Nonoperative Management of Osteochondritis Dissecans of the Knee: Progression to Osteoarthritis and Arthroplasty at Mean 13-Year Follow-Up

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Abstract

**Background:** Osteochondritis dissecans (OCD) is a disorder of subchondral bone that commonly affects the knee.

**Objective:** The purpose of this study is to (1) evaluate the rate of arthritis and knee arthroplasty in a population-based cohort of patients with OCD lesions treated nonoperatively and (2) evaluate factors that may predispose patients to knee osteoarthritis and arthroplasty.

**Methods:** 86 patients (mean age 21.4 years) with OCD lesions treated nonoperatively were identified between 1976 and 2014. Information related to the diagnosis, laterality of lesion, details of treatment, and progression to arthritis was obtained from the medical record. Factors predictive of arthritis and arthroplasty (age, gender, body mass index, and lesion location) were examined.

**Results:** At a mean follow-up of 12.6 (±9.8) years from diagnosis, 13 patients (15%) were diagnosed with arthritis corresponding to a cumulative incidence of 5.0% at 5 years, 10.0% at 10 years, 20.0% at 25 years, and 30.0% at 35 years. The cumulative incidence of arthroplasty was 1.0% at 5 years, 3.0% at 10 years, 8.0% at 25 years, and 8.0% at 35 years. Factors predictive of arthritis and arthroplasty were BMI at diagnosis greater than 25 kg/m² (HR 15.4, 95% CI: 1.9, 124.5), patellar OCD lesions (HR 15.0, 95% CI: 1.3, 345.3), and diagnosis as an adult (HR 21.7, 95% CI: 2.7, 176.3).

**Conclusions:** Arthritis following nonoperative treatment of OCD lesions is a challenging problem with an estimated 30% cumulative incidence at 35 years after diagnosis. In contrast, the long-term rate of arthroplasty is low. BMI at diagnosis greater than 25 kg/m² and patellar OCD lesions are predisposing factors for arthritis. Older age at diagnosis was associated with a greater risk of arthritis.

References