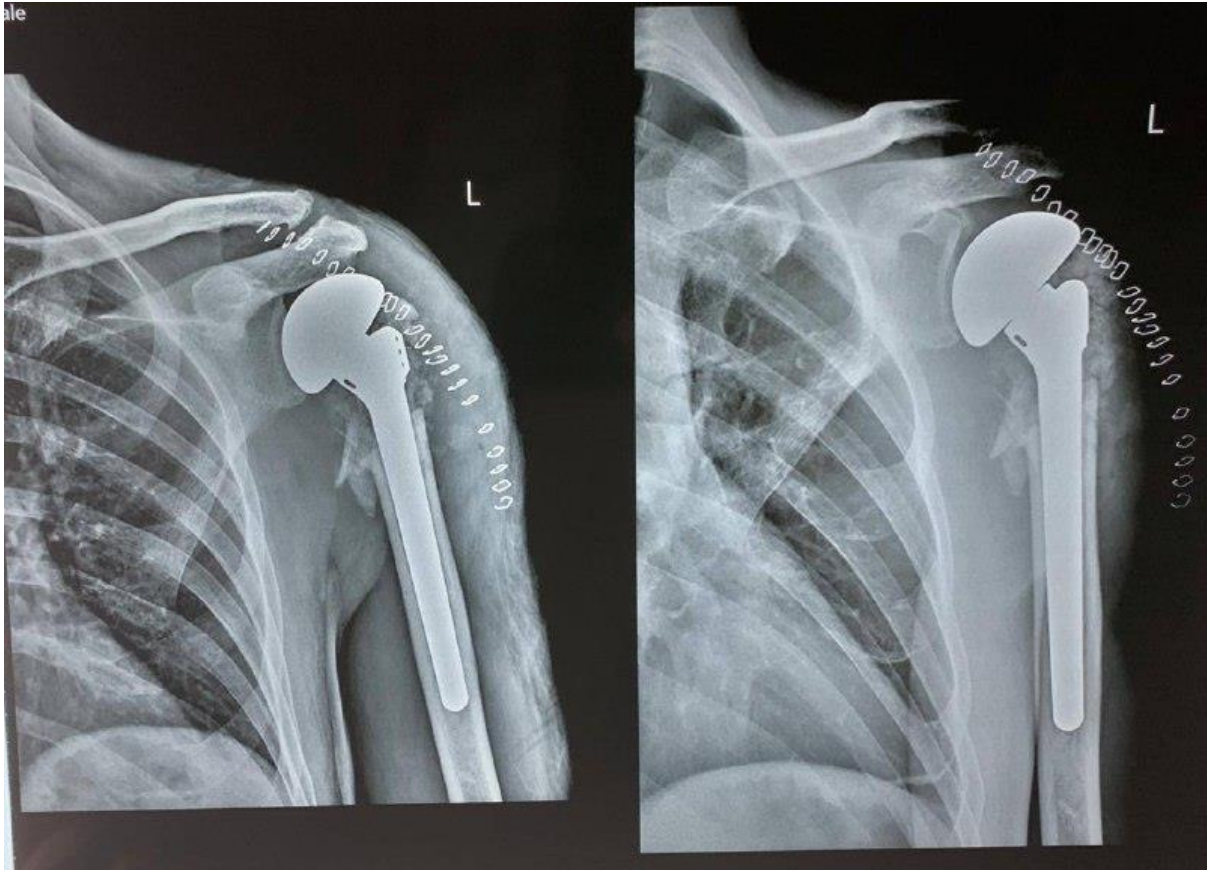


INTRA OPERATIVE PICTURE 1



INTRA OPERATIVE PICTURE 2



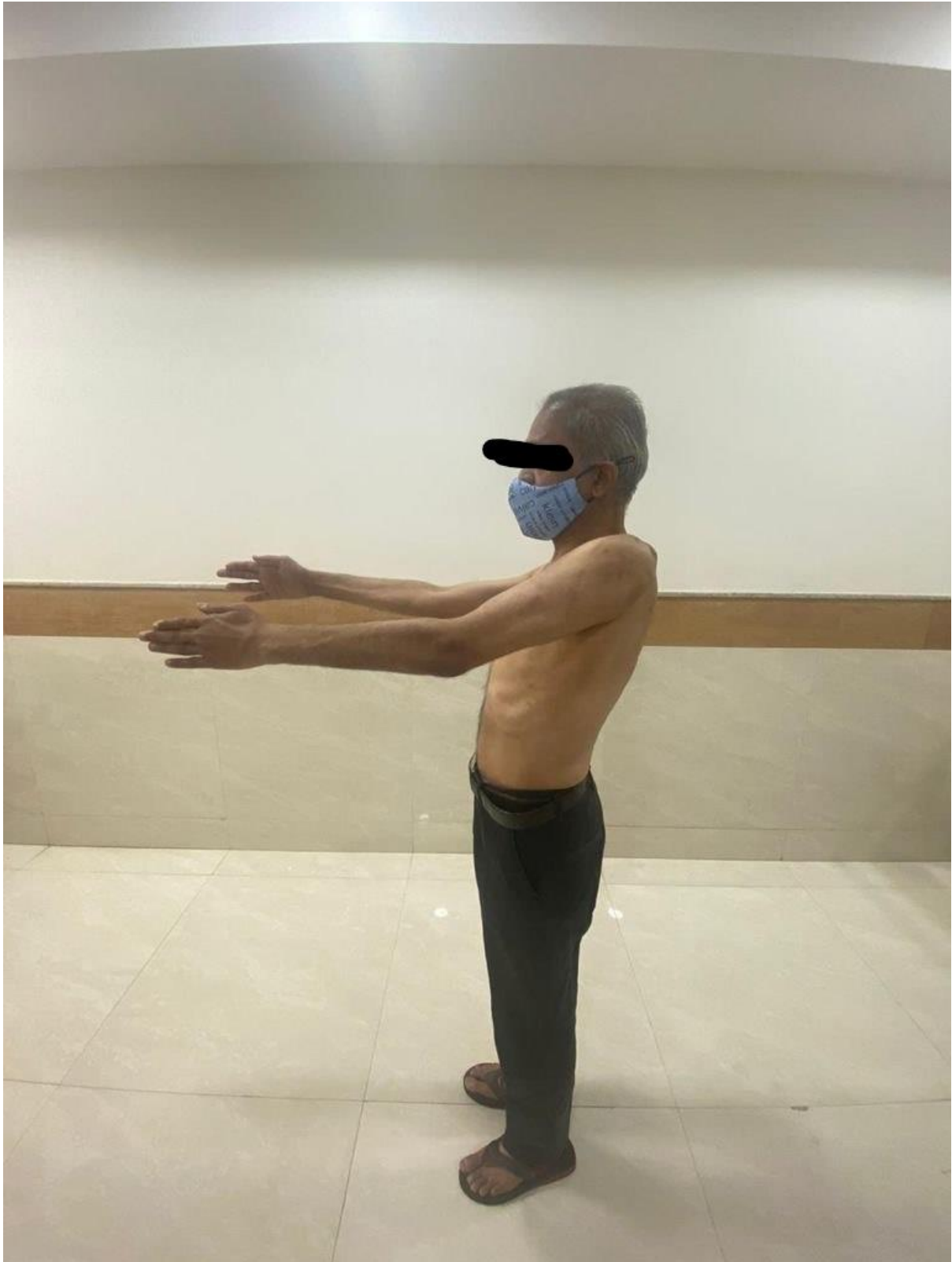


POST OPERATIVE XRAY

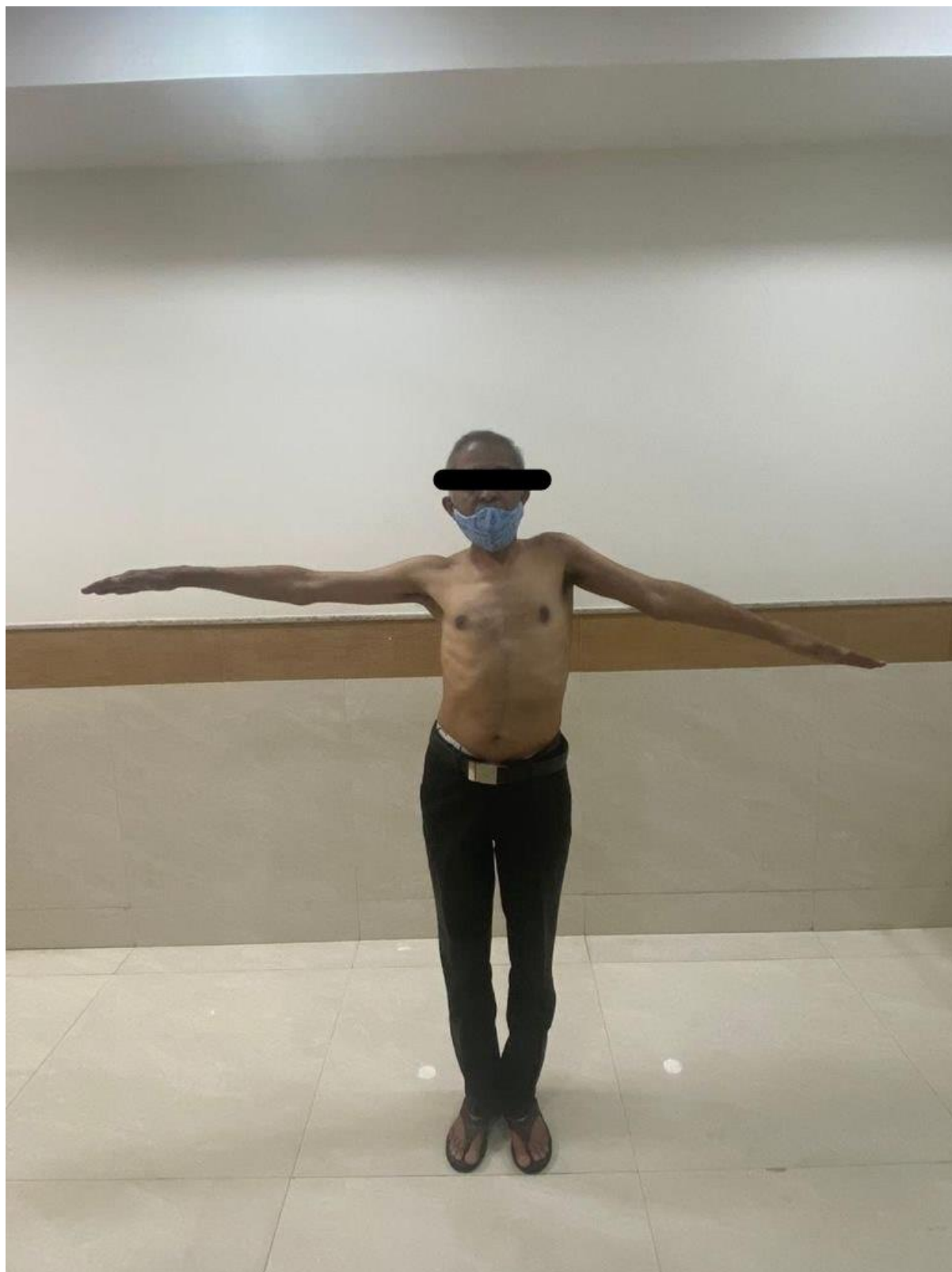
Results: In our patient on postoperative day 1 the patient was made to start pendular exercises of the shoulder and followed by elbow, wrist and hand range of motion. As per the protocol, strengthening was started at 3 months postoperative. The patient was explained about the importance of rehabilitation and also improvement in the range of motion at 3-6 months postoperatively. By 6 months post-op, the patient had achieved all the functional shoulder movements.

Discussion -Shoulder hemiarthroplasty can be done in severe comminution of proximal humerus fractures and is a very good modality with good outcomes. In my patient, there is the involvement of multiple fragments with damaged articular surface and dislocation, so hemiarthroplasty was the best option. The implant survival for shoulder hemiarthroplasty has been reported up to 96%.

POST OPERATIVE 6 MONTHS FOLLOW UP RANGE OF MOTION



POST OPERATIVE 6 MONTHS FOLLOW UP RANGE OF MOTION



Conclusion: Shoulder hemiarthroplasty is a very good modality in certain patients with proximal humerus fracture, damaged articular surface and multiple fragments.

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