



Outcome of Untreated Traumatic Articular Cartilage Defects of the Knee. Shelbourne KD, Jari S, Gray T: J Bone Joint Surg 85-A, Supplement 2 : 8 - 16, 2003.

Background: Articular cartilage damage has been reported in 23% of acute ACL injuries and 54% of chronically ACL lax knees. Because the purpose of surgery is to reconstruct the ACL, the chondral lesion is usually an incidental finding. It is not known if any of the numerous treatments that have been recommended for chondral defects alters the natural history of the untreated lesion. We sought to determine what effect, if any, the presence of an isolated articular cartilage defect observed at the time of ACL reconstruction would have on the radiographic, subjective and objective results after surgery, if no intervention was performed on the cartilage lesion itself, thus allowing the natural history of the chondral defect to emerge.

Methods: From 1987 to 1999, 2770 ACL reconstructions were performed, of which 125 patients had an articular cartilage defect of Outerbridge grade 3 or 4 but had both menisci intact. The mean defect size was 1.7 cm² (range, .5 to 6.0 cm²; Defect group). Postoperative rehabilitation was not altered because of the chondral defect, and patients were allowed full weight bearing and full range of motion as able. A matched control group of patients based on sex and surgery age was found from the database, and all patients in the control group had no chondral defects or meniscus tears (Control group). Patients were evaluated after surgery at 1, 2, 5 years and every 5 years thereafter using the IKDC criteria, modified Noyes subjective questionnaire, and radiographs.

Results: Subjective follow-up was obtained at greater than 2 years after surgery for 101 patients (mean time, 8.7 years after surgery). Objective evaluation was available for 52 patients (mean time, 6.3 years). Patients in the control group had statistically significantly higher subjective scores than the patients in the defect group for the medial compartment (mean, 95.2 points versus 94.0 points; $P=0.0451$) and lateral compartment (mean, 95.9 points versus 92.8 points; $P=0.0047$). There was no statistically significant correlation between larger defect size and lower subjective scores ($P=0.2543$). The distribution of IKDC radiographic ratings was not statistically significantly different between groups. At least 79% of patients in both groups returned to athletics involving jumping, twisting, and pivoting sports at the recreational, high school, college or professional level.

Conclusions: Statistical analysis found a difference between the defect and control groups for subjective scores; however, an average of 93 points for the lateral group and 94 points in the medial group indicates that most patients have very few symptoms. The radiographic ratings did not show a statistical difference. This study provides a baseline of information that can be used to compare the results of articular cartilage procedures.