Previous Extensor Mechanism Repair is Associated with Increased Surgical Complications following Total Knee Arthroplasty (TKA): A Propensity Matched Analysis

Background

Though extensor mechanism failure following TKA is a devastating complication and has been heavily studied in the literature, the impact of extensor mechanism rupture and concomitant repair prior to TKA has not previously been evaluated. The purpose of this investigation was to evaluate how quadriceps and/or patellar tendon repairs prior to TKA would impact medical and surgery-related complications following TKA.

Methods

The PearlDiver database was retrospectively reviewed to identify all primary TKA patients from 2010 to 2019. Patients who underwent quadriceps or patellar tendon repair prior to TKA were matched using a propensity score algorithm to a set of similar patients who underwent no such repair prior to TKA. We compared medical and surgical complication rates, emergency room visits, readmissions, and 90-day cost of care between the groups.

Results

1,197 patients underwent extensor mechanism repair prior to TKA and were matched to 11,970 patients who did not undergo repair prior to TKA. Patients who underwent extensor mechanism repair had higher rates of 90-day medical complications, as well as one-year surgery related complications including revision TKA (OR 6.06; p<0.001), lysis of adhesions (OR 2.18; p=0.026), aseptic loosening (OR 2.21; p = 0.018), infection (OR 7.58; p<0.001), and fracture (OR 8.53; p < 0.001). Patients with prior extensor mechanism repair were more likely to return to the ED (OR 1.66; p < 0.001) and become readmitted (OR 4.15; p < 0.001) within 90 days.

Conclusion

Patients with previous extensor mechanism repair exhibited higher medical and surgery-related complications, including lysis of adhesions, following TKA compared to a control cohort. These findings may suggest that patients may require additional surveillance in the early postoperative period to avoid these disastrous complications following primary TKA.