

Effect of Knee Position during the Graft Fixation on the Results of the Arthroscopic Anterior Cruciate Ligament Reconstruction with Autogenous Four-Strand Hamstring Tendon

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Introduction

The purpose of this investigation was to evaluate replacement of a torn anterior cruciate ligament with four strand hamstring tendon graft and to compare the effect of the knee position during the graft fixation on the stability of the knee.

Material and Methods

Thirty-seven were treated with four-strand hamstring tendon autograft. The grafts were fixed with Rigidfix system (Mitek Product, Johnson and Johnson, USA) for femur side and Intrafix for tibial side. The position of knee during the graft fixation was full extension (group A) or 20 degree flexion (group B), which was determined by the serial number. Patients were followed for average of fourteen months (range, thirteen to twenty-five months) At the time of final follow-up, patients were evaluated in terms of Lachman test, pivot shift test, Lysholm scores, IKDC (International Knee Documentation Committee) assessment, side-to-side KT-1000 maximum-manual arthrometer differences.

Result

At last follow-up, Lysholm score was average 93.1 (range: 65 to 98), IKDC assessment revealed that 26 cases had score of A, 10 cases had score of B and 1 case had score of C. The average maximum-manual KT-1000 arthrometer side-to-side difference was 2.5 mm. There was one case in which the Lachman test was graded as 2+ and four cases in which the Lachman test was graded as 1+ and the remaining thirty-two cases were normal by Lachman test. One case had a 2+ pivot-shift, and 2 cases had a 1+ pivot-shift. The remaining 34 knees were normal on pivot -shift testing. The average maximum-manual KT-1000 arthrometer side-to-side difference was average 2.7 mm in group and average 2.3 mm in group B ($P > 0.05$).

Conclusion

The position of the knee during graft fixation (full extension versus twenty degree flexion) do not make significant differences of the side-to-side KT-1000 maximum maximum-manual arthrometer differences

Key word: Knee, Anterior cruciate ligament, Hamstring tendon