The Influence of Full-Thickness Chondral Defects on Outcomes Following Meniscal Allograft Transplantation: A Comparative Study

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Introduction

**Background:**
- Articular cartilage damage is not uncommon as a concomitant finding in the meniscal-deficient patient.
- The impact of chondral damage that is addressed at the time of meniscal allograft transplantation (MAT) surgery remains inconclusive

**Purpose:**
1) To determine the impact of concomitantly treated full-thickness chondral defects (FTD) on outcomes following MAT when compared with patients without chondral defects (ND) at 2-years postoperative and final follow-up, in terms of:
   - Patient-Reported Outcome (PRO) measures
   - Reoperations
   - Failures (revision MAT, conversion to arthroplasty)

**Methods**
- Minimum 2-year clinical f/u
- Prospectively-collected data
- Graded intraoperative chondral lesions using Outerbridge Classification
- Demographic data: gender, DOS, BMI, age, prior surgeries, laterality of knee and meniscus
- Intraoperative data: chondral damage (grade/size/location), concomitant procedures (ACLR, DFO/HTO)
- Postoperative data: complications, failures, PROs (@ preop, 2-years, final f/u) including Lysholm, IKDC, KOOS, SF-12 P&M, WOMAC, "Overall Knee Function", "Symptom Rate"

**Results (cont’d)**

<table>
<thead>
<tr>
<th>Group 1: ND (Grade 0/I)</th>
<th>Group 2: FTD (Grade IV)</th>
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<td>22 patients</td>
<td>69 patients</td>
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**No Differences in Demographics**

- **Mean Follow-up:** 4.48±2.63 years vs. 3.84±2.47 years
- **BMI:** 25.3±4.3 kg/m² vs. 25.8±7.6 kg/m²
- **Age:** 26.8±10.7 years vs. 30.4±10.3 years
- **% Male:** 63.6% vs. 46.4%
- **Mean # Prior Surgeries:** 1.9±0.9 vs. 2.3±0.9

**No Differences in Failures, Complications or Reoperations**

- **Complications:** 0% vs. 1.4%
- **Mean # Subsequent Surgeries:** 0.5±0.8 vs. 0.4±0.7
- **Revision MAT:** 10.0% vs. 12.9%
- **Time to MAT Revision:** 2.31 years vs. 2.69 years
- **Conversion to TKA:** 5.0% vs. 3.3%
- **Time to TKA Conversion:** 6.44 years vs. 6.19 years

**No Differences in Preop PROs**

**ALL PROs Improved from Baseline Except SF-12 in ND Group**

**No Differences in APROs @ 2-Year or Final F/U**

**Conclusions**

- Chondral damage identified and treated by cartilage restoration means at the time of MAT may not affect the clinical outcomes of MAT
- Patients with full-thickness Grade IV chondral injury can achieve the same success as their counterparts with no cartilage defect so long as the defect is addressed