factor analysis of variance (ANOVA) was used to compare mean surgical approach visualization percent differences. If a significant difference was detected, a Tukey post hoc test was conducted. Results: The percentage exposure of the overall lateral femoral condyle for each approach were as follows: posterior 18.4%, posterolateral 27.3%, medial parapatellar with patellar eversion 76.8%, lateral parapatellar 80.1%, medial parapatellar with TTO 80.8%, and lateral parapatellar with TTO 84.4%. Of anterior-based approaches, there was a significant difference in the percentage of exposure of the lateral femoral condyle between the lateral parapatellar approach with TTO and the medial parapatellar approach with patellar eversion (84.4% vs. 76.8%, p=0.021), otherwise all other anterior-based approaches had a similar percentage of articular surface exposure. The lateral parapatellar approach with TTO provided the highest percentage of exposure involving the posterior region of the lateral femoral condyle (67.9%), however only the posterolateral and posterior approaches allowed visualization of the most posterior chondral region of the femoral condyle. The posterolateral approach had a significantly greater area of exposure of the posterior lateral femoral condyle than the posterior approach (62.3% vs. 41.4%, p<0.0001). Conclusion: For OCD lesions involving the lateral femoral condyle, all anterior-based approaches can provide reliable exposure to the majority of the lateral femoral condyle articular surface. However, for lateral femoral condyle OCD lesions that extend far posteriorly, the posterolateral approach may be the most reliable approach to gain adequate exposure. Lastly, addition of a TTO does not appear to add significant improvement in exposure of the lateral femoral condyle articular surface versus a similar approach without TTO.

Category: Knee - Cartilage

Association of Sex Mismatch Between Donor and Recipient with Short-Term Clinical Outcomes After Osteochondral Allograft Transplantation

Abstract ID# 23616
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Summary:
This study found no observable differences in short-term clinical outcomes, patient satisfaction, or complications/reoperation rates based on sex of the graft donor in patients undergoing osteochondral allograft transplantation.

Data:
Purpose: Donor or graft-related characteristics have been increasingly examined in patients receiving osteochondral allograft (OCA) procedures to identify potential contributors for adverse outcomes. While favorable outcomes have been reported for patients undergoing OCA transplantation, there are still reports of return to sport ranging from 60-80% and reoperation rates up to 30-40%. Prior reports have suggested increased risk of graft failure long term in patients with graft donor-recipient sex mismatch. Therefore, the purpose of this study was to evaluate the potential effect of donor-recipient sex mismatch in OCA transplantation with respect to clinical outcomes, satisfaction, and return to sport (RTS).

Methods: This retrospective study identified patients who underwent osteochondral allograft (OCA) transplantation of the knee at a single institution with a minimum of 1 year of clinical follow-up. Patient-reported outcomes were measured using the Visual Analog Scale (VAS) for pain and satisfaction and the Knee Injury and Osteoarthritis Outcome Score (KOOS). RTS and complications were analyzed. Complications included, infection, need for readmission, deep vein thrombosis/pulmonary embolism, need for reoperation, and graft failure. Patients were divided into two cohorts (same-sex donor (SS) and different-sex donor (DS)) and outcomes were compared between these two groups using 7-tests and chi-square analyses. ANCOVA and logistic regression models were used to control for confounders. Subsequent sub-analyses were performed to identify differences between the four donor-recipient groups (male-male, female-male, male-female, and female-female) using ANOVA and Chi-square analyses.

Results: A total of 80 patients were included (50 in same-sex donor group and 30 in the different-sex donor group) with a mean follow-up of 41.1 ± 22.5 months. There was a difference in age between the groups (37.9 ± 12.0 years in the same-sex group vs. 30.5 ± 9.4 years in the different-sex group, p=0.005), but no difference in BMI. No differences were observed between the SS and DS groups with respect to satisfaction, pain, and KOOS outcome scores with the mean satisfaction of the SS donor group being 72.8 ± 27.9 and 80.2 ± 29.9 for the DS donor group. After controlling for age, the differences remained not significant. 63.3% of same-sex donor patients returned to sport compared to 53.6% (p=0.404). The overall complication and reoperation rates were 26.3% and 25.0%, with no difference between the DS and SS groups. There were two graft failures noted, both of which were in the same-sex donor group (male donor-male patient) with no difference. The majority of patients in the SS donor group were male-male (n=37) and the majority of patients in the DS donor group were male donors for female patients (n=25). When dividing into the respective donor-recipient groups, there was also no difference between the groups with respect to clinical outcomes, satisfaction, and rate of RTS.

Conclusion: There were no observable differences in short-term clinical outcomes, patient satisfaction, or complications/reoperation rates based on sex of the graft donor in patients undergoing OCA transplantation. Further studies should be performed with longer term follow-up to determine the influence of donor sex on clinical outcomes in patients with OCA procedures in the knee.

Category: Knee - Cartilage

S-year Outcomes of One-Step Autologous Minced Cartilage Procedure for the Treatment of Knee Joint Chondral- and Osteochondral Lesions

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Summary:
Minced cartilage procedure for medium to large chondral- or osteochondral lesions of the knee show good patient-reported mid-term results with low complications and reoperation rates and are a viable, single-stage alternative to more conventional techniques.

Data:
Background: Cartilage injuries in the knee are frequent but their treatment remains challenging. Minced cartilage is a one-step, autologous procedure with promising short-term results. Purpose: The aim of the present study was to evaluate mid-term results in a patient cohort treated with the minced cartilage procedure due to chondral- and osteochondral lesions of the knee. Study design: Prospective Case Series Methods: From February 2015 through June 2016, a total of 34 consecutive patients were treated with a single-step, autologous minced cartilage procedure for treatment of chondral and osteochondral lesions across the knee joint. Magnetic resonance imaging (MRI) was obtained pre- and postoperatively. The primary outcome measures were the numeric analogue scale (NAS) for pain and knee function, which were obtained prior to surgery and at 12, 24 and 60 months postoperatively. Additionally at final follow up the Lysholm score, Tegner activity score and the International Knee Documentation Committee (IKDC) score were obtained. Results: A total of 28 patients (44.1% females, mean age at surgery: 29.5 ± 11.5 years) were available at a mean follow up of 65.5 ± 4.1 months. Mean defect size was 3.5 ± 1.8 cm2 and preoperative AMADEUS score (Area Measurement and Depth and Underlying Structures) was 55.2 ± 21.5. NAS for pain decreased from a median of 7 (range: 2 - 10) preoperatively to 2 (0 - 7), 1 (0 - 5) and 2 (0 - 8) after one, two and five years respectively. Knee function improved from a median of 7 (range: 2 -10) to 3 (0 - 7), 2 (0 - 7) and 3 (0 - 7) after one, two and five years respectively. Lysholm-, Tegner activity- and IKDC score were 76.5 ± 12.5, 4 (min – max: 3-9) and 71.6 ± 14.8 at final FU, respectively. The average overall WOMAC score for all examined patients and anatomical sites (patellar, femoral condyle, trochlea) was 62.6 ± 15.8. Four surgery related adverse events with necessary revision operation occurred during the five-year period. Conclusion: Minced cartilage procedure for medium to large chondral- and osteochondral lesions of the knee show good patient-reported mid-term results with low complications and reoperation rates and are a viable, single-stage alternative to more conventional techniques.