present study derives from the deepening of the knowledge in MLKI and their long-term outcomes which can help the surgeons to set patient’s expectations.

Category: Knee - Ligaments (Not ACL)

Comparative Study Of Superficial Medial Collateral Ligament Reconstruction Combined With Posterior Oblique Ligament Reconstruction Or Postero medial Capsule Advance In Grade III Injuries Of The Medial Compartment In A Complex Knee Injury Scenario

Abstract ID# 21836
All Authors:
Camilo P. Helito MD, PhD, Prof BRAZIL
André Giardino Moreira Da Silva MD BRAZIL
Marcel F. Sobrado MD BRAZIL
Pedro N. Giglio MD BRAZIL
Riccardo Gomes Gobbi MD, PhD BRAZIL
José R. Pécora Prof. BRAZIL

Summary:
Both techniques present good functional results and a low rate of complications. However, the advancement technique showed greater flexion loss, which should be considered when choosing the best surgical option. 

Data:
Introduction: The purpose of this study is to compare the combined reconstruction of the superficial medial collateral ligament (sMCL) and the posterior oblique ligament (POL) with the reconstruction of the sMCL associated with the advancement of the posteromedial capsule in a complex knee injury scenario. We hypothesize that both techniques will present similar knee stability and failure rates. Methods: This is a retrospective case-control study designed to compare the results of the two reported techniques for grade III MCL instability. Patients undergoing MCL reconstruction associated with anterior cruciate ligament, posterior cruciate ligament or both, from 2010 to 2019, were included. The following parameters were evaluated: demographic data, type of graft, time from injury to surgery, associated meniscus injuries, follow-up time, mechanism of trauma, post-operative objective IKDC, subjective IKDC and Lysholm scales, range of motion, reconstruction failure and complications. Results: 78 patients were evaluated. 37 of whom underwent reconstruction of the sMCL and POL, and 41 underwent reconstruction of the sMCL with advancement of posteromedial structures. There was no difference in any pre-operative variable. Patients undergoing reconstruction of the sMCL + advancement had greater loss of flexion (Group 1 3.4±4.6 vs. Group 2 8.4±7.9; p = 0.002) and more individuals with flexion loss greater than 10° (Group 1 seven patients (18.9%) vs. Group 2 17 patients (41.5%); p = 0.031). Post-operative knee stability, failures and complications were similar between groups. Conclusion: Both techniques present good functional results and a low rate of complications. However, the advancement technique showed greater flexion loss, which should be considered when choosing the best surgical option.

Category: Knee - Ligaments (Not ACL)

The Effect of Failed Posterior Cruciate Ligament Reconstruction on Chondral Injury

Abstract ID# 22364
All Authors:
Ryan T. Lin BS UNITED STATES
Ian D. Engler MD UNITED STATES
Ehab M Nazal MD UNITED STATES
Philipp Wilhelm Winkler MD AUSTRIA
Balint Zsidai MD SWEDEN
Kristian Samuelsson Prof, MD, PhD, MSc SWEDEN
James J. Irrgang PT, PhD, FAPTA UNITED STATES
Volker Musahl MD UNITED STATES

Summary:
Concomitant injury patterns between isolated, multiligament, and revision posterior cruciate ligament reconstruction show increased rates of medial femoral condyle, medial tibial plateau, and lateral femoral condyle cartilage injuries in the revision setting and demonstrates a unique approach in confirming the detrimental effects of PCL injury on the medial compartment.

Data:
Introduction: Evaluation of patients undergoing revision posterior cruciate ligament reconstruction (PCL-R) can identify pathology associated with PCL deficiency and failed reconstruction. Study of revision PCL-R, which is scarce, may further elucidate the role of the PCL in knee stability by demonstrating the consequences of multiple instances of PCL deficiency on the meniscus and cartilage. The purpose of this study was to investigate the demographic profile and concomitant injury patterns in patients undergoing primary isolated PCL-R, multiligament involving PCL-R, and revision PCL-R. Methods: A retrospective review was performed on all patients undergoing PCL-R at a single academic institution between 2008 and 2020. Demographics, injury and surgical details, and concomitant ligament, meniscus, and cartilage data were extracted. Exclusion criteria included PCL repair and incomplete surgical data. Multiligament PCL-R was defined as concurrent surgery on at least one other knee ligament (i.e., anterior cruciate ligament [ACL], medial collateral ligament [MCL]/postero medial corner [PMC], or lateral collateral ligament [LCL]/postero lateral corner [PLC]). The differences in demographics and injury profiles across groups were analyzed. Categorical variables were analyzed with chi-square or Fisher’s exact tests, and continuous variables were analyzed with t-test or Kruskal-Wallis test. Post-hoc comparisons were adjusted for multiplicity with the Bonferroni-Hochberg procedure. Results: Of 225 patients undergoing PCL-R, primary isolated PCL-R was performed in 60 patients (27%), multiligament PCL-R in 152 patients (67%), and revision PCL-R in 13 patients (6%). Demographics and mechanism of injury were similar between groups. Concomitant ligament injuries in patients undergoing multiligament PCL-R most commonly involved the ACL (65%), followed by LCL/PCL (58%) and MCL/PMC (41%). The prevalence of associated medial and lateral meniscus lesions was not statistically significant between groups. Evaluation of associated cartilage injuries showed that two-thirds of all revision PCL-R cases demonstrated chondral injury. The prevalence of cartilage injury on the medial femoral condyle was significantly greater in the revision (64%) compared to the multiligament (26%) and isolated groups (24%, p = 0.03). Cartilage injury on the medial tibial plateau was significantly more prevalent in revision (36%) and multiligament (20%) PCL-R compared to isolated PCL-R (7%, p = 0.02). Revision and multiligament PCL-R had significantly more cartilage injury on the lateral femoral condyle compared to the isolated group (27% vs. 14% vs. 3%, p = 0.03). Conclusion: Concomitant injury patterns between isolated, multiligament, and revision PCL-R show increased rates of cartilage injuries in the revision setting, specifically localized to the medial femoral condyle, medial tibial plateau, and lateral femoral condyle. This is a unique approach to demonstrating the detrimental effects of PCL injury on the medial compartment, likely due to altered kinematics. Surgeons should be aware of the high prevalence of medial compartment chondral pathology during preoperative planning and patient counseling for revision PCL-R.

Category: Knee - Ligaments (Not ACL)

Delayed Multiligament PCL Reconstruction Results in a Greater Prevalence of Intraarticular Injury and Influences Treatment

Abstract ID# 22502
All Authors:
Balint Zsidai MD SWEDEN
Ian D. Engler MD UNITED STATES
Eric Narup SWEDEN
Philipp Wilhelm Winkler MD AUSTRIA
Ryan T. Lin BS UNITED STATES
Ehab M Nazal MD UNITED STATES
Kristian Samuelsson Prof, MD, PhD, MSc SWEDEN
James J. Irrgang PT, PhD, FAPTA UNITED STATES
Volker Musahl MD UNITED STATES

Summary:
Concomitant injury and treatment patterns differ between patients undergoing early (<12 weeks) and delayed (>12 weeks) multiligament PCL reconstruction (PCL-R).

Data:
Introduction: The optimal timing of surgery for multiligament knee injuries (MLKIs) is currently unclear. Persistent instability in MLKIs involving the posterior cruciate ligament (PCL) may contribute to further intraarticular and ligamentous injury. The aim of this study was to investigate differences in concomitant injury patterns and their treatment in patients undergoing early (<12 weeks) and delayed (>12 weeks) multiligament PCL reconstruction (PCL-R). Methods: This retrospective chart review included patients undergoing multiligament PCL-R at a single institution between 2008 and 2020. Multiligament PCL-R was defined as PCL-R and concurrent surgical treatment of one or more additional knee ligaments, including the anterior cruciate ligament (ACL),