NZACL REGISTRY

Hamstring Tendon Autograft Should Be Avoided in High-Risk Patients Undergoing ACL Reconstruction

A New Zealand ACL Registry Study

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Mandatory Faculty Disclosure

No Financial Conflicts to Disclose

Introduction

- Younger patients are at the highest risk of repeat injury after anterior cruciate ligament (ACL) reconstruction
- The hamstring tendon autograft remains the most popular choice of graft in the world, but its use in these high-risk patients is controversial
- This study aimed to compare revision rates between the bone-patellar tendon-bone (BTB) and hamstring tendon autografts in a high-risk patient population

Methods

- Prospective data recorded in the New Zealand ACL Registry were analyzed
- Primary ACL reconstructions performed between April 2014 and March 2022 were analyzed, allowing for a minimum follow-up of two years
- A cohort of high-risk patients were identified
- Revision rates were compared between the BTB and hamstring tendon autografts using Chi-square test
- Cox regression survival analysis was performed to calculate hazard ratios (HR) with 95% confidence intervals (CI) adjusted for gender

High-Risk Criteria

Age 14-25 years

ACL rupture during sporting activity

Time to surgery within 12 months

Grade ≥2 pivot shift

Preinjury Marx activity score ≥8

3,482

High-Risk Primary ACLR

2014 – 2022

Min 2Y F/U

Revision Rates

Revision Rates

1,391
BTB

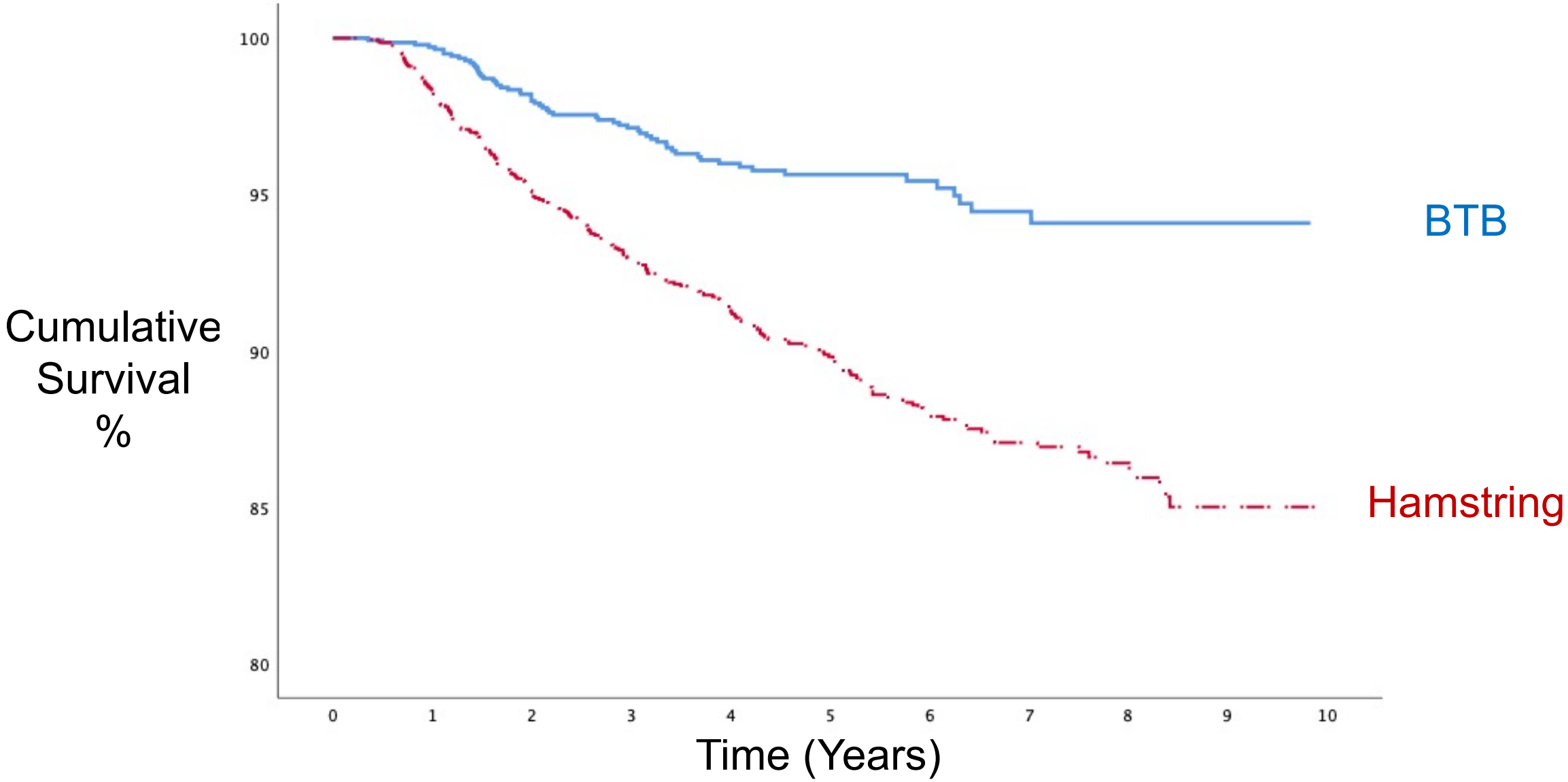
4.3%
n = 60

2,091
HT

11.4%
n = 238

Adjusted HR = 2.4
p<0.001

Kaplan-Meier



Conclusion

- In high-risk patients undergoing ACL reconstruction, the use of a hamstring tendon autograft increases the risk of revision and should be avoided