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Case Report

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Mosaicplasty for the Treatment of Cartilage Defects in the Knee Joint

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1. Introduction

Chondral lesions are frequent in knee joint and their treatment is very difficult. Therefore, drilling and microfracturing leads to formation of fibrocartilage instead of normal hyaline cartilage. However, osteochondral allografts and osteochondral autografts (Mosaicplasty) results in cartilage regeneration and continuity.

2. Case Report

We report the case of a 36–year–old soldier man, without any history of trauma, symptoms were chronic pain in his right knee, moderate swelling and lameness. Knee X-rays revealed femoral chondral lesions (Figure 1) and MRI showed grade IV cartilage defect on the medial femoral condyle measuring 15 mm (Figure 2).

Mosaicplasty was indicated based on MRI grading and defect dimension. Osteochondral grafts were harvested from a no weight-bearing area in the same knee joint and inserted in the lesion. This technique is minimally invasive applied arthroscopically or a mini-incision arthrotomy (Figure 3).

Figure 1: Knee radiograph showing chondral defect on medial femoral condyle.

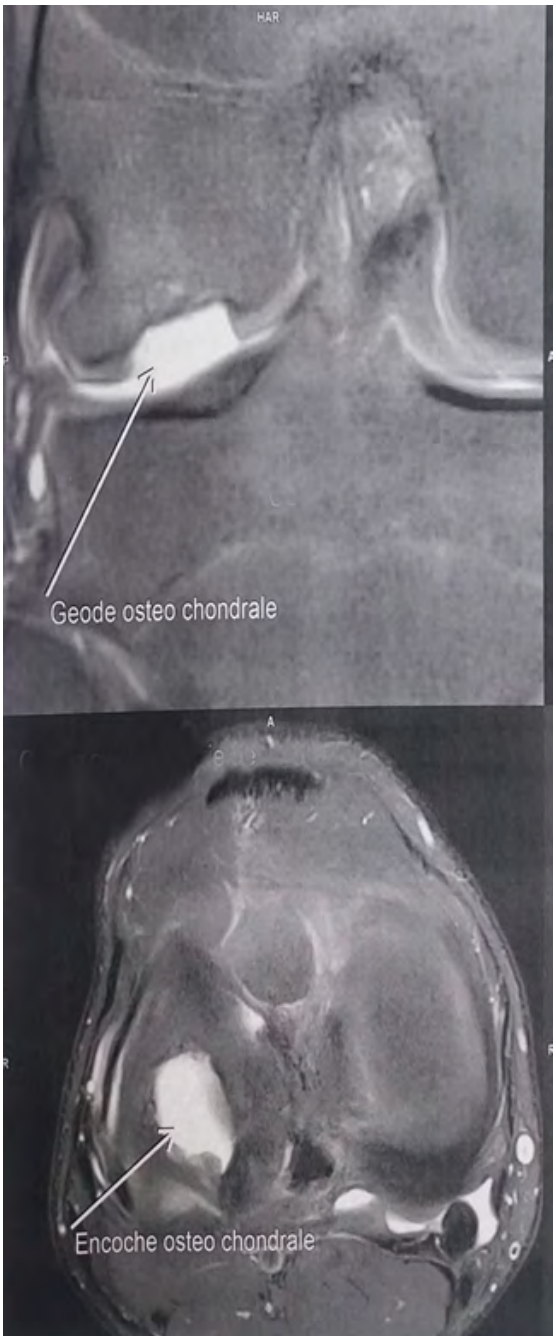

Figure 2: MRI images showing grade IV cartilage defect on the medial femoral condyle.

Figure 3: Operative view of Mosaicplasty procedure.

3. Discussion

Chondral or osteochondral defect are common condition, around 61% to 66% of patients who undergo knee arthroscopy had cartilage lesions. Etiology can be traumatic, idiopathic, or associated with repetitive microtrauma [1]. Symptomatic patients have frequently a nonspecific knee pain because of well innervated subchondral bone, the second most frequent sign is swelling. Radiographs are essential to explore knee chondral lesions and must contain multiple incidences including standing AP, lateral, Merchant, and 45° flexion PA views. Besides, MRI is gold standard to evaluate articular cartilage and subchondral lesions and precise sizes to help for surgical management and prognostic purposes [2]. Osteochondral mosaicplasty is indicated for patients who have lesions larger than 1 cm2 while, marrow stimulation based on drilling or microfracture can be used to treat patients who have small chondral defects less than 1 cm2. Therefore, osteochondral allograft is indicated for patients who have a large defect more than2 cm^2[3].

4. Conclusion

Mosaicplasty is a low-cost procedure having no risk of disease transmission or immunological reaction to the graft.

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6. Conflict of Interest

The authors declare that they have no conflict of interest.

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