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Paper #2

Quadriceps Tendon Graft Has Higher Revision Rates than Hamstring and Patellatendon Grafts for ACL Reconstruction: Results from the Danish Knee Ligament Reconstruction Registry

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Summary:

ACL registry data demonstrate high revision rates for quadriceps tendon graft for ACL reconstruction.

Abstract:

Purpose

Quadriceps tendon (QT) has recently gained increase interest as ACL reconstruction graft due to introduction of minimal invasive harvesting techniques and low donor site morbidity. There is a lack of data on failures and revision rates from large sized cohorts.

The aim of this study is to present objective knee stability, subjective outcome in patients after ACL reconstruction with QT graft and compared these with hamstring (HS) and patellatendon (PT) grafts based on results from DKRR. We hypothesized similar stability, subjective outcome and revision rates as hamstring and patella tendon grafts.

Methods

Respectively 425, 2639 and 18709 of QT, PT and HS tendon ACL reconstructions were registered in the DKRR between 2005 and 2016. Objective outcomes of sagittal knee laxity, positive pivot shift, patient-reported outcome (KOOS) at one-year follow-up and revision rates at 2 years was used to compare the outcome of the 3 graft cohorts.

Results

QT graft usage was associated with more knee laxity than HS and PT grafts of 1,7, 1.6 and 1,5 mm respectively. Also a higher rate of positive pivot shift (21 %) was found for QT grafts versus PT (18 %) and HS tendon (17 %). KOOS outcome demonstrated improvement for all graft types from pre- to postoperative with no difference between graft types. Revision rates after 2 years were 4,9, 1,6 and 2,3 % for QT, PT and HS tendon ACL reconstructions

Conclusion

QT graft for ACL reconstruction demonstrated excellent improvements in knee laxity and subjective outcome similar to PT and HS tendon grafts. However QT graft was associated with a concerning high rate of revision within two years and more knee laxity. We do not conclude similar outcome for QT, PT and HS tendon ACL reconstructions as hypothesized.