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This Study Compares The Outcomes Of Isolated Acl Reconstruction Using Patellar Tendon Autograft (Pt) And Hamstring Autograft (Ht) In 180 Patients Over 20 Years.

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Summary:
This study compares the outcomes of isolated ACL reconstruction using patellar tendon autograft (PT) and hamstring autograft (HT) in 180 patients over 20 years.

Abstract:
Background: Long-term prospective studies of isolated endoscopic anterior cruciate ligament (ACL) reconstruction are limited and may include confounding factors.
Purpose: This study compares the outcomes of isolated ACL reconstruction using patellar tendon autograft (PT) and hamstring autograft (HT) in 180 patients over 20 years.
Study Design: Case series; Level of evidence, 4.
Methods: 180 participants undergoing isolated ACL reconstruction between 1993 and 1994 were prospectively recruited. Evaluation was performed at 1, 2, 5, 7, 10, 15, and 20 years after surgery and included the International Knee Documentation Committee (IKDC) Knee ligament evaluation with radiographic evaluation, KT1000, and subjective scores.
Results: Over 20 years, 16 (18%) had an ACL graft rupture in the HT group, and 9 (10%) in the PT group (p=0.13). ACL graft rupture was associated with male gender (OR 3.9, p=0.007), non-ideal tunnel position (OR 3.6, p=0.019) and those aged <18 at time of surgery (OR 4.6, p=0.003). The odds of contralateral ACL rupture, were increased in those with the PT graft compared to the HT graft (OR 2.2, p=0.02) , and those age <18 at the time of surgery (OR 3.4, p=0.001). The mean IKDC score was 86 for the PT and 89 for HT at 20 years (p=0.18). At 20 years 53% of the PT group and 57% of the HT group participated in strenuous or very strenuous activities (p=0.55). Kneeling pain was present in 20% of the HT group and 63% of PT group (p=0.018). Radiographic osteoarthritic change was found in 61% of the PT group, and 41% of the HT group (p=0.008) at 20 years.
Conclusion: Participants receiving the PT graft had significantly worse outcomes compared to those receiving HT graft regarding radiologically detectable osteoarthritis, kneeling pain and contralateral ACL injury. At 20 years both HT and PT autografts continue to provide good subjective outcomes and objective stability. However, further ACL injury is common, particularly in males, the young, and those with tunnel malposition.
Keywords: knee; anterior cruciate ligament (ACL); reconstruction; long-term outcome
Clinical Relevance: There is limited literature reporting the long-term outcome of ACL reconstructive surgery, specifically regarding reinjury, arthritis and functional outcome. This study reports the outcomes of ACL reconstruction over 20 years, providing better understanding of the long term effects of ACL reconstruction and the incidence of further ACL injury.