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Paper #7

Revision Anterior Cruciate Ligament Reconstruction: Clinical Outcomes of Isolated vs. Combined with Anatomic Anterolateral Ligament Reconstruction

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Summary:
Effects of ALL Reconstruction in Revision ACL Reconstruction

Abstract:

Purpose

Although rotational instability after revision anterior cruciate ligament reconstruction (ACLR) is multifactorial, the rationale of combining extra-articular procedure is based on its ability to restrict rotational instability. The purpose of this study was to assess the effects of anterolateral ligament (ALL) reconstruction during revision ACLR.

Methods

A total of 87 patients who underwent revision ACLR from March 2011 to July 2014 with follow-up for more than 3 years were included in this retrospective study. Patients were divided into isolated revision ACLR alone group (group I, n = 45) or revision ACLR in combination with ALL reconstruction group (group C, n = 42). Subjective knee scoring systems including International Knee Documentation Committee (IKDC) subjective knee form, Lysholm score, Tegner activity scale, and ACL-Return to Sports after Injury (ACL-RSI) were used. Clinical and functional tests were performed before surgery and at 6 months or more after surgery. All tests were usually completed at 36 months of follow-up.

Results

Mean follow-up duration for I and C group were 41.5 ± 8.2 and 38.2 ± 6.9 months (P = 0.451). Subjective IKDC score, Tegner activity scale, and ACL-RSI scale were significantly better in C group compared I group at last follow-up, although there were no significant differences between two groups at 12 months after the surgery
There were no significant differences in KT-2000 arthrometer, isokinetic extensor strength, single leg hop for distance, Co-contraction, and Carioca tests between two groups at last follow-up (respectively, p = 0.304, 0.683, 0.155, 0.056, and 0.066). Preoperatively, 43 (95.6%) and 40 (95.2%) of I and C group had grade 2 or 3 pivot shift (p = 0.387). Postoperatively, 38 (90.5%) of C group had negative pivot shift, while 23 (42.2%) of I group had negative pivot shift (p < 0.001). The C group showed higher rate of return to the same level of sport activity than I group (57.1% vs. 24.4%, p = 0.002), although there was no significantly difference in the rate of return to any sport activity (I and C group = 84.4% and 88.1%, p = 0.622) at last follow-up.

Conclusion

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Revision ACLR with ALL reconstruction significantly reduced the rotational laxity and showed higher rate of return to the same level of sport activity than isolated revision ACL reconstruction, although there were no significant differences in anterior laxity and functional tests between two groups.