Long-Term Survival Analysis Of Meniscal Allograft Transplantation With Minimum 10-Year Follow-Up: A Systematic Review

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INTRODUCTION

➢ **Good clinical results:**
  - Short-, mid- and long-term

➢ **Survival rates:**
  - Short-term: 94%
  - Mid-term: 89%
  - Long-term: studies with heterogeneous population
    ✓ Needs better understanding
OBJECTIVE

To investigate the long-term survivorship rates and functional outcomes of meniscal allograft transplantation (MAT) in patients with minimum 10-year postoperative follow-up.
METHODS

- Two reviewers searched EMBASE, MEDLINE and PubMed
- PRISMA e R-AMSTAR checklists
- Studies reporting survivorship rates at minimum 10-year follow-up
- MINORS criteria to analyze the quality of included studies
- Statistical Analysis: Descriptive statistics
  - Meta-analysis not feasible due to high heterogeneity among studies
RESULTS

Initial Search

- 3,826 studies - 11 included
- 658 patients/688 MATs
- Mean age: 33.1 years
- 63% male
- 10 studies Level IV and 1 Level III
- Mean MINORS score: 10.1 (fair quality)
RESULTS

Survivorship Rates

- 10 years – 73.5%
  - 6 studies
  - 249 patients/257 MATs

- 15 years – 60.3%
  - 4 studies
  - 169 patients/174 MATs
## RESULTS

<table>
<thead>
<tr>
<th>Studies</th>
<th>Preoperative Lysholm</th>
<th>Postoperative Lysholm</th>
<th>Preoperative Tegner</th>
<th>Postoperative Tegner</th>
<th>Postoperative IKDC</th>
<th>Postoperative KOOS</th>
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<tbody>
<tr>
<td>Binnet et al.</td>
<td>60.5</td>
<td>62.5</td>
<td>3</td>
<td>2.5</td>
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<tr>
<td>Hommen et al.</td>
<td>53</td>
<td>75</td>
<td>-</td>
<td>4.3</td>
<td>77</td>
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<td>Van der Wal et al.</td>
<td>36</td>
<td>61</td>
<td>-</td>
<td>-</td>
<td>46</td>
<td>Pain:61.6; Symptoms:57.9; Function in Daily Living:68.5; Sport and Recreation:33.9; Quality of Life:37.3</td>
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<td>Verdonk et al.</td>
<td>-</td>
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<td>Pain: 76.3; Symptoms: 61.8; Function in Daily Living: 79.9; Sport and Recreation: 49.3; Quality of Life: 45.9</td>
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<td>Wirth et al.</td>
<td>59</td>
<td>75</td>
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<td>4.6</td>
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</table>
RESULTS

Concomitant Procedures:

- Treatment of chondral lesions – 20.8%
- Treatment of ligament injuries – 12.4%
- Realignment procedures – 9.4%

Complications

- Allograft partial tears – 11.1%
- Arthrofibrosis – 3.6%
- Infection – 2.0%
DISCUSSION

MAIN FINDINGS

✓ Good long-term survivorship rates after MAT – 73.5% (10 years) and 60.3% (15 years)
  o Lower than short-term (94%) and mid-term (89%)
  o Performed in young patients
    ✓ Rates from present study suggest MAT can be used as a “bridging procedure”
MAIN FINDINGS

✓ Functional results after minimum 10-year follow-up:
  fair and better than preoperative

○ Several long-term studies excluded - patients with less than 10-year follow-up included

✓ Heterogeneity of population in these studies

✓ Future studies: include only minimum 10-year FU
Conclusion

MAT can yield good long-term survivorship rates, with 73.5% and 60.3% of allografts remaining functional after 10 and 15 years, respectively. Functional outcomes 10 years after MAT were fair and markedly better than pre-operative scores. Long-term outcome studies of MAT are warranted using cohorts consisting exclusively of patients with minimum 10-year follow-up.
REFERENCES


