



## A CASE OF OSTEOCHONDRAL LESION OVER TALAR DOME TREATED WITH AUTOLOGOUS CHONDROCYTE IMPLANTATION

### Orthopaedics

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### ABSTRACT

Osteochondral lesion of the talus (OLT) is a common condition associated with ankle twist injuries or sprains often associated with ankle pain and dysfunction. Patients usually present with continuous ankle pain after the initial injury has resolved. The development of osteochondral lesion is usually insidious following a chronic ligament instability or microtrauma to the ankle. We present a case of 60 years old gentleman who presented with history of twist injury to the left ankle following which patient had complaints of pain and swelling over left ankle with difficulty in performing activities of daily living like prolonged walking since 3 months. Radiological evaluation with X-Rays and MRI showed osteochondral defect and osteochondral cyst at the talar dome measuring 9x6x10mm. Treatment modalities of osteochondral lesions of talus include conservative management and surgical management including retrograde drilling, marrow stimulation, osteochondral grafts and surface treatments like particulated allograft cartilage and autologous chondrocyte implantation. This patient was operated for arthroscopic biopsy of osteochondral part of non weight bearing zone of distal femur which was sent for chondrocyte cultivation following which the patient was operated for talar dome curettage with autologous chondrocyte implantation after medial malleolus osteotomy. Patient was followed up for 6 months and showed significant improvement in pain and range of motion at left ankle and patient was able to do activities of daily living like prolonged walking comfortably. Radiological evaluation with MRI done after 6 months showed complete regression of talar dome osteochondral defect.

### KEYWORDS

Autologous Chondrocyte Implantation, Talar dome, Osteochondral Defect, Medial malleolus osteotomy

### INTRODUCTION

Osteochondral lesion of the talus (OLT) is a common condition associated with ankle twist injuries or sprains often associated with ankle pain and dysfunction. Patients usually present with continuous ankle pain after the initial injury has resolved. The development of osteochondral lesion is usually insidious following a chronic ligament instability or microtrauma to the ankle. Numerous cases have been documented in the literature with a preponderance for the anterolateral and posteromedial portions of the talar dome. Treatment modalities of osteochondral lesions of talus include conservative management and surgical management including retrograde drilling, marrow stimulation, osteochondral grafts and surface treatments like particulated allograft cartilage and autologous chondrocyte implantation

### Clinical Presentation

60 years old gentleman presented with history of twist injury to the left ankle following which patient had complaints of pain and swelling over left ankle with pain on bearing weight over left lower limb since 3 months. Pain was insidious in onset and gradually progressive in nature and increased on exertion and impact activities. Patient has history of difficulty in performing activities of daily living like prolonged walking since 3 months. No history of fever or any constitutional symptoms.

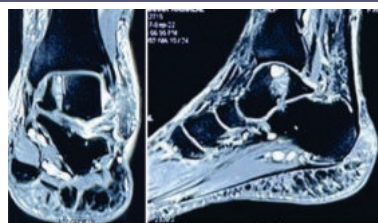
### Examination

Swelling present diffusely  
Tenderness present over talar region  
ROM at ankle terminally painful  
No DNV

### Radiological Assessment Preoperatively



**Fig.1** Preoperative X-Rays of Left ankle  
X-Rays osteochondral defect at left talar dome.



**Fig.2** Preoperative MRI of Left ankle.

MRI showed osteochondral cyst at the talar dome measuring 9x6x10mm.

### Operative Procedure Performed

The procedure was done stage-wise

1st stage- Arthroscopy Biopsy of Osteochondral part of Non-weight bearing zone of Left Distal femur and was sent for Chondrocyte Cultivation (OSSGROW)

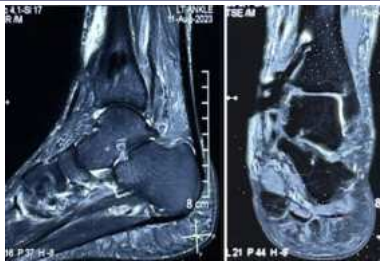
2<sup>nd</sup> stage- Talar dome curettage with autologous chondrocyte implantation after medial malleolus osteotomy was done 6 weeks after the arthroscopic biopsy.



**Fig.3** Intraoperative clinical images

### Follow Up

Patient was followed up for 6 months and showed significant improvement in pain and range of motion at left ankle. Patient was able to do activities of daily living like prolonged walking comfortably at 6 months follow up. Radiological evaluation with MRI done after 6 months showed complete regression of Talar dome Osteochondral defect.



**Fig.4** 6 months follow up MRI showing complete regression of Talar dome Osteochondral defect.

## DISCUSSION

Osteochondral defect of talus usually presents with insidious onset of pain over left ankle usually following a chronic ligament instability or microtrauma to the ankle. Treatment modalities of osteochondral lesions of talus include conservative management and surgical management including retrograde drilling, marrow stimulation, osteochondral grafts and surface treatments like particulated allograft cartilage and autologous chondrocyte implantation. This patient was operated for arthroscopic biopsy of osteochondral part of non weight bearing zone of distal femur which was sent for chondrocyte cultivation following which the patient was operated for talar dome curettage with autologous chondrocyte implantation after medial malleolus osteotomy. Though this is an expensive procedure, patient showed significant improvement in pain and range of motion at left ankle and patient was able to do activities of daily living like prolonged walking comfortably. Radiological evaluation with MRI done after 6 months showed complete regression of Talar dome osteochondral defect. Autologous chondrocyte implantation for osteochondral defect has shown to provide great results in significantly reducing pain and functional disability of the patient and showing satisfactory regression of the defect radiologically and incorporation of the chondrocyte implantation satisfactorily.

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