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CASE REPORT

Medial femoral condyle fracture as a complication of the arthroscopic microfracture technique

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A – Research concept and design, B – Collection and/or assembly of data, C – Data analysis and interpretation, D – Writing the article, E – Critical revision of the article, F – Final approval of the article

Abstract

We present a case of a rare complication of microfracture technique used during arthroscopy repair of the knee joint.
Keywords: knee joint, cartilage repair, microfracture

Introduction

Knee microfracture is a procedure used to promote cartilage repair in the knee joint. Among the main complications of the procedure performed during arthroscopy are cartilage breakdown over time and degeneration of the cartilage, resulting in increased stiffness of the joint [1]. The results of the microfracture technique are very encouraging with a complete filling of the defect after twelve months confirmed in 60% of patients [2]. The failure rate of this technique is consistently below 20% [3]. A rare complication of the microfracture is a fracture of the medial femoral condyle during arthroscopy.

Case presentation

During arthroscopy of a 29-year-old patient, apart from damage to the meniscus and anterior cruciate ligament, a 3 × 4 mm articular cartilage defect was found in the medial condyle of the thigh. This damage qualified for a microfracture procedure due to a small amount of deep damage to the articular cartilage. The remaining part of the cartilage showed grade II/III chondromalacia: free cartilage fragments were removed and the joint was rinsed. After preparing the defect and levelling the articular cartilage at the edges of the defect with appropriate chisels at a 90-degree

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angle to the subchondral layer, a microfracture was made (Fig. 1). Most likely, due to the use of too much force, the cartilage and bone tissue ruptured, as seen in the arthroscopy photo (Fig. 2). The treatment was evacuation of the unstable cartilage elements and flushing of the joint (Fig. 1). The patient was treated conservatively by resting the limb that had been operated on for twelve weeks. Rehabilitation began on the third day following the procedure. During the first three weeks, exercises were performed in the orthosis without movements in the operated joint: isometric exercises and physical therapy. After three weeks, knee joint exercises on a CPM splint were started, achieving the correct range of motion at the end of the sixth week. After six weeks, active movements were started. After twelve weeks, the patient began to walk with full weight on the limb concerned with a full range of motion. The patient did not report any problems during rehabilitation. No joint swelling was noted during follow-up visits. On follow-up arthroscopy the filling of the fracture and of the cartilage defect was complete (Fig. 3). The functional result was very good with the patient undergoing further reconstruction of the crucial ligaments of the knee and reaching full functional recovery.

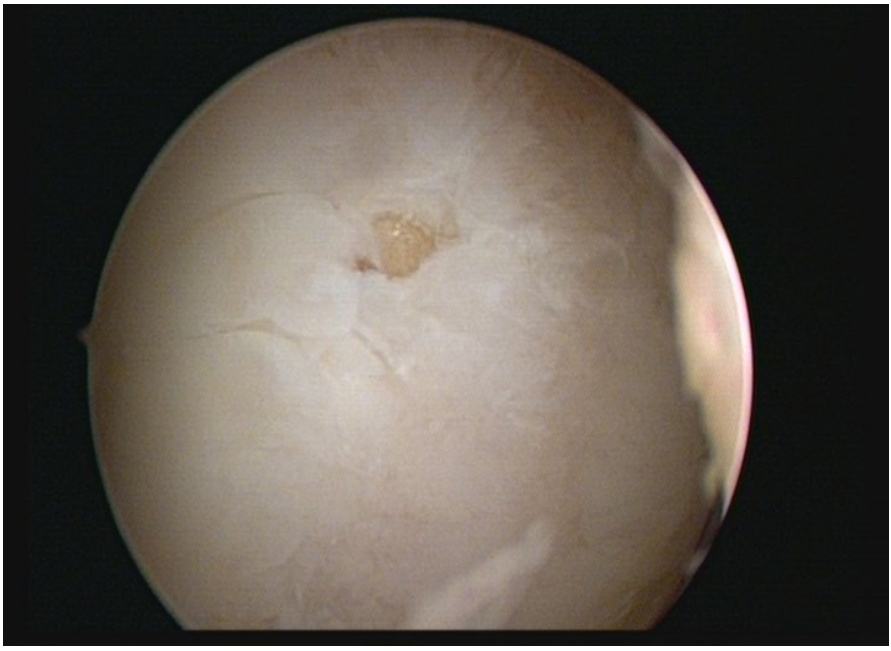

Figure 1. Evacuation of the unstable cartilage elements. Photo by Jarosław Kolendo.

Figure 2. Ruptered cartilage and bone tissue. Photo by Jarosław Kolendo.

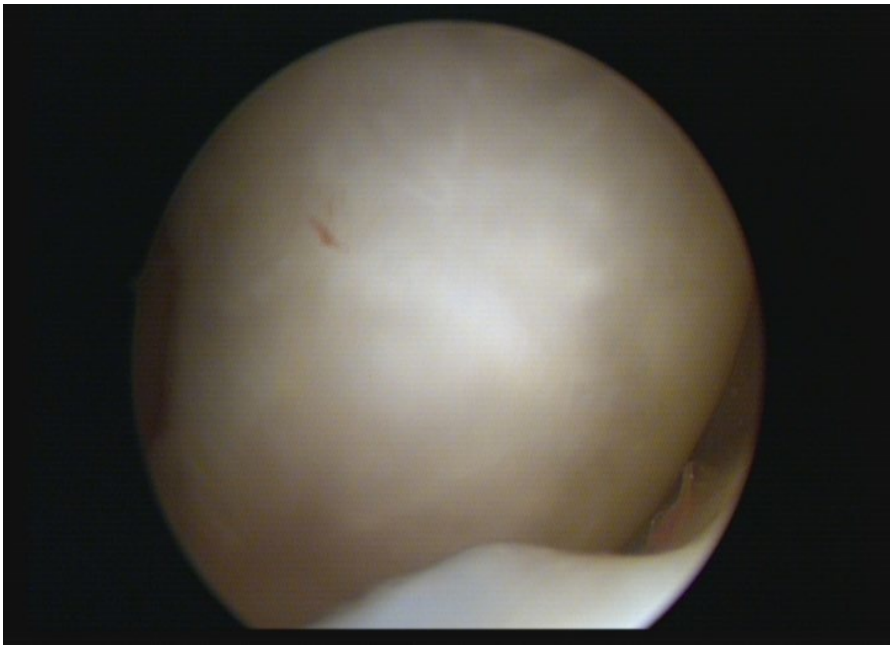

Figure 3. Complete filling of the fracture and of the cartilage defect on follow-up arthroscopy. Photo by Jarosław Kolendo.

Conclusion

A nondisplaced fracture of the condyle is a rare complication of the microfracture technique, but when it occurs it can be successfully managed with conservative treatment.

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