Abstracts

Pediatric Patients with First-Time Patella Dislocation. A Prospective Cohort Comparing Non-Operative and Operative Treatment

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Summary:
Even though conservative management demonstrates good outcome in first time patella dislocations in pediatric patients, surgical management can be an effective treatment when risk factors for instability are present.

Data:
Purpose To compare outcomes of non-operative versus operative management in pediatric patients after first-time patellofemoral dislocation. Methods All consecutive skeletally immature patients that sustained a first-time patellofemoral dislocation were included in this prospective study. Patients were divided into two cohorts depending on management. Non-operative management consisted of bracing and physical therapy. Operative management consisted of double bundle medial patellofemoral ligament / medial quadriceps tendon femoral ligament (MPFL/MQTLFL) reconstruction using the pediatric Schottle point at the femoral side, and one bony and one soft tissue attachment at the patella side. The primary outcome measured was recurrence (defined as any subsequent dislocation or subluxation event). Minimum follow up time was 2 years. Other outcomes recorded were demographic data, risk factors for patellofemoral instability, functional outcomes (Kujala and pedi-IKDC scores), pain, activity level, return to sports and complications. A correlation analysis attempted to identify potential association of failure with risk factors. SPSS was used for statistical analysis with statistical significance set at p<0.05. Results Eighty-two consecutive patients were included in the analysis with 53 patients in the non-operative management cohort and 29 patients in the operative management cohort that met the inclusion/exclusion criteria. Mean age was 12.1±2.3 and female to male ratio was 55/27. Failure rate was 55% in the conservative group and 24% in the surgical group (p=0.01). Kujala and IKDC scores were significantly higher at the operative group versus the non-operative group (91.0±9.1 vs 83.5±10.6, p=0.001 and 88.0±10.9 vs 78.4±12.1, p=0.0007, respectively). Activity level was also higher at the operative group (6.0±1.8 vs 4.2±1.6, p=0.0001). There were 7 complications recorded in the operative group (24%). From the different risk factors analyzed, trochlear dysplasia, patella alta, pre-injury activity level, and flexibility were associated with higher risk of recurrence. Conclusions Non-operative management in skeletally immature patients with first-time patellofemoral dislocation remains a reasonable and safe option but appears to be associated with high failure rate. Operative management is an effective alternative, especially when risk factors are present, that demonstrates lower failure rate, higher functional outcome and higher activity level, but with an increased risk of complications in this cohort.

Category: Knee - Patellofemoral

The Epidemiology of Surgical Procedures for Recurrent Patellar Instability in the Jupiter Cohort

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Summary:
This study describes the frequency of different surgical procedures used in the JUPITER Cohort.

Data:
Background: The JUPITER prospective study represents a cohort of patients from busy patellofemoral surgeons at 11 centers. Understanding what procedures are performed in a large cohort such as JUPITER will give an overview of the most common ways being used to address patellofemoral instability. Methods: The JUPITER prospective cohort currently includes 1437 patients. All surgical procedures are documented in the database. The database was queried to evaluate the different surgical procedures included to help stabilize the patella. The percent of patients undergoing each procedure is reported. Results: MPFL reconstruction was performed on 1129 (79%) patients. Lateral release was performed on 234 (16%) patients. Lateral retinacular lengthening was performed on 102 (7%) patients. There were several variations of tibial tubercle osteotomy performed: anteromedialization 160 (11%), direct medial 88 (6%), Maquet 6 (4%) and others. Quadricepsplasty was performed on 12 (1%) patients. Femoral derotation osteotomy was performed on 10 (1%) patients and tibial derotation osteotomy was performed on 6 (1%) patients. Distal femoral osteotomy, primarily laterally opening wedge, was performed on 18 (1%) patients. Femoral derotation osteotomy was performed on 10 (1%) patients and tibial derotation osteotomy was performed on 6 (1%) patients. Quadricepsplasty was performed on 12 (1%) patients. Conclusion: There are many procedures available in the armamentarium of a patellofemoral surgeon. In the JUPITER cohort, the majority of patients underwent MPFL reconstruction. A lateral retinacular procedure was included in roughly a quarter of the patients. Tibial tubercle osteotomy was part of treatment for roughly 20% of patients. Other procedures were much less frequent.

Category: Knee - Patellofemoral

Change in Tibial Tubercle-Trochlear Groove Distance During Adolescent Growth

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