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Giant Cell Tumour of Greater Trochanter of the Femur

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Abstract

Giant cell tumours are benign tumour of bones. They are aggressive and can destroy the surrounding bones. Mostly commonly found in young adults between 20-40 years. Slightly they are predominant in females than males. Common site of occurrence are in the lower end of femur or upper end of tibia. Surgical excision is the treatment of choice. This case report describes a 36 years old male with complaints of walking difficulty without any gross deformities. Based on radiological examination the diagnosis was made as Giant cell tumour occurring in the greater trochanter of left femur. The tumour was treated with extended curettage and bone grafting and Prophylactic internal fixation. The post op period was followed periodical. Radiology showed good bony consolidation with no evidence of local or systemic recurrence after 6 months.

Keywords: Giant cell tumour, GCT, Greater Trochanter

INTRODUCTION

Giant cell tumors (GCT) of the bone were first described by Cooper in 1818. Later Nelaton showed their local aggressiveness, and Virchow discovered their malignant potential(1). GCTs are non-cancerous benign tumors with potential for aggressive behavior and capacity to metastasize. It generally occurs in the age group between 20 and 40 years. GCT occurs approximately one person per million per year (2). Usually the tumour occurs in the meta- epiphysis of the long bone like lower end of femur or upper end of tibia. Surgical excision is the treatment option for this case. But there is a higher chance of recurrence. This is a rare case of giant cell tumour occurring in the greater trochanter of left femur.

CASE REPORT

A 38 years old male presented with chief complaints of Pain in left hip for the past 6 months and associated with difficulty in walking. The pain was acute in onset and gradually progressing, aggravated on walking and relieved on rest and analgesics. There was no history of preceding trauma, no other symptoms like fever, weight loss or night cries. There was no significant past history. He was not having any co morbidities. There was no family history of early onset bone pain. On examination the only significant findings was the Localised tenderness present over the greater trochanter in left side with painful and minimally restricted range of movements. There was Trendelenberg gait.

Routine investigations were done which showed nothing abnormal.

The pelvic X-ray showed a well-defined lytic, expansile lesion of the greater trochanter, with cortical thinning and breakthrough (*Figure 1)*

And a Well-defined T2 hyper intense lytic lesion with cortical thinning and focal cortical break in Greater trochanter was observed in Magnetic resonance imaging (MRI) (*Figure 2*)

The patient underwent an incision biopsy of the greater trochanter lesion; the histopathology reveals

as a Biphasic tumour with gaint cell rich and poor areas with secondary changes like fibrosis, Hemorrhage, and fibrohistiolytic reaction. This was suggestive of Giant Cell Tumour (GCT) with secondary changes.

The patient underwent Extended curettage & bone grafting with autologous iliac crest bone graft and Prophylactic internal fixation with proximal femoral nail A2 (*Figure 3)*

Post operatively he was made Non weight bearing with walker for 3 weeks then Partial weight bearing from 3 weeks to 2 months and tolerated full weight bearing from 2 months with no evidence of Trendelenberg gait or hip abductor weakness.

The patient was on periodic follow up till 6 months. He didn't have any complications. Pelvic X- ray showed good bony consolidation with no evidence of local or systemic recurrence (*Figure 4*)

DISCUSSION

The common malignancies of bone are multiple myeloma, followed by osteosarcoma, chondrosarcoma and Ewing's sarcoma. Osteoclastoma is an uncommon neoplasm of bone. It is otherwise known as Giant cell tumour.(3)

It generally occurs in the age group between 20 and 40 years. They have some hormonal relation with the oestrogen hence more predominant in females.(4)

It is usually located in the long bone meta-epiphysis and it frequently involves the subchondral bone without involvement of the articular surface; however, large tumors may extend into the metaphysis and, more rarely, into the diaphysis. Proximal tibia, humerus, distal femur and radius are typical sites. GCT represents about 3% to 5% of all bone tumors and 21% of benign bone tumors(2)(5)

Histologically giant cell tumours are characterized by their varied number of multinucleated giant cells, and their mononuclear stroma made up of round, ovoid, or spindle shaped mononuclear cells. The nuclei of the stromal cells have a distinct nuclear membrane and prominent single nucleolus. The multinucleated giant cells may have several or as many as 100 nuclei per cell (6).

In old era, these tumours were treated with amputation or large resections. Currently surgical treatments are intralesional curettage, curettage and bone grafting, cryotherathy of the cavity, radiation and resection followed by allograft.(7) . Recurrence rate is more among GCT patients. Hence early diagnosis and correct treatment is needed to restore the skeletal segment functionality.

CONCLUSION

The greater trochanter of femur is not the most common region for the presence of GCT. This case serves to illustrate the occurrence of giant cell tumour of bone in an unusual location. The author emphasizes the need for complete and safe resection to prevent recurrence of lesion. Awareness about this rare entity is important to reach early diagnosis and proper treatment.

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Figure 1: Pelvic X ray taken Pre operatively

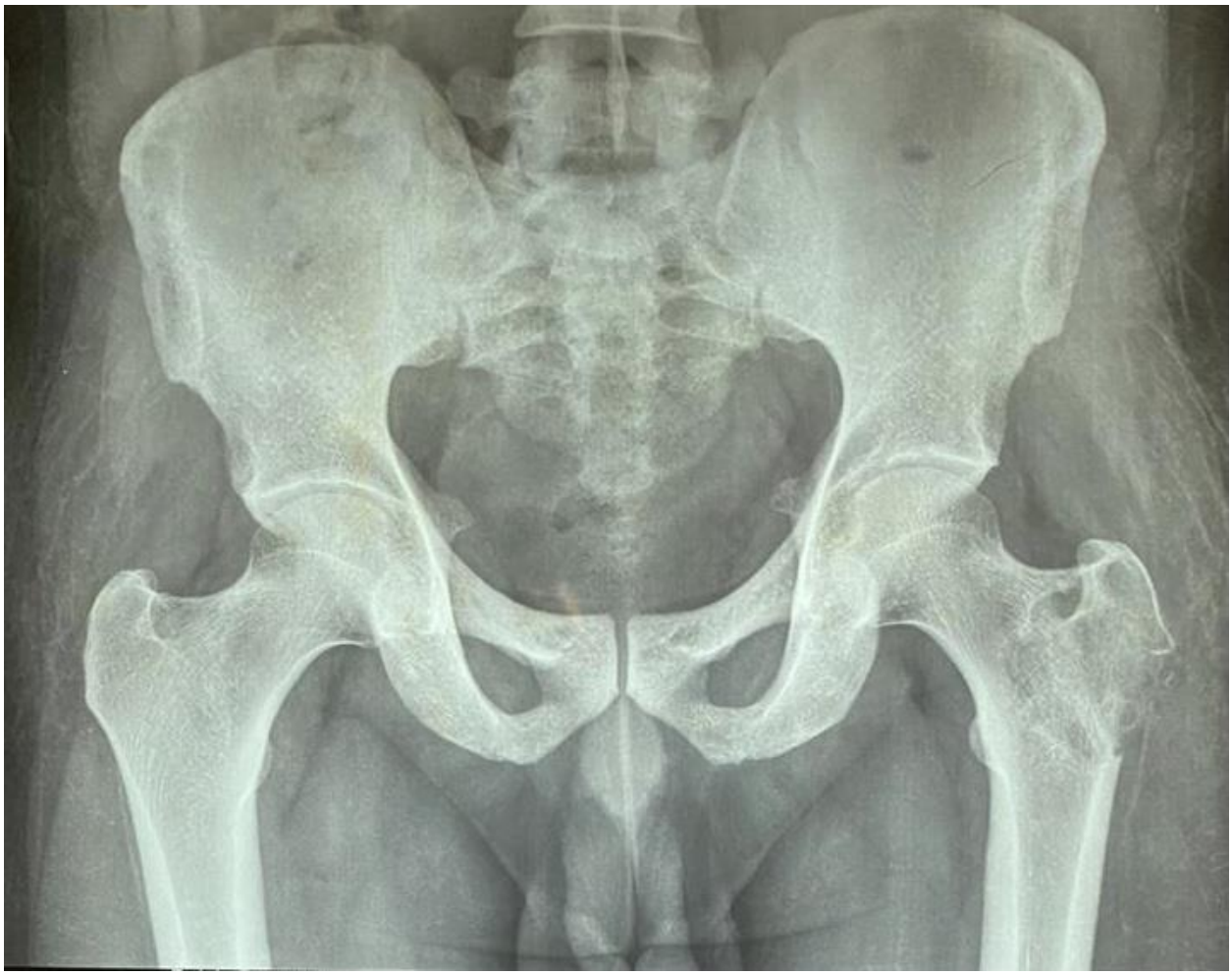

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Figure 2: MRI taken Pre operatively

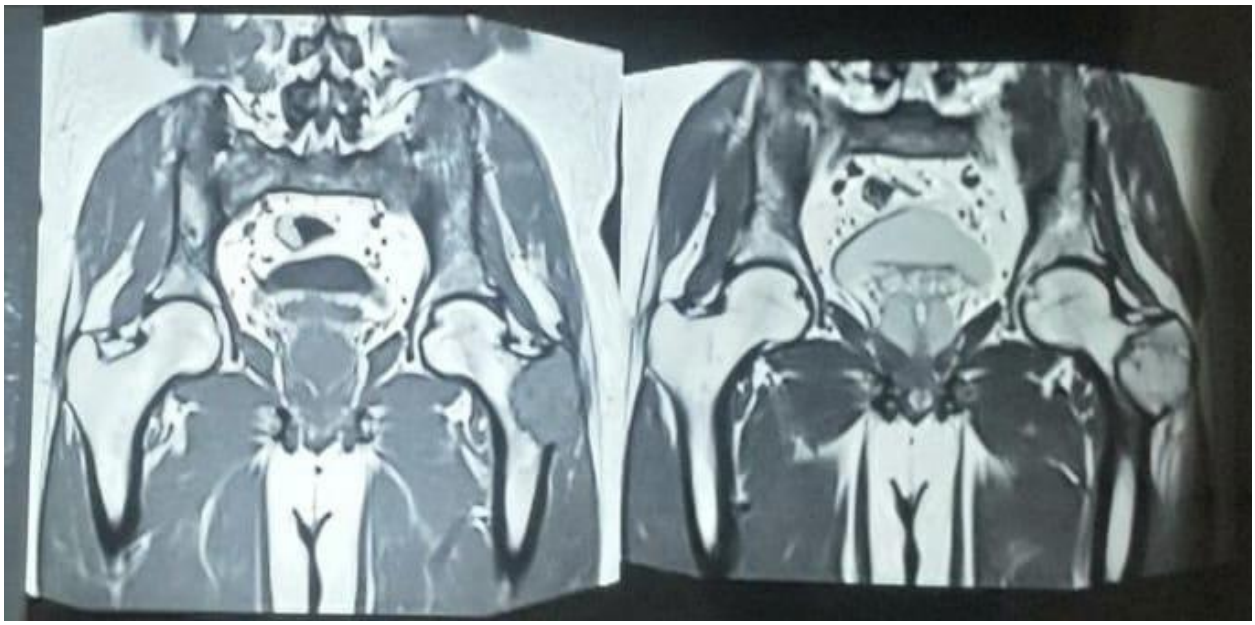
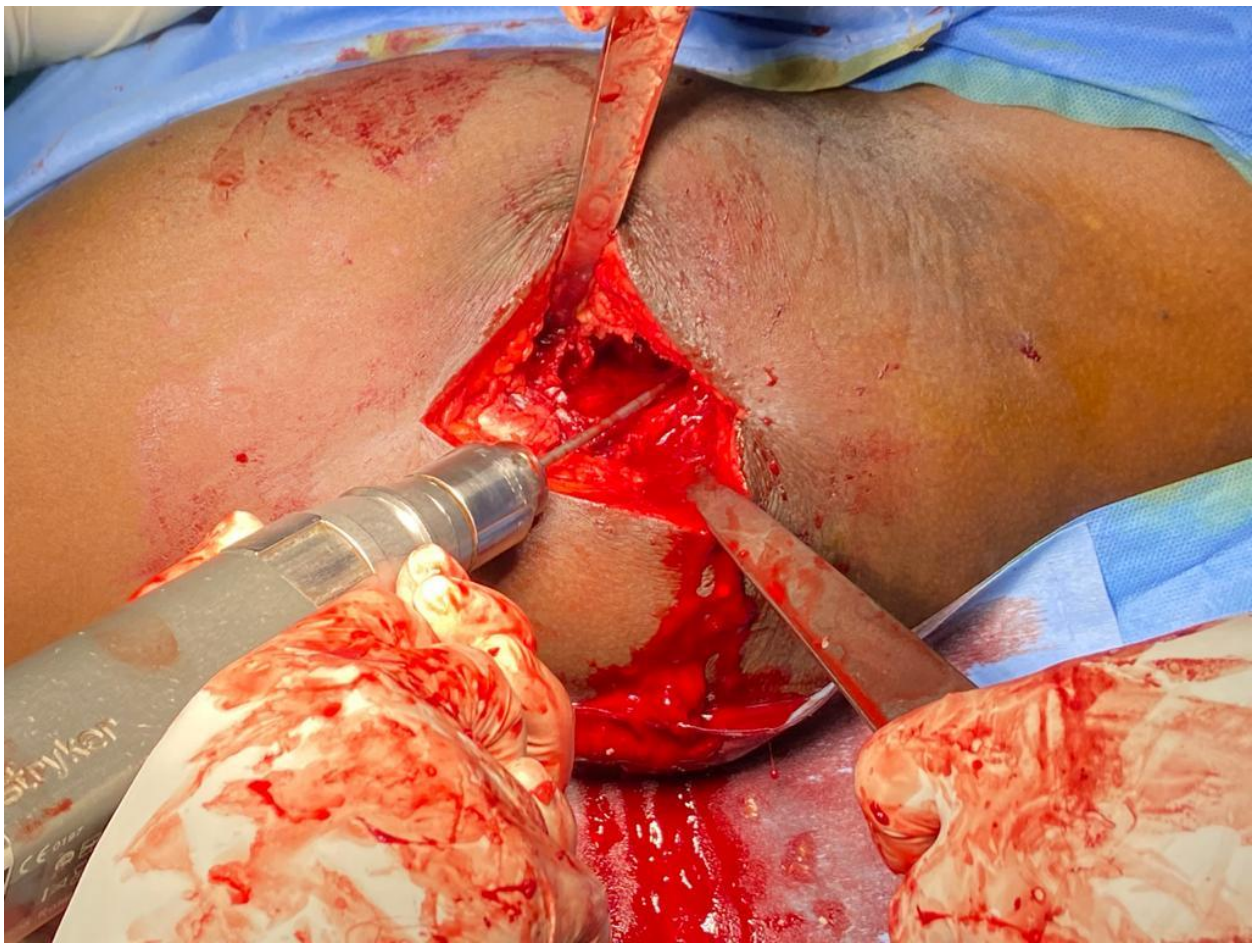


Figure 3 a: Intra operative procedure



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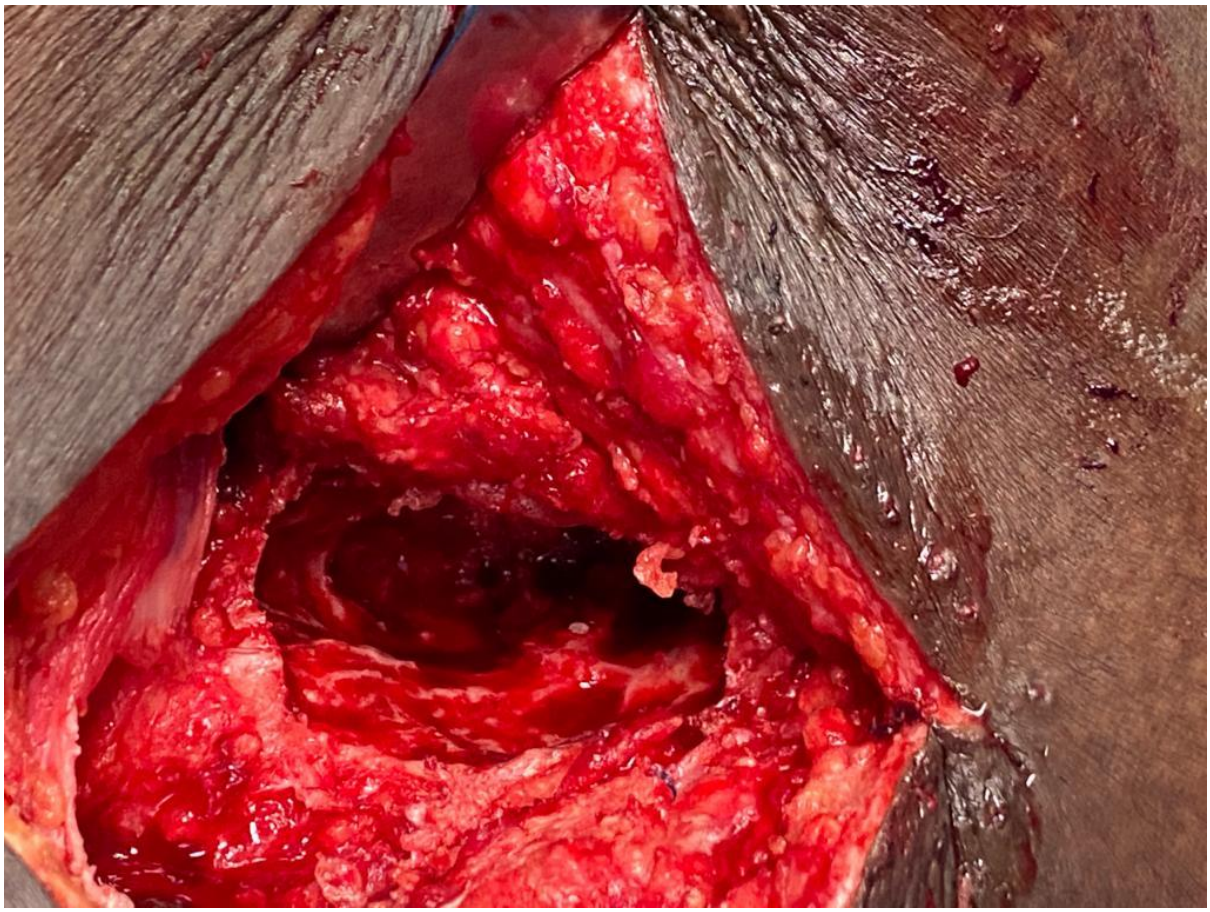

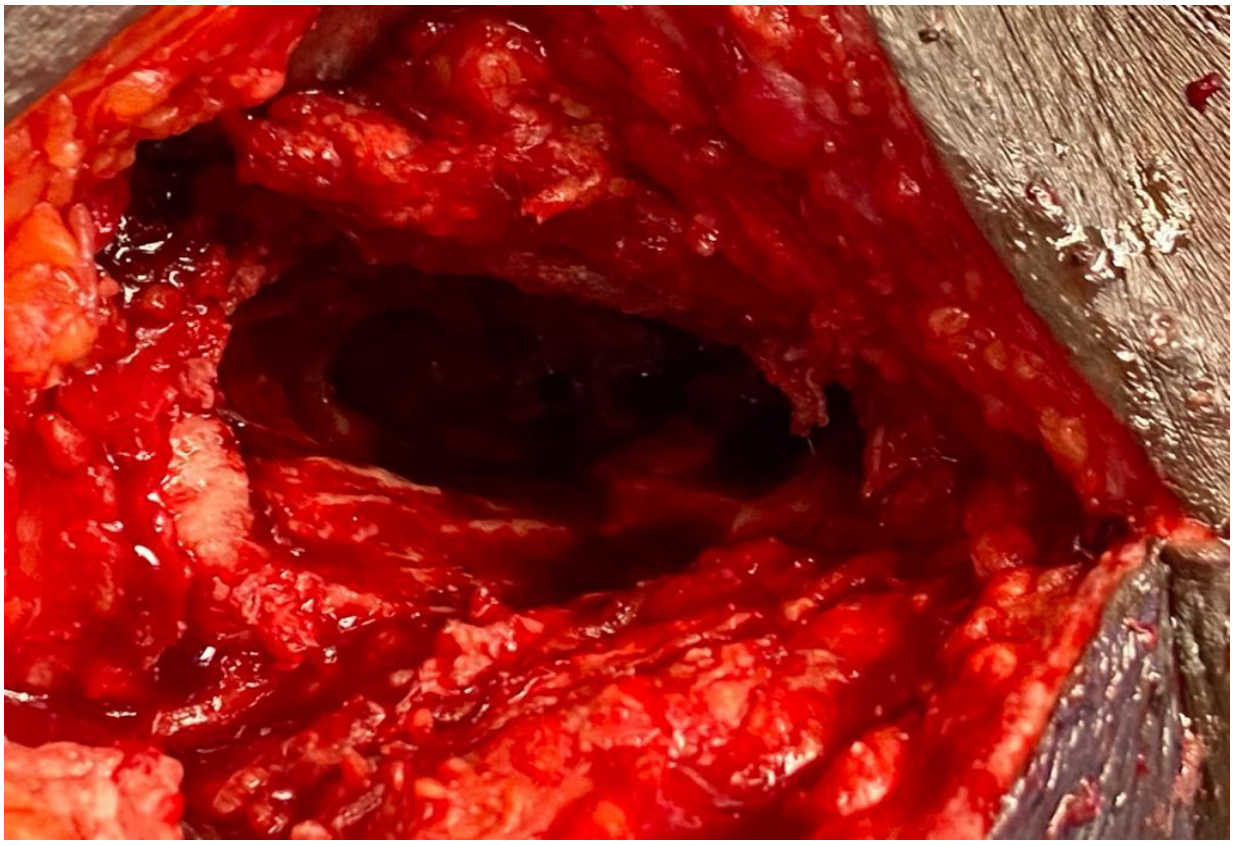

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Figure 3 b: X ray taken immediate post operative period

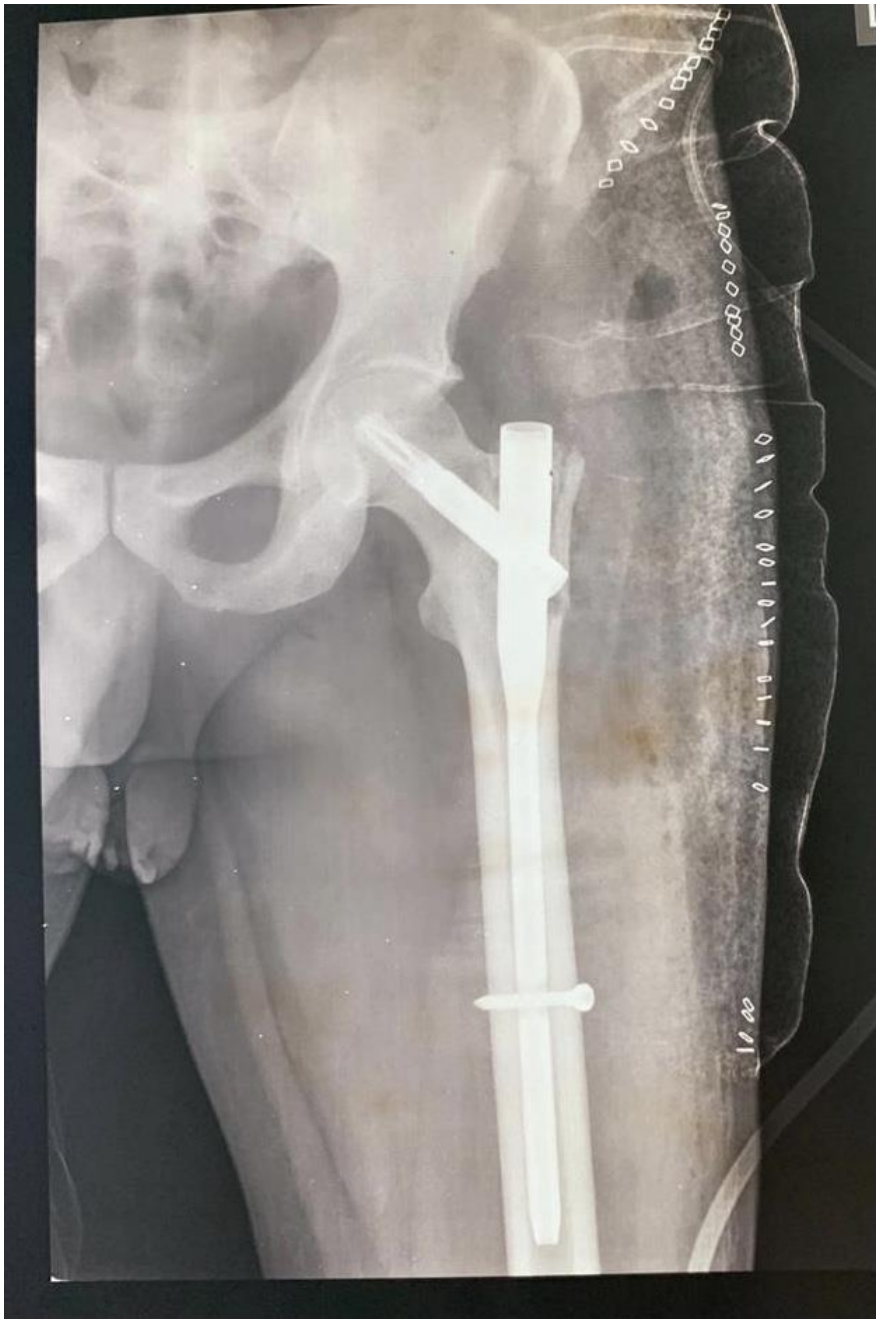

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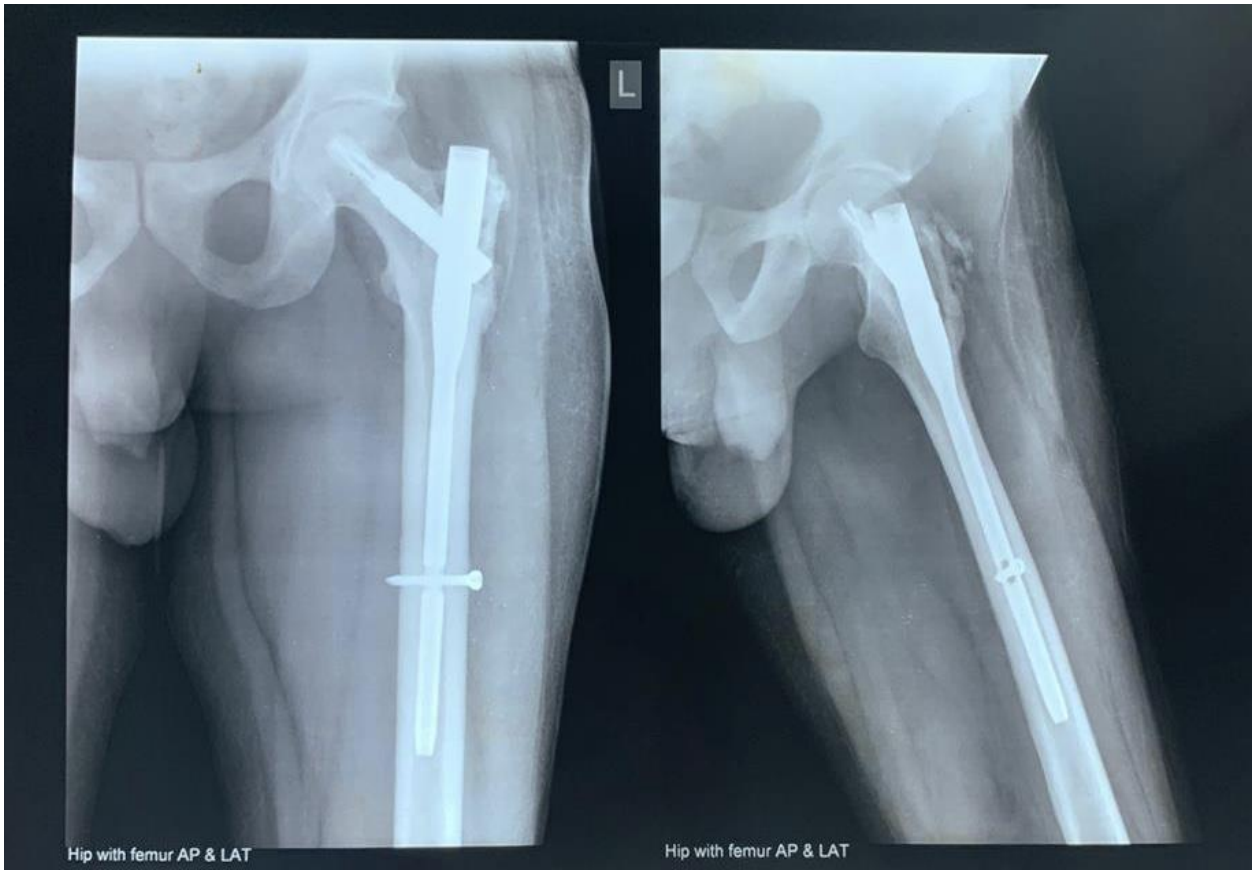
Figure 4: X ray taken after 6 months post operative period



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