MPFL RECONSTRUCTION FAILURE DUE TO MEDIAL PATELLAR SUBLUXATION

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Purpose: Medial patellofemoral ligament reconstruction (MPFLR) is successful in treating patellar instability with lateral subluxation. However, failures can occur with unrecognized patella alta and/or trochlear dysplasia or technical error. In addition, medial patellar subluxation (MPS) is an often unrecognized cause of failure after MPFLR. The instability associated with MPS is easily mistaken for lateral patellar subluxation and if MPS is present, MPFLR will fail as the diagnosis is incorrect.

MPS occurs as the patella rotates up on the lateral side on a longitudinal axis due to laxity of the lateral retinaculum in extension. This laxity can occur naturally or after lateral release. In addition, the medial femoral trochlea is undeveloped or shallow in early flexion, thus not providing bony support to resist medial subluxation. This combination of factors allows the patella to slide off the medial trochlea in early flexion no matter the stability of the MPFL. MPS, when diagnosed, can be successfully treated with lateral patellofemoral ligament reconstruction (LPFLR) which will eliminate the rotational instability on the lateral side of the patella. The purpose of this study is to discuss the pathomechanics of MPS and review the clinical results after LPFLR in patients with MPS and no prior surgery.

The mechanism of MPS will be explained, clinical, and arthroscopic findings demonstrated, and an uncomplicated technique for reconstruction of the Lateral PatelloFemoral Ligament (LPFL) using partial thickness quadriceps tendon graft will be presented.

Methods: We identified 44 knees in 40 patients (25 female, 15 male, average age 30, range 14.4 to 66.9 years) with MPS and no prior surgery who underwent LPFLR with autogenous quadriceps tendon or gracilis allograft. Some of the cases were thought to have lateral patellar subluxation. The correct diagnosis was determined by arthroscopy. Patients were assessed for patellar stability, complications, and need for revision surgery. Patient functional results were evaluated with Kujala and KOOS Anterior Knee Pain Scales. Patient satisfaction was assessed with a subjective questionnaire.

Results: LPFLR successfully restored patellar stability in 95% of patients at 38 months follow-up (range, 25 to 75 months). One failure was revised with gracilis allograft and one was revised after injury, both with resolution of MPS. Three cases had a concomitant tibial tubercle transfer (TTT) at the initial procedure and one additional TTT was done at revision. There were no infections. Patient-reported outcomes (Kujala and KOOS scales) and a patient satisfaction survey have identified good to excellent results with high patient satisfaction.

Conclusion: MPS without prior surgery is often not recognized as a source of patellar instability. It can easily be mistaken for lateral patellar subluxation. MPS can be suspected by clinical examination and confirmed by arthroscopy. If not recognized, MPFLR can fail. MPS is not uncommon and can be successfully treated by LPFLR with a tendon graft.