High rates of lateral patellar redislocation and inconsistent subjective satisfaction in pediatric patients at 7-year follow-up

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Introduction

Treamtent of primary lateral patellar Dislocation (LPD) in the pediatric population is controversial. Aim of this retrospective analysis was the evaluation of nonoperative und different operative treamtent strategies in our clinic regarding functional scores and recurrence rate.

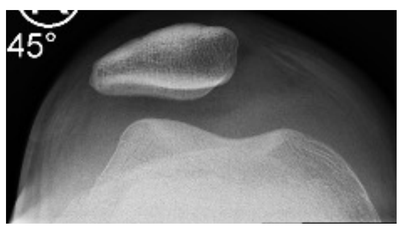


Fig 1. LPD of a 14 year old boy

Methods

A retrospective case series involving 141 patients (98 girls, 43 boys) 6-15 years at initial consultation that were treated at our institution from 01.2007 to 05.2018 due to LPDs with a minimum follow-up of 12 Month. Patients were either treated nonoperatively or by medial temporary hemiepiphysiodesis (TH), acute MPFL repair with suture, mod. Slocum procedure (Fig. 3) or MPFL reconstruction in physeal sparing technique (Fig. 2). A questionnaire focusing on recurrence of dislocation, secondary treatment, PROMs (Kujala AKPS, Pedi-IKDC) were answered with a follow-up rate of 80%.

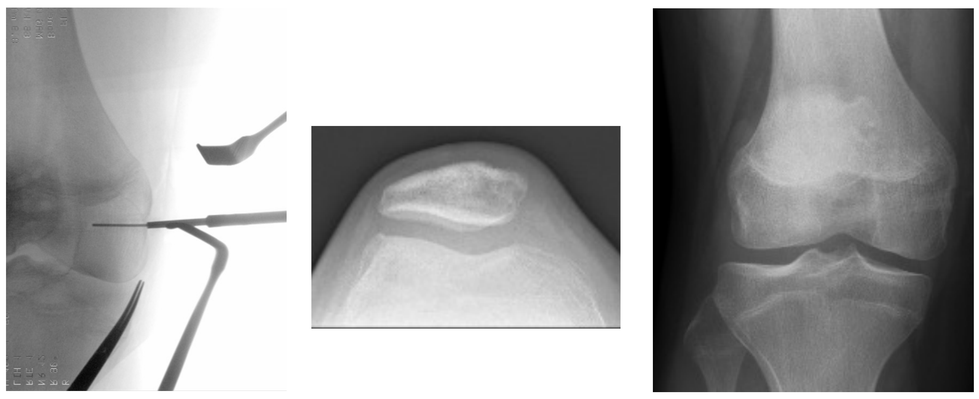


Fig 2. same patient as Fig 1 after physeal sparing MPFL reconstruction

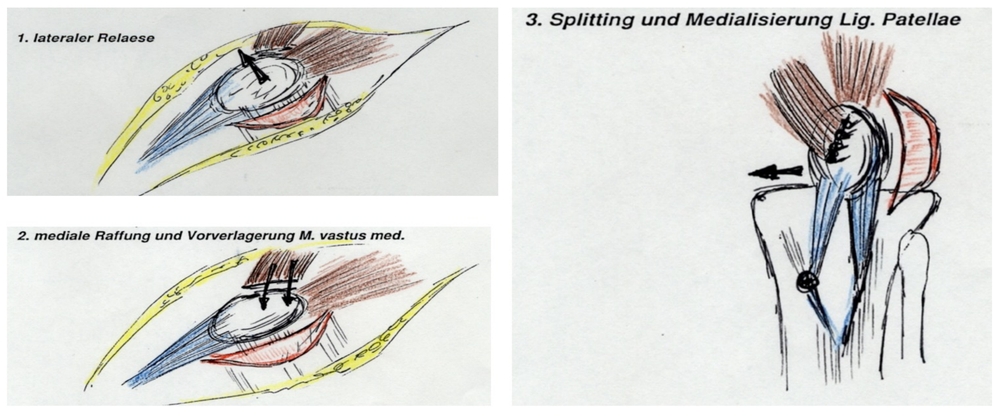


Fig 3. modified Slocum procedure

Results

The mean age at first consultation in our department was 12.3±2.2 (7-15 years). The mean follow-up was 7.0±3.1 years.

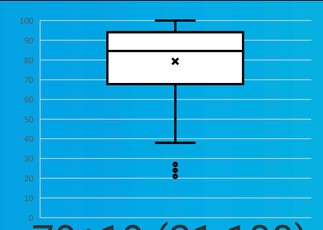
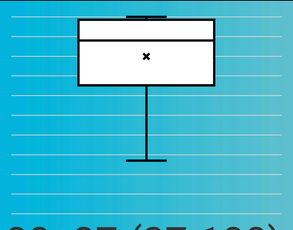
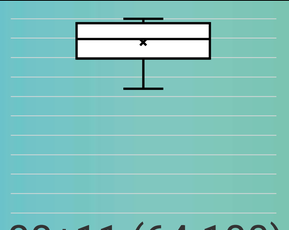
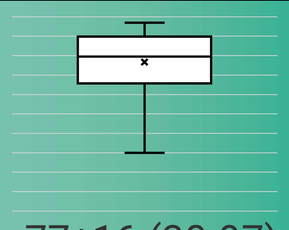
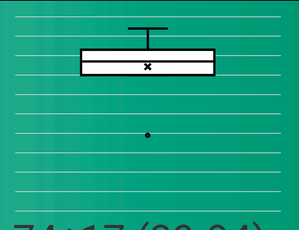
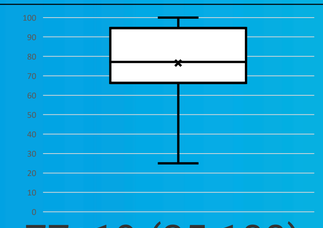
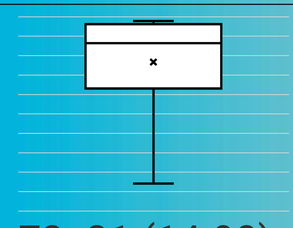
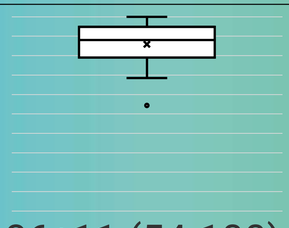
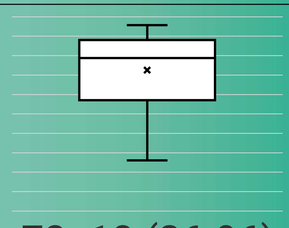
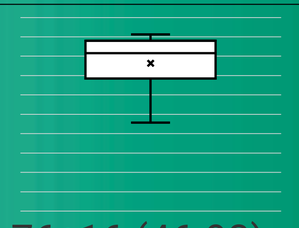
	nonoperative	medial TH	MPFL repair	mod. Slocum procedure	MPFL reconstruction
Nr. of patients	77	7	20	30	7
Rate of Redislocation	48 (62%)	4 (57%)	7 (40%)	13 (43%)	1 (14%)
AKPS	 79±19 (21-100)	 88±27 (27-100)	 88±11 (64-100)	 77±16 (30-97)	 74±17 (39-94),
IKDC	 77±19 (25-100)	 73±31 (14-98)	 86±11 (54-100)	 73±18 (26-96)	 76±16 (46-93).

Table 1. Cohort size, redislocation rate and Box plots of PROMs after treatment (x = mean, ・= outlier)

Discussion

Redislocation rate after primary LPD was high. Subjective functional outcome scores are in all cohorts comparable, but with a wide variance in each cohort. At small cohort size, MPFL reconstruction achieved best results. Our results correlate with the temporary literature.

Conclusion

Results after LPD are unsatisfactory with a high recurrence rate. MPFL reconstruction has shown promising results but with a small number of patients. Larger cohort size is needed to rate its effectiveness.