

High failure risk associated with staged procedure for meniscus injury in ACL-deficient knee: A retrospective study on meniscus repair preceding ACLR.

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Purpose

To describe the failure rate and patient-related outcomes in patients who underwent a two-stages surgery with meniscus repair followed by ACLR.

Methods

Patients who underwent two-staged meniscal repair and ACLR between January 2015 to January 2021 were identified for this study. The primary outcome was the occurrence of failure of repair, defined as a need of reoperation on the meniscus. Secondary outcomes were Knee Injury and Osteoarthritis Outcome Score (KOOS) at 12 and 24 months, ROM, laxity and isokinetic muscle strength measured using Biodex at 6-months.

Results

A total of 150 patients were included in the study. The group demonstrated a failure rate of 36.7%. To determine factors affecting the likelihood of meniscal repair failure, a Cox regression analysis was conducted. The model disclosed that reoperation after meniscal repair was significantly related to a time interval >1 year from meniscal surgery to ACLR (HR 7.5; 95% CI 3.8-14.6), medial meniscus repair (HR 2.3; 95% CI 1.6-3.4), and female sex (HR 1.42; 95% CI 1.0-1.9). Data regarding KOOS, knee laxity, and ROM did not differ from previous studies. The rate of patients achieving symmetrical knee function with an LSI of $\geq 90\%$ in the three tests at 6 months post-ACLR was 37.3%.

Conclusion

The risk of meniscus repair failure is increased when a staged procedure is chosen for an ACL-deficient knee, particularly in medial meniscus interventions and among females. Furthermore, it escalates with a longer interval between the two surgeries.