Survivorship and Reoperation of 324 Consecutive Isolated or Combined Arthroscopic Meniscal Allograft Transplantation Using Soft-Tissue Fixation

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INTRODUCTION:

Meniscus allograft transplantation (MAT) is an effective treatment for relieving symptoms and improving knee functions in patients who experience symptomatic unicompartmental knee pain following a previous meniscectomy. However, in the literature there is a paucity of studies assessing the survival rate and prognostic factors of soft-tissue MAT. The present study aimed to report the survivorship of a large single-center cohort of consecutive patients treated with arthroscopic MAT using soft tissue technique and investigate variables that could potentially influence failures and outcomes.

METHODS:

A total of 364 consecutive MAT performed in a single Institution between June 2004 and April 2019 were screened and assessed for eligibility. Subjective clinical scores (Lysholm score, Tegner Activity Scale, and VAS) were collected preoperatively and at 2 years, 5 years, 7 years, and 10 years follow up. Two survival analyses were performed using the Kaplan–Meier curves with (SF) surgical failure and (CF) clinical failure as endpoints. In addition, univariate analyses were performed using reoperations, surgical failure, and clinical failure as endpoints, and different demographic and surgical characteristics as endpoints.

RESULTS:

In total, 324 consecutive patients were evaluated at a mean follow up 5.7 ± 3.0 years. Of them, 189 (58%) underwent an associated surgical procedure. A total of 22 patients (6.8%) were considered surgical failures. A significant improvement of all the PROMs was present between the preoperative status and the last follow up ($p<0.001$) with no significant decrease over time. Moreover, 70 (21.6%) patients were considered clinical failure: the need for concomitant cartilage procedures (OR=0.16, p=0.001) or ACL reconstruction (OR=0.40; p=0.059) were predictors of failure. Finally, a lower survival rate was reported in females (p=0.007) and in patients who required cartilage surgery (p=0.014). In particular, the latter group showed nearly half the survival rate with respect to those with no cartilage procedures at 10-year follow up (36.4% vs. 71%, p=0.029).

DISCUSSION AND CONCLUSION:

The female sex and the need to combine MAT with cartilage procedure or ACL reconstruction could result in an increased rate of clinical failure at a mid-term follow up. The present study results help the surgeon correctly set patients' expectations regarding MAT survival and clinical failures. In particular females and patients with focal cartilage defects have nearly half the survival rate at long-term follow up.