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Case Report

Avascular necrosis of hip (AVN) in post renal transplant recipient: Case report & review of literature

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ABSTRACT

Avascular necrosis of the femoral head is one of the most common skeletal complications among renal allograft recipients complaining of hip pain. While bilateral avascular necrosis is more frequent than the unilateral type, we report a case of unilateral avascular necrosis of the hip occurring post renal transplant recipient. Avascular necrosis was likely the result of steroid therapy. A well-tailored steroid therapy that prevents unjustified high doses and 'pulsed doses' while maintaining the optimum maintenance level of steroids is necessary.

1. Introduction

Avascular necrosis (AVN) of the femoral head is one of the most common skeletal complications among renal allograft recipients complaining of hip pain during follow up period. AVN in renal transplant recipients can affect the femoral condyles, talus, tibial plateau, and humeral head. Its incidence ranges between 3 and 41%.[1] Bilateral hip involvement is more common and seen in up to 85% of affected patients.[2] We are

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reporting a case of a 32-year-old male who presented with unilateral hip pain with slight difficulty in walking six months after renal transplantation.

2. Case history

A 32-year-old male – follow up case of chronic kidney disease with poorly controlled hypertension with accelerated hypertension was admitted in our institute Nov 2012. Patient also had history of right side pleural effusion and pericardial effusion diagnosed three months ago and was on anti-tubercular drug therapy (ATT) since then. Based on clinical examination and laboratory findings, a combination of antihypertensive drugs was started along with optimum salt and fluid restriction for control of hypertension. Chest radiograph suggested mild to moderate right pleural effusion. Ultrasound guided intercostal drainage tube placement was performed for the pleural effusion with simultaneous instillation of streptokinase in the pleural cavity for management of pleural septations.

Hypertension was well controlled on combination drugs and patient was discharged in satisfactory conditions with counselling for renal transplantation for chronic kidney disease.

Live related renal transplantation was performed on April 2013 in our institute. Immediate post-operative period was uneventful. His serum creatinine was 0.9 mg/dl on day 5 and decreased to 0.6 mg/dl on day 16. He was put on immunosuppressive drug tacrolimus (4 mg OD) and prednisolone (20 mg OD). Tacrolimus level was optimized. His double J (DJ) stent was removed on the 14th post-operative day and patient was discharged soon after in stable condition with a serum creatinine of 0.9 mg/dl.

During a follow up visit in October 2013, patient complained of pain in left hip joint while walking. Clinical examination revealed painful abduction and flexion of left hip joint and tenderness noted on palpation. Biochemical parameters – serum parathormone, serum calcium and phosphate were within normal range. Plain radiograph of the both hip joints was normal. Magnetic resonance imaging (MRI) of both hip joints was performed to rule out the cause of hip pain. MRI (Fig. 1) revealed serpiginous irregular area of hypo intense signal on T1 weighted images and hyper intense on T2 weighted images in left femoral head. Irregular area was surrounding by area of fatty marrow intensity involving left femoral head and intertrochanteric region with subarticular involvement suggestive of avascular necrosis.

Prednisolone dose was decreased from 20 mg OD to 7.5 mg OD and patient was improved clinically. His pain in left hip was reduced in intensity and frequency and movement is also improved. Patient was on regular follow up in transplant clinic.

3. Discussion & review of literature

Musculoskeletal and bone pain is a common problem encountered in recipients of renal transplantation and occurs

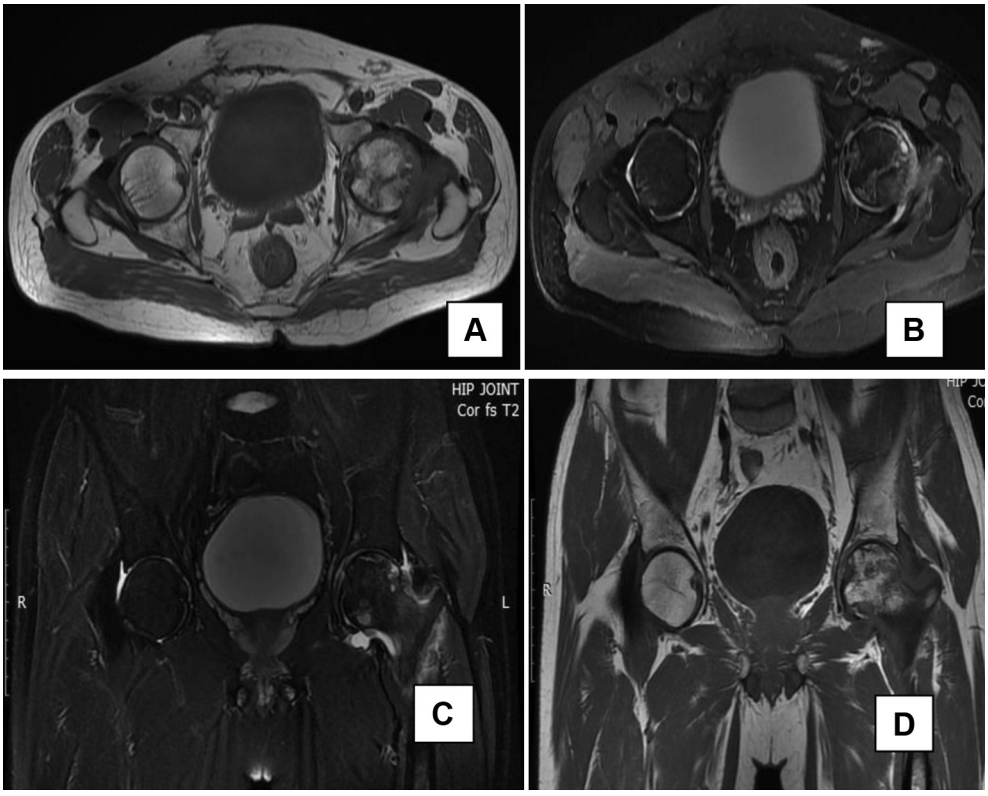

Fig. 1 – A-axial T1 (A) image showing hypo intense irregular area in left femoral head B-axial T2 fat sat (B) image showing hypo intense area on T1 appears hyper intense on T2 fat sat image called as geographic lesion and it is a characteristic of AVN. Coronal T1 fat sat (C) and coronal T1 (D) images show subarticular involvement of left femoral head with irregular serpiginous area.