

Management Of Chondral Injury By Microfracture: A Case Report

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INTRODUCTION:

Chondral injury is common among athletes presenting to orthopaedic surgeons with knee pain and they are vulnerable to both irreversible traumatic injury and early osteoarthritis. Management remains a challenge for surgeons and can be debilitating if not treated properly.

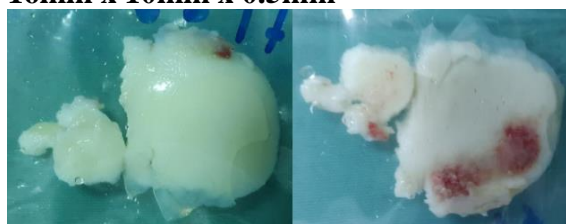
CASE REPORT:

A 16-year-old boy complained of left knee pain after he landed on an internally rotated knee while jumping in a game. There were no knee instability symptoms. Examination revealed swollen, tender left knee with joint effusion. Active flexion of the left knee was up to 30° and special tests were insignificant. Radiograph of the knee revealed radiopaque bone fragment inferior to the left lateral femoral condyle (Figure 1). A left knee diagnostic arthroscopy showed grade-IV chondral injury (Figure 2). We proceeded with arthroscopic debridement and microfracture of left lateral femoral condyle. Patient recovered uneventfully with full range of movement of left knee six months post-operation. He was followed up six monthly.

Figure 1: Bone fragment inferior to the left lateral femoral condyle



Figure 2: Cartilage fragments measuring 16mm x 10mm x 0.5mm



DISCUSSIONS:

Chondral cartilage is devoid of vascular, nervous and lymphatic tissue, hence, chondrocytes are unable to take part in the process of healing and repair. Many literatures cited good outcome with operative treatment for chondral injury. Microfracture is a cartilage repair technique by marrow stimulation in which tiny fractures are made 2-4mm apart. Results have been favourable where 67-80% of patients showing recovery signs by returning to preinjury sport levels, while another systemic review cited that a mean return to sport rate of 66% in eight months. 75% of grade-IV chondral injury patients treated with microfracture showed improved symptoms and functions¹. Other surgical techniques like osteochondral autograft transfer/transplant and autologous chondrocyte implantation are practiced widely, however, these techniques are often costly and invasive. Comparison between these techniques with microfracture showed no differences in functional scores and postoperative MRI grades. However, Camp reported that there were clinical improvements in both groups but patients undergone osteochondral autograft transplant showed better clinical outcome².

CONCLUSION:

Microfracture is a relatively simple and inexpensive technique in managing chondral injury with good outcome. Regular surveillance is needed and it is best applied especially in our local setting.

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- Camp CL, Stuart MJ, Krych AJ. Current concepts of articular cartilage restoration techniques in the knee. *Sports Health* 2014;6(3):265-73