

Patellar descent with medial patellofemoral ligament reconstruction in patients with open physis



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Introduction

Children and adolescents, can be presented risk factors:
Patella alta, ligament laxity, increased Q angle, dysplasia,
rotational disorders, MPFL rupture, TT-TG distance $> 15\text{mm}$,
femoral anteversion





Objectives

To analyze the medial patellofemoral ligament (MPFL) reconstruction in patients with open physis, with an ipsilateral autograft from semitendinosus

Clinical outcomes

Radiographic Outcomes

Return to sports





Hypothesis

Besides getting patellar stability, MPFL reconstruction with semitendinosus autograft in patients with open physis, generates patellar descent





Methods

Retrospective Observational Analysis

2018-2021

26 patients. Open Physis. 9 - 16 years old

17 F and 9 M

Caton-Deschamps Index

Pre and Postoperative Lateral Knee

Radiographs

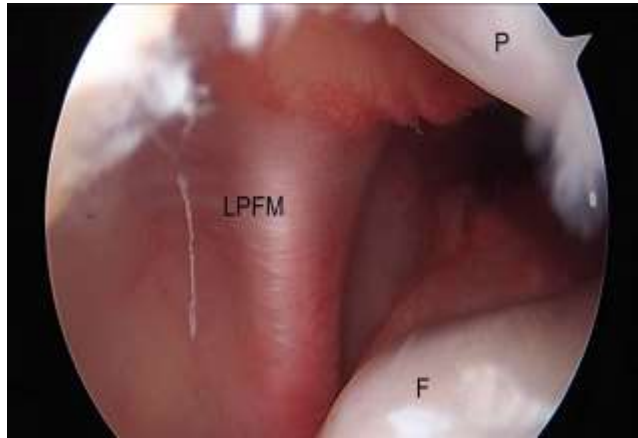
Tegner, Lysholm and IKDC Scales



AT/AR. NV = 0.6 - 1.2



Surgical Technique





Outcomes

| Variable | Pre-op | | Post-op | | p-value |
|-----------------------|--------|------|---------|------|---------|
| | Media | SD | Media | SD | |
| Patellar height | 30.45 | 3.42 | 29.63 | 3.93 | 0.113 |
| Tibial height | 42.92 | 7.75 | 35.72 | 6.00 | 0.0001 |
| Caton-Deschamps Index | 1.41 | 0.21 | 1.18 | 0.14 | 0.0001 |

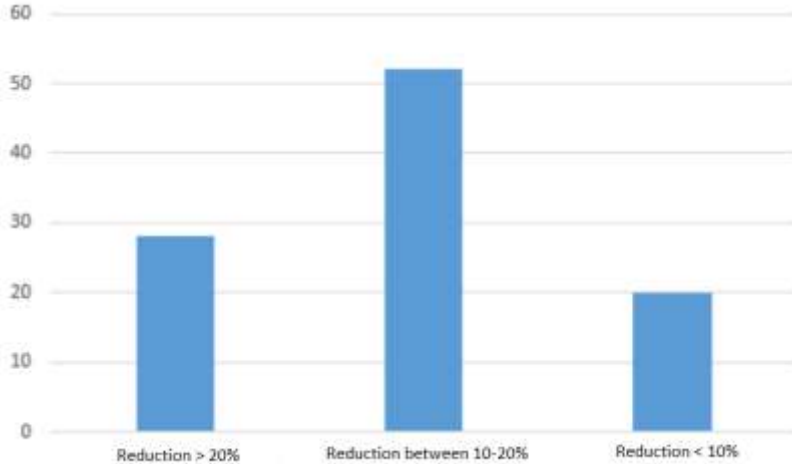


Figure 1. Tibial height percentage reduction between pre- and post-op (n=26).

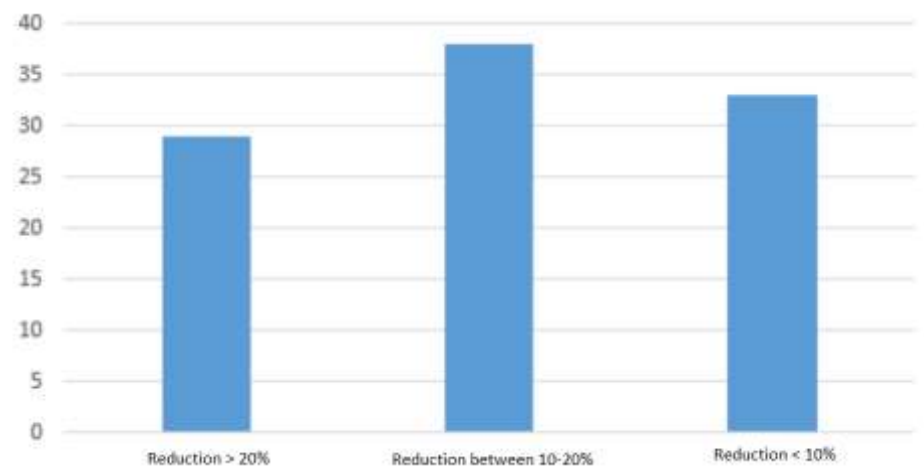


Figure 2. Caton-Deschamps index percentage reduction (n=26).

Average descent
of 0,23





Outcomes

Tegner. Pre-op of $2.8 \pm (0.8)$ Post-op $8.8 (\pm 0.8)$. $p < 0.0001$

Lysholm. Preop of $43.7 (\pm 4.7)$ Postop $87.1 (\pm 3.6)$. $p < 0.0001$

The IKDC Subjective. 22 “normal” patients. 4 “close to normal” patients.

All the patients had a return to sport similar to pre-injury level





Discussion

Fabricant y cols. 27 patients. 22F, 5M. Average of 14.9 years old. Hamstring tendon graft. Pre-op Caton-Deschamps index was 1.39, post-op 1.17. Descent of 0.22. $p < 0.001$

Lykissas y cols. 38 patients. 22F, 16M. Average of 14.2 years old. Gracilis tendon graft. Pre-op Caton-Deschamps Index 1.29, post-op 1.15. Descent 0.14. $p < 0.001$





Discussion

Lui y cols. 121 patients. Average 23.8 years old (76%F). Hamstring graft. Pre-op Caton-Deschamps Index 1.2, post-op was not assessed. Complications: 2 patients with patellofemoral dislocation and 1 with apprehension. Pre-op Lysholm from 59.1 to 88.8 post-op, $p < 0.001$





Conclusion

MPFL reconstruction in patients with open physis, is an effective and safe procedure

Assessment with Caton-Deschamps Index is simple, reliable y reproducible

With proper surgical technique, Patellar height would be possible to reduce in patients with open physis





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