

Patients undergoing osteochondral allograft transplantation show favorable long-term outcomes

Ron Gilat
Eric D. Haunschild
Hailey P. Huddleston
Tracy M. Tauro
Sumit Patel
Kevin C. Parvaresh
Adam B. Yanke
Brian J. Cole

Video Abstract

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Abstract

Osteochondral allograft transplantation offers favorable short- to mid-term outcomes for patients with cartilage defects in the knee. But the rate of reoperation is reportedly high, and few studies have explored the mid- to long-term outcomes of transplantation. To address this gap, researchers analyzed significant outcomes, failures, and graft survival rates over a minimum of 5 years in patients undergoing OCA transplantation of the femoral condyles. Despite a high reoperation rate, findings suggest that OCA transplantation is associated with significant clinical improvement at mid- to long-term follow-up. The researchers followed up with 160 patients for an average of 7.7 years after OCA transplantation. All patient-reported outcomes related to joint and physical health improved significantly between baseline and final follow-up. These included International Knee Documentation Committee scores, Lysholm scores, Short Form-12 scores for physical health, and Knee injury and Osteoarthritis Outcome Scores for symptoms, pain, activities of daily living, sports performance, and quality of life. Short Form-12 scores for mental health were the only patient-reported outcome that did not improve significantly over the follow-up period. Fifty-six patients who had pre- and postoperative IKDC scores and had not failed treatment were available for assessment of minimal clinically important difference and significant clinical benefit. At final follow-up, 42 of these patients achieved MCID and 33 achieved SCB. Failure to meet these benchmarks was associated with preoperative knee effusion, number of reoperations, and previous meniscal procedures. While nearly 40% of patients required reoperation, five- and ten-year graft survival rates exceeded 80%, with only 34 graft failures recorded. Failure was independently associated with greater BMI, longer symptom duration, number of previous procedures, and previous failed cartilage debridement. Overall, the findings indicate that OCA transplantation is associated with significant clinical improvement and durability at mid- to long-term follow-up. In fact, maintenance of clinically significant outcomes can be expected in most patients at a mean of 7.7 years after OCA transplantation. Despite a high reoperation rate that could interfere with maintaining favorable outcomes, most patients can be expected to avoid long-term graft failure.