



Comparison of Second-look Arthroscopic Findings of Single-Bundle and Double-Bundle Anterior Cruciate Ligament Reconstruction

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Purpose

The aim of study was to compare second look arthroscopic findings of reconstructed anterior cruciate ligament with good clinical outcome using single-bundle and double bundle technique.

Materials and Methods

24 patients (24 cases) who were followed up at least more than 12 months after single-bundle or double-bundle ACL reconstruction were included. The mean age of 12 patients (11 male and 1 female) with double-bundle ACL reconstruction (Group A) and 12 patients (11 male and 1 female) with single-bundle ACL reconstruction were 25.5 (19-33) and 25.6 (19-34). The mean interval from ACL reconstruction to second look arthroscopy was 15.1 months (range, 12.0-21.9) in group A and 15.2 months (12.0-23.7) in group B. In all patients, instrumented anterior laxity test with arthrometer and 2nd look arthroscopy with staple or metal removal were performed. The second-look arthroscopy focused on the evaluation of (1) rupture of the reconstructed ACL graft, (2) subjective graft tension using a probe, (3) the extent of synovial coverage.

Results

On second look arthroscopy, in group A, anteromedial (AM) grafts had good continuity in all cases, but posterolateral (PL) grafts showed partial rupture in 3 (25%) and complete rupture in 3 (25%). In group B, rupture of graft was not shown. With regard to graft tension, in both group, slight laxity was observed for AM bundle in 2 cases. The synovial coverage of AM bundle was good in 8 cases (66.7%), fair in 2 (16.7%), poor in 2 (16.7%) and the synovial coverage of PL bundle was good in 4 (33.3%), fair in 5 (41.7%) in group A. And in group B the synovial coverage was good in 8 (66.7%), fair in 2 (16.7%) and poor in 2 (16.7%). Both group showed satisfactory stability by instrumented anterior laxity testing. However, positive pivot shift test was also observed similarly in both groups.

Conclusion

Second look arthroscopic findings of AM bundle in double-bundle ACL reconstruction and single-bundle ACL reconstruction was similar and satisfactory. Both groups has good clinical outcomes with good stability, but double bundle ACL reconstruction showed ruptured PL bundle in some cases.