

Meniscus Transplants in Patients Over 50 Years of Age

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INTRODUCTION: Although progression from meniscus injury to knee arthroplasty is complex, a critical stage exists between 50 and 60 years of age. One topic of investigation often overlooked is the utility of meniscus allografts to delay knee arthroplasty for patients in this age range. The purpose of this study was to assess long-term outcomes of meniscus allografts in patients older than 50 years of age.

METHODS: 108 meniscus allograft transplants (MATs) using the arthroscopic three tunnel technique (1) between 1997 and 2019 in patients over 50 years of age were reviewed. Patient ages ranged from 50 to 69 years of age (mean 55.8). 86 of 108 (79%) patients met eligibility for this case series report. Exclusion criteria was defined as failure to comply with rehabilitation protocol or failure to complete baseline and follow-up research questionnaires. 74 of 86 (86%) patients had Grade III or IV arthritis and 44 of 86 (51%) patients underwent concomitant cartilage repair with the articular cartilage paste graft technique (2). IKDC, VAS, and Tegner scores were obtained longitudinally throughout the post-operative period. Failure was defined as excision of the allograft, progression to arthroplasty, revision of MAT or increased pain.

RESULTS: Over the follow-up range of 2 to 25 years, 39 of 86 (45.3%) patients progressed to revision by arthroplasty, at a mean time of 7.7 years. 37 of 39 (94.9%) patients who progressed to arthroplasty had Grade III or IV arthritis at the time of initial MAT surgery. One excision of allograft without arthroplasty occurred at 3.2 years. Three patients had MAT revision procedures at a mean time of 5.5 years. At the time of reporting, 43 of 86 (50%) patients had intact meniscus transplants. 35 of 43 (81.4%) patients with intact MATs had Grade III or IV arthritis at the time of initial MAT surgery. In the subjects with intact meniscus allografts, significant improvements were observed in both pain and function as assessed by VAS and IKDC. Significant decreases in pain ($p=0.015$) and increases in IKDC function ($p=0.028$) were demonstrated to a mean of 65.8 years of age. No notable changes in Tegner activity scores were found despite advancing age over the years.

DISCUSSION: Meniscus transplants improve knee symptoms of pain and improve activity in a population over 50 years of age even with arthritis.

SIGNIFICANCE/CLINICAL RELEVANCE: The results of this study suggest that meniscus transplants can serve as an intervention delaying knee arthroplasty in this age range.

REFERENCES:

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IMAGES:

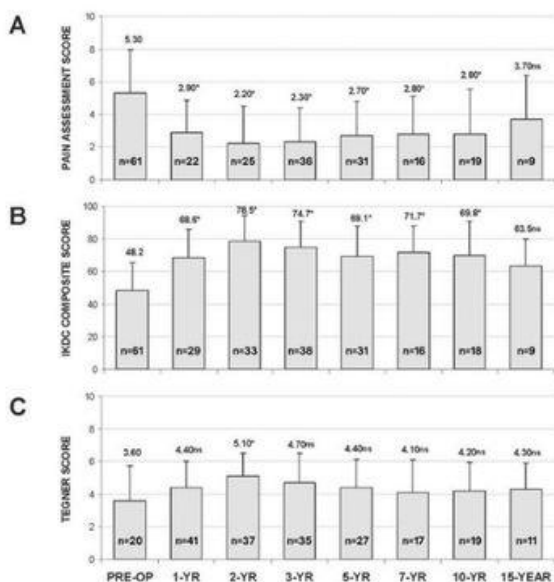


Figure 1A-C. Patient Self Assessments - VAS, IKDC, Tegner Assessments. A) VAS Pain: significant decrease in pain 1 - 10 y p.o as compared to pre-operative. B) IKDC Function: significant decrease in pain 1 - 10 y p.o as compared to pre-operative. C) Tegner Activity: significant decrease in pain at 2 y p.o. as compared to pre-operative only, ns, non significant, *, statistically significant ($P < 0.05$).

