PATHOLOGY
Unstable in situ osteochondritis dissecans of the medial femoral condyle

TREATMENT
Arthroscopic fixation of osteochondral fragment followed by hardware removal

SUBMITTED BY
Brian J. Cole, MD, MBA, Rush Cartilage Restoration Center, Rush University Medical Center, Chicago, Illinois, USA

CHIEF COMPLAINT AND HISTORY OF PRESENT ILLNESS

The patient is a 14-year-old girl with a 1-year history of weight-bearing pain and discomfort on the medial aspect of her right knee with activity-related swelling and mechanical symptoms. When initially diagnosed as having osteochondritis dissecans, she was treated with 8 weeks of nonweight bearing with crutches and asked to refrain from sports or impact activities thereafter. Despite these efforts, she remained symptomatic and was referred for definitive treatment.

PHYSICAL EXAMINATION

Height, 5 ft, 3 in.; weight, 115 lb. She ambulates with a slightly antalgic gait and stands in symmetric physiologic valgus. Her right knee has a moderate-sized effusion. Her range of motion is 0 to 130 degrees. She is tender to palpation over the medial femoral condyle. Meniscal findings are absent. Her patellofemoral joint demonstrates normal tracking with no evidence of crepitus or apprehension. Her ligament examination is within normal limits.

RADIOGRAPHIC EVALUATION

Radiographs demonstrate an unstable lesion of osteochondritis dissecans of the medial femoral condyle of her right knee (Figure C3.1).

SURGICAL INTERVENTION

Because of persistent symptoms, she was indicated for arthroscopic reduction and internal fixation using a headless titanium screw. At arthroscopy, a lesion approximately 20 mm by 20 mm was found to be in situ, but unstable, with two palpably loose fragments. The fragments were elevated from the bed while leaving it hinged on an intact portion of the articular cartilage, and the base was debrided and microfractured. The fragments were repaired with two titanium headless screws (Acutrak, Mansfield, MA, USA) (Figure C3.2). Postoperatively, the patient was made nonweight bearing for approximately 8 weeks and utilized a continuous passive motion machine. At 8 weeks, she returned for hardware removal whereby the defect was believed to be stable and fully healed (Figures C3.3, C3.4). She was permitted to return to all activities at 4 months following her hardware removal.
FIGURE C3.1. Anteroposterior (A) and lateral (B) radiographs demonstrate in situ lesion of osteochondritis dissecans of the medial femoral condyle in the right knee of a skeletally immature adolescent. Note the fragmentation best seen on the lateral radiograph.

FIGURE C3.2. (A) An unstable lesion of osteochondritis dissecans seen arthroscopically along the medial femoral condyle. (B) The lesion bed has been prepared with debridement and microfracture followed by arthroscopic fixation using headless titanium screws for compression.