

obtaining lateral views with perfect superposition of the femoral condyles. The Insall-Salvati ratio was measured on lateral radiographs, but no significant differences between groups were noted. A significant difference was only identified in preoperative congruence angle between groups. Proper tension and graft length applied at MPFL reconstruction may be necessary to prevent further dislocation after surgery. Conversely, re-dislocation and return of excessive lateral pressure may occur with reductions in tension. Recurrent patellar dislocation is caused by the combination of various predisposing factors, and nobody knows the exact length of MPFL in each patient. To solve the double-edged sword problems, further research is needed.

Several limitations in this study must be considered. First, not all patients who underwent MPFL reconstruction were examined in this series. Some potential for bias in patient selection may thus exist, and the 24 patients investigated in the present study might not have been representative of the entire 71 patients. However, the cohort of 25 knees that underwent MPFL reconstruction and second-look arthroscopy represents a bigger group of patients compared with previous studies, and the information provided by this investigation is meaningful. Second, one patient suffered patellar fracture related to a drill hole in this series. Until 2003, a 4.5-mm transverse bone tunnel had been created in the patella. To decrease the potential risk of patellar fracture, the bone tunnel technique has been changed to bone socket technique using a 2.4-mm Kirschner wire. This procedure still carries some risk of patellar fracture, but a stronger initial fixation is expected by both pull-out fixation and bone-tendon healing compared with suturing to the periosteum or VMO tendon [28]. Finally, the duration between initial surgery and second-look arthroscopy might have been too short to evaluate the patellar movement after MPFL reconstruction, as the mean duration tended to be shorter for “centrally located type” than for “laterally shifted type”, although the difference was not significant. No correlation was evident between the interval to MPFL reconstruction and duration of follow-up and patella tilt and congruence angle (data not shown). In anterior cruciate ligament reconstruction, the implanted graft reportedly underwent graft remodeling or stress relaxation for 6 months postoperatively [24]. This finding is relevant to MPFL reconstruction, and ≥ 6 months between initial and second-look arthroscopy is sufficient to examine patellar tracking.

Conclusion

Not all improved patellar tracking seen just after MPFL reconstruction surgery remained intact at follow-up. Two

patterns of patellar tracking were observed arthroscopically following MPFL reconstruction: “centrally located type” and “laterally shifted type”. No obvious chondral damage in the patellofemoral joint was seen at second-look arthroscopy, but locations showing cartilage deterioration differed between types.

Conflict of interest The authors report no conflict of interest.

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