Conservative Management of Medial Femoral Condyle Osteochondritis Dissecans in the Pediatric Knee

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Introduction. Osteochondritis Dissecans (OCD) is osteonecrosis of the subchondral bone frequently found in active pediatric knees. While surgical intervention is often successful, nonoperative options are still used. It is unclear which non-operative treatment of medial femoral condyle (MFC) OCD lesions is most effective.

Methods. Patients with MFC OCDs, treated conservatively with activity modification, cylinder casting, or knee ranger brace immobilization at a single academic pediatric center, were retrospectively analyzed. Treatment effectiveness was evaluated by radiographic healing, symptom resolution, and return to activities, with failure defined as progression to surgery.

Results. 148 patients with 168 MFC OCDs lesions of the knee were identified. Median age of presentation was 11 years old, 65.5% male, average BMI was 18.8 with 77.2% of patients participating in sports. A total of 62(36.9%) lesions were treated in a knee ranger brace with 54 (32.1%) lesions casted in a cylinder cast and 52 (31.0%) received activity modification alone. 19.3% of knee ranger and 20.4% of casted MFC OCD lesions progressed to surgery while 15.4% of activity modified MFC OCD lesions progressed to surgery. At six months, 75.8% of the knee ranger brace group, 71.4% of the cylinder cast group, and 71.2% of the activity modification group had complete resolution of symptoms and were able to return to activity.

Conclusions. MFC OCD lesions of the knee can be appropriately treated with a knee ranger brace, cast, or activity modification with no significant difference between the groups. This study provides practical evidence regarding conservative management of MFC OCD lesions.