
Medial Patellofemoral Ligament Reconstruction for Recurrent Dislocation of the Patella

Motoi Yamaguchi, M.D*, Shinichi Yoshiya, M.D**, Kiyonori Mizuno, M.D**, Ryousuke Kuroda, M.D**, Hirotsugu Muratsu, M.D** and Masahiro Kurosaka, M.D**.

*Department of Orthopaedic Surgery, *Meiwa Hospital, **Kobe University School of Medicine*

Introduction

Numerous surgical procedures have been reported for the treatment of patellar instability, however, selection of the procedure is still controversial and in fact, a combination of them has been performed based on the decision of each surgeon. From December 2000, we have performed medial patellofemoral ligament (MPFL) reconstruction using the hamstring tendon as a primary treatment of recurrent patellar dislocation. The purpose of this study is to describe our procedure and to report the short-term results.

Material and Methods

From 2000 to 2002, 19 knees in 18 patients (2 men and 16 women; average age, 17.5 years; range, 12 to 30 years) underwent a MPFL reconstruction. Postoperative follow-up was ranged from 12 to 27 months (mean, 18 months). In the reconstructive procedure, the double-stranded semitendinosus tendon was used as the graft. The graft fixation site was determined after examining the length change of the graft through the range of motion intraoperatively. Two suture anchors in the patella and an interference screw in the femur were used for the graft fixation. In some cases additional procedures, such as lateral release and/or advancement of the vastus medialis were performed before MPFL reconstruction.

Result

No recurrent dislocation was noted during the follow-up period. Full range of knee motion was achieved in all cases at follow-up. Based on Crosby and Insall evaluation system, 10 knees had excellent results and 9 had good results. One patient underwent a subsequent medial release because of medial patellar subluxation induced by excessive graft tension, but this patient rated her knee as good at final follow-up.

Conclusion

Until recently, distal realignment (tibial tubercle medialization) had been our primary treatment option for recurrent dislocation of the patella. However, in our experiences with that procedure, such as the extent of transfer was difficult to control and some patients had spent a long post-operative period recovering the sufficient muscle strength for participating in competitive sports. Based on the previous anatomical and biomechanical studies and our cadaveric experiment, a role of the MPFL for the patella stability has been realized. Therefore, MPFL reconstruction was performed as a primary choice of procedure for recurrent patellar dislocation at our institutions. Although short term results of the MPFL reconstruction is successful in this series, more long term observation should be necessary to assess the effectiveness of this procedure. Finally, it has to be stressed that the graft tension pattern and the patellar trackin! g throughout an arc of motion should be examined during the operation.

Key word: Medial patellofemoral ligament, Reconstruction, Patellar dislocation

Acknowledgment

The authors acknowledge T. Isomichi, PhD, M. Matuda, PhD, S. Kawamura, PhD and T. Iwatubo, PhD at the Department of Mechanical Engineering, Kobe University, for their assistance on this study.