Clinical Outcomes of Meniscal Allograft Transplantation

Seong Il Bin, M.D., Ji-Hyun Ahn, M.D., Seong-Woo Lee, M.D.

Department of Orthopedic Surgery, University of Ulsan, College of Medicine, Asan Medical Center

Introduction

The purpose of this study was to estimate the clinical results of the arthroscopic meniscal allograft transplantation for meniscus-deficient knees due to previous subtotal or total meniscectomy.

Material and Methods

From December 1996 to December 2003, 33 patients with meniscus-deficient knee were treated with the arthroscopic meniscal allograft transplantation. This study involved 22 cases with follow-up for more than 1 year. The average age of 17 male and 5 female patients was 32 (range, 18 to 48 years). 7 cases showed medial meniscal deficiency and 15 cases lateral meniscal deficiency. The fresh frozen meniscal allografts were used in 14 cases and the cryopreserved meniscal allograft in 8 cases. Trough technique was performed in 7 cases and keyhole technique in 15 cases. Final clinical outcomes were estimated by range of motion, Lysholm score. Follow-up magnetic resonance imaging (MRI) and/or second-look arthroscopy were carried out in 20 cases. The mean follow-up was 22 months

Result

Full range of motion was observed in all cases. The average follow-up Lysholm score of 93 (range, 77~100) was improved compared with the average preoperative score 78 (range, 70~95). At Post-op 1 year, 16 cases had follow-up MRI and 9 cases had second-look arthroscopy. In 5 cases, both MRI and arthroscopy were carried out. On MRI, normal meniscal findings were seen in 8 cases, meniscal atrophy in 2, high signal change in 4, posterior horn tear in 1 and total tear in 1. On second-look arthroscopy, normal meniscal findings were seen in 5 cases, anterior horn atrophy in 1, marginal flare in 1, posterior horn tear in 1 and total tear in 1. Subtotal meniscectomy was done for 1 case with total tear on follow-up MRI and second-look arthroscopy.

Conclusion

The arthroscopic meniscal allograft transplantation resulted in good clinical outcomes in terms of range of motion and Lysholm score and also it showed high graft survival rate (95.4%). Because all meniscal allograft did not show normal meniscal findings on follow-up MRI and second-look arthroscopy, the long term follow-up is necessary even though with good clinical outcomes.

Key word: Meniscal allograft transplantation, Follow-up MRI, Second-look arthroscopy