Paper #32

Extensor Mechanism Reconstruction with Synthetic Mesh: Large Series of 77 Total Knee Arthroplasties

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Notes

Introduction: Extensor mechanism disruptions after total knee arthroplasties (TKAs) are debilitating, with a variety of results reported after numerous reconstructive options. We previously reported the early results on 13 patients reconstructed with synthetic mesh. The purpose of the current study was to assess the results in a larger cohort, with emphasis on success of the mesh, clinical results, and functional outcomes.

Methods: Between 2000 and 2015, 77 patients (77 TKAs) underwent synthetic mesh reconstruction for an extensor mechanism disruption (28 for quadriceps tendon disruptions, 42 for patellar tendon disruptions, and 7 for patellar fractures) at a single tertiary care academic institution. The mean age at time of reconstruction was 66 years, with 69% being female. The mean BMI was 35 kg/m2, and mean follow-up was 4 years. Eighteen underwent mesh reconstruction with primary TKAs in situ, while 59 had mesh reconstructions at the time of revision TKA. Twenty patients (26%) had previous attempts at extensor mechanism reconstructions at outside institutions. The mean time between disruption and reconstruction was 7 months.

Results: Of 77 mesh reconstructions, 65 were in situ at last follow-up (84%). Twelve failures required mesh revision due to patellar tendon re-rupture (5/12), quadriceps tendon re-rupture (5/12), and symptomatic lengthening (2/12). Four mesh failures were treated non-operatively with bracing. Survivorship free of mesh revision was 83% at 2 years in patients with no prior reconstruction, and 90% at 2 years in patients with previous attempts at non-synthetic mesh extensor mechanism procedures. Knee Society Scores significantly improved (p<0.0001). Extensor lags improved by a mean of 28° with a mean postoperative extensor lag of 9° (p<0.0001).

Conclusions: Extensor mechanism reconstruction with synthetic mesh is a viable option in patients with catastrophic disruption after TKA. At most recent follow-up, 84% were in situ, and the functional outcomes were excellent.

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