Background: Increased Tibial Tubercle-Trochlear Groove Distance (TT-TG) is a risk factor for recurrent lateral patella dislocations (RLPD). Population studies have demonstrated that the TT-TG increases gradually during growth until skeletal maturity in healthy subjects, but the change in TT-TG distance on an individual basis during adolescence in patients with RLPD has previously not been investigated. The purpose of this study was to measure the TT-TG distance in mature and skeletally immature RLPD patients over a three-year period. Method: 13 patients with open physes (mean age 13 years) and 12 adult patients (mean age 25 years) with RLPD were recruited from a prospective randomized control trial. The TT-TG distance was measured on MRI at baseline and three years later. The change in TT-TG distance and Insall-Salvati ratio (ISR) was compared between the two groups. Results: The change in TT-TG distance from baseline to the three-year follow up was greater in the patients with open physes (2.9 mm, 95% Confidence Interval (CI) 2.1 – 3.7) compared to the skeletally mature patients (1.3 mm, 95% CI 0.6 – 2.0, p=0.004). Furthermore, the change in TT-TG distance in the patients with open physes could both increase and decrease. The change in ISR was also greater in the patients with open physes (0.09 (95% CI 0.04 – 0.14) vs 0.03 (95% CI 0.016 – 0.049, p=0.028). Conclusion: Our study indicate that on an individual basis, the TT-TG distance in patients suffering from RLPD may both decrease and increase during the growth spurt. This contradicts the current concept that the TT-TG distance increases gradually during growth. This is important information to consider when treating adolescents with RLPD, particularly when bony correction surgery is contemplated.

Category: Knee - Patellofemoral

Outcomes of Isolated Medial Patellofemoral Ligament Reconstruction for Patellar Instability In Ehlers-Danlos Syndrome

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All Authors: Shital N. Parikh MD UNITED STATES James Nemnautitis DO UNITED STATES Eric J. Wall MD UNITED STATES Rajul Gupta MBBS, MS UNITED STATES Matthew William Veerkamp BA UNITED STATES

Summary: Retrospective outcomes review of 31 patients (47 knees) diagnosed with Ehlers-Danlos hyper mobility syndrome who underwent MPFL reconstruction.

Data: Background: Ehlers-Danlos Syndrome (EDS) patients with patellar instability constitute a tough subset of patients to treat and pose significant challenges in Orthopaedic management. There is reluctance to manage EDS patients due to higher failure rate of surgery, out of proportion pain, numerous and vague symptoms and unsolvable problems. The outcomes of isolated Medial Patellofemoral Ligament Reconstruction (MPFL-R) for patellar instability in EDS patients are not known. Purpose: To analyze midterm clinical outcomes of isolated MPFL-R in EDS patients. Study Design: Retrospective chart review and prospective collection of patient-reported outcomes (PROs) Methods: In a retrospective review, 47 knees in 31 patients with EDS that underwent isolated MPFL-R for recurrent patellar instability, with minimum 2 year follow-up, were identified. Clinical outcomes, including postoperative complications, were noted. Failure was defined as the need for revision surgery for recurrent instability. Postoperative PROs (Pedi-IKDC, Kujala, HSS Pedi-FABS, BPII 2.0, and KOOS) were collected in a prospective fashion. Results: Mean age of the cohort was 14.9 years. 27/31 (87.1%) were females. 16/31 (51.6%) had bilateral knee involvement. All patients were diagnosed with EDS by Genetics Division. 26 patients had Beighton score of 9/9. At mean follow-up of 7.2 years, 9/47 (19.1%) knees had failed MPFL-R and required revision stabilization. (p=0.026). Conclusion: Our study indicate that on an individual basis, the TT-TG distance in patients suffering from RLPD may both decrease and increase during the growth spurt. This contradicts the current concept that the TT-TG distance increases gradually during growth. This is important information to consider when treating adolescents with RLPD, particularly when bony correction surgery is contemplated.

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