

# Idiopathic Bilateral Avascular Necrosis of Femoral Head: Case Report

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**Abstract:** Hip pain is a common medical presentation and it has a wide variety of differential diagnosis. Here we reported 37 years old female patient presented with bilateral avascular necrosis of femoral head which is rare condition, followed by discussion of staging, diagnosis and management.

**Keywords:** avascular necrosis, femoral head, osteonecrosis, idiopathic.

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## I. INTRODUCTION

Hip pain is a common presentation and complain, it has a wide variety of differential diagnosis and suspicion including intra and extra articular pathologies.[1] There is a wide variety of risk factors but a certain etiology and pathogenesis remain unclear but the most reported risk factors alcohol (20%-40%), corticosteroid therapy (35%-40%), and idiopathic (20%-40%).[2]

## II. CASE REPORT

This is 37 years old medically free female patient complaining of progressive right lower limb pain since 5 years back. This condition started 5 years back by progressive pain started gradually at right lower limb mainly at thigh region, pressure like in nature was increase with movement and decrease by resting and analgesia, with no radiation of precipitating factors, associated with limping at the same side with no history of trauma. No night sweating, loss of weight, loss of appetite, fever and chills. She is medically free, did a cystectomy on breast 10 years back. Family history, her mother has rheumatoid other family history not remarkable. She takes pain killers, calcium and multi vitamins. She is single, not smoker lives at first floor.

### Physical Examination:

She is conscious and oriented, vitally stable, on wheelchair, general examination reveals normal.

### Upon local examination of lower limbs:

Lower limb dimensions there is 2cm shortening on the right side

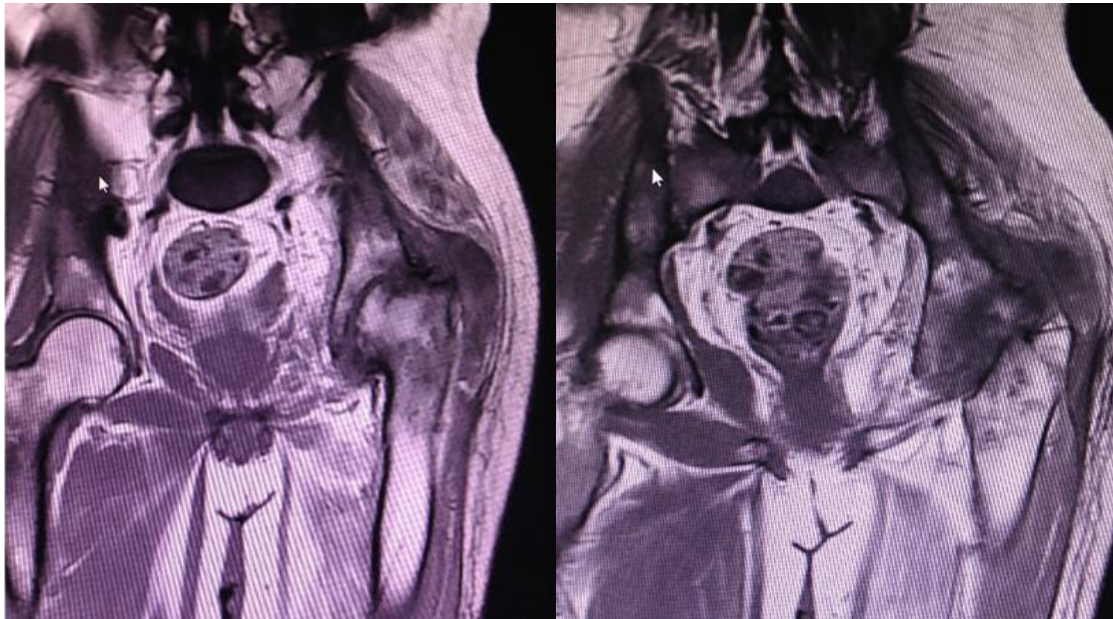
### Range of motion at right hip joint:

Flexion: 80° - Abduction: 25° - Adduction: pass the Midline - Internal rotation: 0° - External rotation: 10°

Laboratory investigation revealed ESR and CRP slightly increased other investigation within normal range.

Radiological report of MRI demonstrating findings consistent with osteonecrosis in femoral head bilaterally. (Fig 1,2)

Management: the right side managed by a total hip arthroplasty, while the asymptomatic treated conservatively and it is under observation.



**Fig.1, 2 MRI showing signs of bilateral osteonecrosis of femoral head**

### III. DISCUSSION

Hip pain is a common presentation and complain, it has a wide variety of differential diagnosis and suspicion including intra and extra articular pathologies such as osteoarthritis, stress fracture, synovitis, osteonecrosis and other different diagnoses.[1] Osteonecrosis in general it is decrease in blood flow leading to cellular death[3]. It is affecting relatively people aged 20 – 40 years old and causes loss of function, it is estimated that there is 20000-30000 new cases annually accounting for approximately 10% of the 250000 total hip arthroplasties that had been done annually in the United States.[3], [4] Osteonecrosis of femoral head is frequently seen but it can be on other bones such as humeral head, knees, hand and foot.[5] There is a wide variety of risk factors but a certain etiology and pathogenesis remain unclear but the most reported risk factors alcohol (20%-40%), corticosteroid therapy (35%-40%), and idiopathic (20%-40%).[2] There are some studies believe that disease process affected by some genetic, metabolic, and local factors affecting blood supply such as vascular damage which is lead to ischemia and infarction leading to bone death.[3] Early diagnosis of osteonecrosis is important which reflecting on treatment.[3] To diagnose a Idiopathic osteonecrosis of femoral head is a bit challenging as in this case, also could be a bilateral in 60% of the cases.[6] However to diagnose idiopathic osteonecrosis you should obtain a full history and physical examination to rule out other differential which mentioned above.[7] There are two most common classifications used in the diagnosis of osteonecrosis include the Ficat and Arlet and the Steinberg University of Pennsylvania systems, Ficat classification consists of four stages, based on standard radiographs. Stage I indicates normal imaging. Stage II indicates normal FH contour, but with evidence of bone-remodelling, such as cystic or osteosclerotic regions. Stage III indicates evidence of subchondral collapse, or flattening of the FH. Stage IV indicates a narrowing of the joint space with secondary degenerative changes in the acetabulum.[7] The first radiological image you should take is plain X-Ray in AP and frog-leg lateral views followed by MRI for both hip joints because even if the patient presented with unilateral you have to check the contralateral side, looking for cystic and sclerotic changes in the femoral head.[3] [7] Management of osteonecrosis could be operative and Non-operative. Non-operative treatments consist of non-weight bearing, administration of bisphosphonates, anticoagulants, hypolipidemics and other different modalities. Operative treatment consists of core decompression, nonvascularized bone grafting, vascularized bone grafting, and hip arthroplasty.[7]

### IV. CONCLUSION

We reported a case of 37 years old female patient presented with right lower limb pain diagnosed as bilateral osteonecrosis. Idiopathic bilateral avascular necrosis is a rare condition can be diagnosed by MRI and other modalities. It can be managed as operatively and non-operatively considerations.

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