Association of frequent knee bending activity with focal knee lesions detected with 3T magnetic resonance imaging: data from the osteoarthritis initiative.

Abstract:
To evaluate the association of baseline frequent knee bending activities with the prevalence and progression of cartilage and meniscal abnormalities over 3 years and to assess the effect of frequent knee bending on the different knee compartments with 3T magnetic resonance imaging (MRI). We studied 115 subjects without radiographic knee osteoarthritis (OA) but with risk factors for OA from the Osteoarthritis Initiative database. The inclusion criteria at baseline were age 45-55 years, body mass index of 19-27 kg/m^2, Western Ontario and McMaster Universities Osteoarthritis Index pain score of 0, and Kellgren/Lawrence grade=2 knee bending activities. At 3-year followup, individuals reporting frequent knee bending were more likely to show progression of cartilage damage (OR 4.12, 95% CI 1.27-13.36) and meniscal abnormalities (OR 4.34, 95% CI 1.16-16.32). Frequent knee bending activities were associated with a higher prevalence of knee cartilage lesions (particularly in the patellofemoral compartment) and with an increased risk of progression of cartilage and meniscal lesions in asymptomatic middle-aged subjects.