Medial Patellofemoral Ligament Repair Restores Stability in Pediatric Patients When Compared to Reconstruction

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BACKGROUND AND OBJECTIVES

• Patellar instability is a common and challenging condition to treat in the pediatric population.
• Recurrence rate is high with nonoperative intervention, and medial patellofemoral ligament (MPFL) reconstruction has known complications.
• MPFL repair offers an alternative method to restore patellar stability and has shown promising results in the adult population.
• The purpose of this study was to assess the outcomes of MPFL repair in a pediatric cohort, and to compare these outcomes to a historic cohort of pediatric patients who underwent MPFL reconstruction.

METHODS

• One surgeon performed 16 MPFL repairs on pediatric patients for traumatic patellar instability. [Figures 1-3]
• Average follow-up of 1.5 years.
• Age, sex, skeletal maturity, trochlear dysplasia, additional procedures, final range of motion, and complications were recorded.
• A sub-cohort with >1 dislocation (10 patients) was compared to a historical group (22 patients) with >1 dislocation who underwent allograft MPFL reconstructions by the same surgeon.

RESULTS

• 10/16 (63%) of patients had >1 dislocation event at time of presentation.
• 13/16 (81%) of patients had trochlear dysplasia.
• There were no complications and no recurrent instability in the repair group at last follow-up.
• Patients in the reconstruction group were older than the repair group (15.6 years vs. 13.0 years, p < 0.05), had lower CD ratio (1.2 vs. 1.4, p < 0.05), and had lower percentage of additional procedures (59% vs. 100%, p < 0.05) [Table 1].
• There were 3 complications in the reconstruction group: 2 patients with recurrent instability and 1 patient with patella fracture requiring revision surgery.

DISCUSSION

• We report no episodes of recurrent instability in our cohort of patients undergoing MPFL repair. This is in contrast to prior studies which have demonstrated mixed results after repair.
• Differences in surgical technique, duration of follow-up, patient population, and rehabilitation protocols are potential explanations for this discrepancy.
• Limitations include the relatively short duration of follow-up and small cohort sizes.

CONCLUSIONS

• MPFL repair in our cohort of pediatric patients resulted in a low risk of recurrent instability with rates comparable or better than that of allograft reconstruction.
• Longer follow-up is needed to demonstrate the durability of MPFL repair in preventing late episodes of recurrent instability.
• Future research comparing MPFL repair to reconstruction in a prospective and randomized fashion may be warranted to determine the optimal surgical treatment for this common pediatric condition.