ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 17, Issue, 07, pp.33737-33740, July, 2025
DOI: https://doi.org/10.24941/ijcr.49000.07.2025

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

RESEARCH ARTICLE

AVASCULAR NECROSIS OF LATERAL FEMORAL CONDYLE MANAGED WITH FEMORAL HEAD ALLOGRAFT - A CASE REPORT

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ARTICLE INFO

Article History:
Received 09th April, 2025
Received in revised form
21st May, 2025
Accepted 19th June, 2025
Published online 30th July, 2025

Keywords:

Avascular Necrosis, Femoral Condyle, Allograft, Reconstruction, Femoral Head.

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ABSTRACT

Avasculor Necrosis of the Lateral Femoral Condyle is a rare entity, with not much literature available on it currently. In young patients with widespread involvement of the condyle, treatment options and algorithms are far and few. Our patient is a 34 year old male with complains of left knee pain since six months with no history of trauma and a history of prolonged usage of topical steroids for a dermatological condition. MRI was suggestive of avascular necrosis of the lateral femoral condyle. The patient was operated upon, the necrosed bone removed and the joint reconstructed with an allograft fashioned from a femoral head allograft. Our case reports aims to conclude that reconstruction of the femoral condyle in cases of AVN with an allograft is a viable option for patients and must be researched further.

Citation: Dr. Ekaansh Karir, Dr. Dinesh Meena, Dr. Meena, R.P., Dr. Ankur Agarwal and Dr. Surendra Jakhar.2025. *"*Avascular necrosis of lateral femoral condyle managed with femoral head allograft - A case report*". International Journal of Current Research, 17, (07), 33737-33740.*

INTRODUCTION

Avascular Necrosis of the Lateral Femoral Condyle is a rare and destructive entity, with not much literature available on it currently. [1] In young patients with widespread involvement of the condyle, treatment options and algorithms are far and few. The disease follows a four-stage course, which consists of no radiographic findings (Stage I), to slight flattening of the medial condyle (Stage II), followed by the appearance of a radiolucent lesion (Stage III), and finally, articular cartilage collapse (Stage IV)[2].

There is currently no research which explains the possible treatments and their results in patients with lateral femoral condyle avascular necrosis. This leads to such patients not getting proper treatments and hence, good results, ultimately leading to increased morbidity because of increased duration and intensity of pain, decrease in the quality of life and ultimately, increased number of knee arthroplasties in such patients.

PATIENT INFORMATION

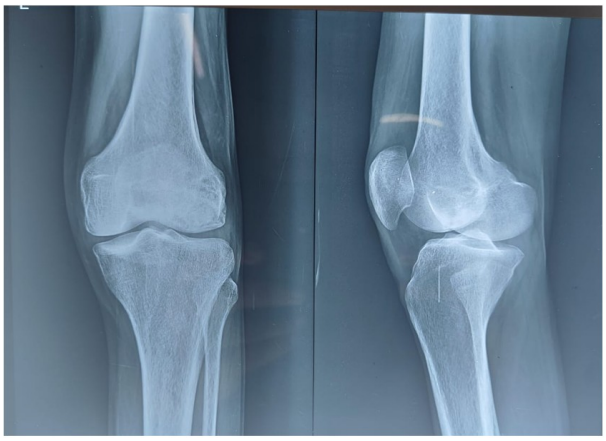
Our patient is a thirty four year old male, married, farmer by occupation who presented to our out patient department with complains of pain over the lateral aspect of his knee while walking since the past six months. The patient gives no history of trauma or injury and no increase in workload or exercise recently. He feels the pain increases during squatting and working in the fields. The patient was taking topical steroids for an unknown dermatological condition a couple of years ago which he had used for about eighteen months. The patient has no other specific positive history, family history, past or personal history of significance.

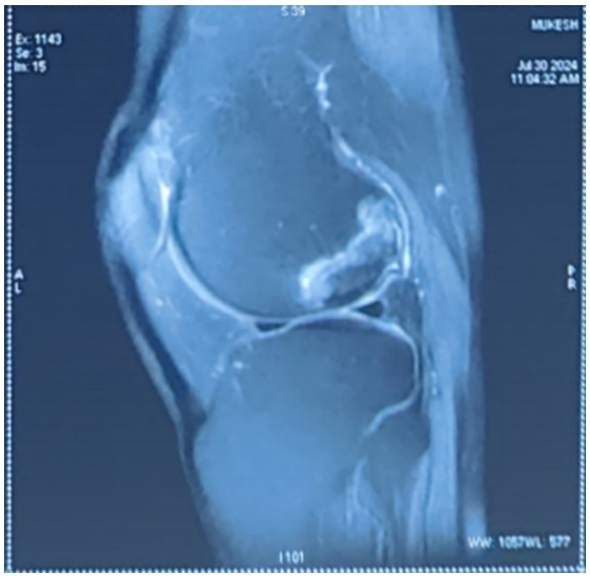
CLINICAL FINDINGS

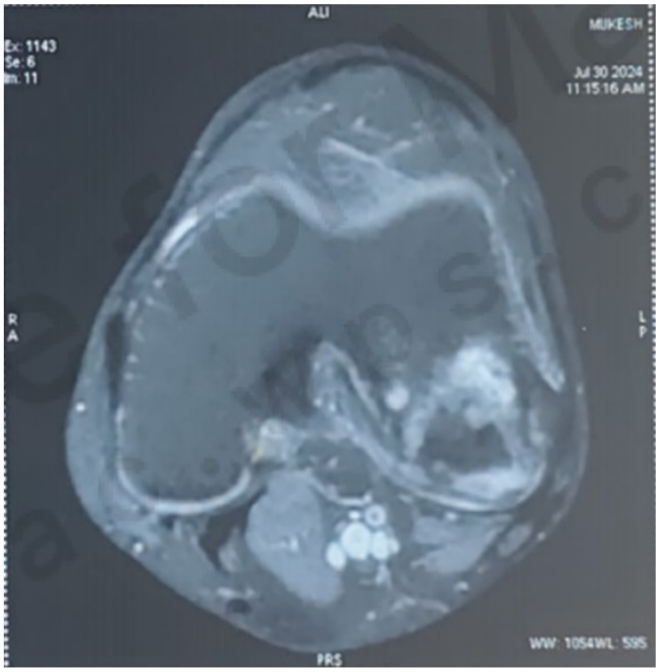
On examination of the patient, on inspection, bilateral knees were comparable, there was mild tenderness on palpation along the lateral joint line.

All ligaments were tested and were unremarkable, patient had an antalgic gait and active and passive ROM were both decreased due to pain.

DIAGNOSTIC ASSESSMENT







Xrays done were initially unremarkable. CT Scan was done which showed an island of bone separated from the condyle at the posterolateral aspect of the lateral femoral condyle. MRI was done which was suggestive of a serpiginious shape of avascular necrosis involving the posterolateral aspect of the lateral femoral condyle.

THERAPEUTICINTERVENTION

The patient was initially given a course of NSAIDs and kept non weight bearing for three weeks, but the patient had no relief in symptoms or signs. The patient was then counselled, informed consent was taken and the patient was taken up for surgery.

Under spinal anesthesia, the patient was painted and draped, and a lateral approach to the knee was taken. The iliotibial band was incised and opened, a plane was developed between the vastus lateralis and the biceps femoris, the patella was retracted medially for better visualisation. The knee was flexed and the femoral condyle was visualised. The necrosed cartilage was incised and the necrosed bone was curetted out of the condyle. A femoral head freeze-dried allograft was taken from the bone bank and thawed. The femoral head was fashioned into the shape of the femoral condyle using an osteotome and was press-fitted into the femoral condyle cavity created in the patient. A single hole was drilled through the allograft and the graft was compressed using a headless Herbert screw. Perio-operative ROM was checked and was foun d to be satisfactory. The wound was closed layer by layer over a drain.

FOLLOW UP AND OUTCOMES

The patient was kept under observation post-operatively. Serial inflammatory markers were done to detect any rejection. Dressing and drain removal was done on POD2 and body weight CKC exercises were started with the patient. The patient was discharged on POD 5. Sutures were removed on POD 14. Patient had a complete resolution of pain that was present pre-operatively. Patient was followed up every two weeks for the first three months and then every month. Patient was kept non weight bearing for two months with active physiotherapy done in consultation with the physiotherapist. By six months post-op, patient had regained a ROM of 5 degrees of extension and 130 degrees of flexion and was able to walk without support.

DISCUSSION

Our case report aims to establish a novel approach for treating a rare entity i.e. allograft reconstruction of the femoral condyle in a case of avascular necrosis of the lateral femoral condyle.Allograft Reconstruction lets the patient walk with better proprioception and more natural knee kinematic as compared to a metal knee arthroplasty done for such patients. Although more research is needed for this novel technique, this could prove to be a game changer in future for such patients.

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