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The Addition Of An Extra-Articular Anterolateral Ligament Reconstruction To An ACL Reconstruction With Hamstring Tendons Smaller Than 7 mm Produces Results Similar to Isolated ACL Reconstruction With Tendons Larger Than 8 mm In Diameter: A Matched-Pair Analysis

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Disclosure

- Baxter
- Conmed
- Link Orthopaedics
- Jonhson & Jonhson
- Pfizer
- P&G Health
- Smith Nephew

Introduction

- The hamstrings are the most used graft for ACL reconstruction
- Several studies in the literature report that hamstring tendons smaller than 8 mm in diameter produce worse results and have a higher rate of reconstruction failure
- The effect of an extra-articular reconstruction to smaller grafts in not well established
- A study performed by Marom et al. have shown that the addition of a lateral tenodesis transferred loads from the ACL graft to the LET
- Engebretsen et al. also concluded that the addition of an iliotibial band tenodesis to an existing intraarticular reconstruction significantly decreased the force in the ACL graft.

Objective

- The aim of this study is to compare patients undergoing ACL reconstruction with hamstrings graft of 7mm or less in diameter associated with an anterolateral ligament reconstruction with isolated ACL reconstructions with a graft larger than 8mm

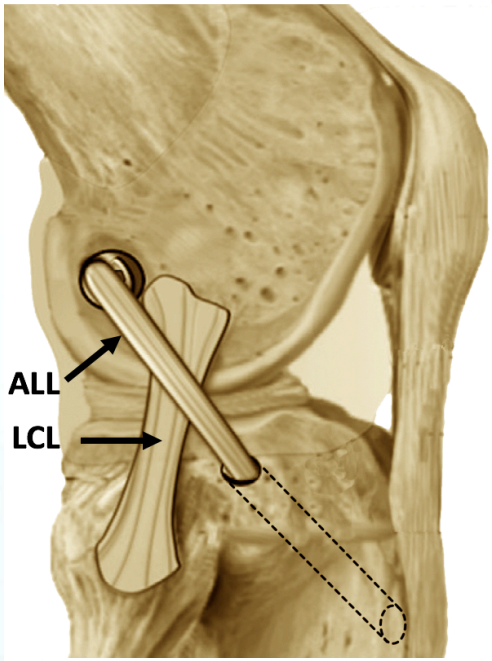
- Our hypothesis is that the results will be similar

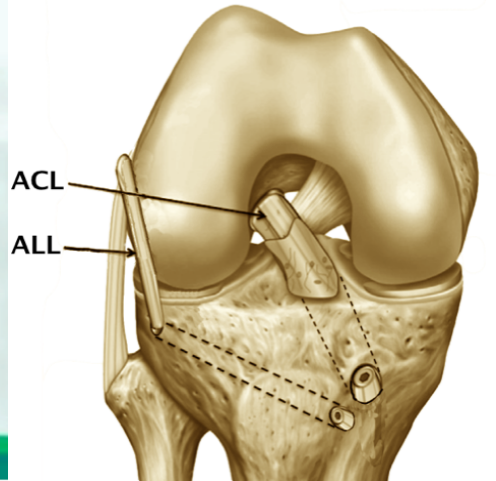
Methods

- Descriptive data and clinical outcomes were prospectively collected and retrospectively evaluated from patients who underwent primary ACL reconstruction with and without the addition of an anterolateral ligament reconstruction from June 2013 to January 2020 and with a minimum follow-up of 2 years

- Patients with an hamstrings autograft 7mm or less in diameter combined with an ALL reconstruction (HT-ALL group) were matched in a 1:2 propensity ratio to patients with isolated HT 8mm or larger (HT-group)

- Data were collected from medical records and databases of operated patients completed prospectively during normal patient follow-up.





Results

- Thirty patients submitted to a combined ACL + ALL reconstruction with an ACL graft 7mm or smaller were identified from our database

- This group was matched by age, sex, time from injury to surgery and meniscal tears, to 60 from our database of patients submitted to an isolated ACL reconstruction with a hamstring graft of 8mm or larger

- Both groups were similar regarding all pre-operative variables

Results

- Mean ACL graft diameter was 6.8 +/- 0.4mm fot the HT-ALL group and 8.6 +/- 0.6mm for the HT group ($p < .00001$)
- HT-ALL group presented one failure (3.3%) and HT group presented 3 failures (5%) ($p=1$)
- Post-operative KT-1000 was similar between groups (2.1 +/- 1.1mm vs 1.9 +/- 1.2mm; $p=0.11$) as well as post-operative pivot shift ($p=0.17$)
- Subjective IKDC scores did not present any difference between the groups ($p=0.28$) as well as the Lysholm score ($p=0.84$)

Discussion and conclusion

- This is one of the first studies to clinically compare the effect of an ALL reconstruction in cases of grafts considered to be of small diameter for ACL reconstruction
- According to the results present, even if the ACL graft is 7mm or less, comparable results of a reconstruction with a graft 8mm or larger can be achieved if an ALL reconstruction is added
- Although we do not advocate ACL reconstruction with small-diameter grafts, even with the possibility of associated ALL reconstruction, this scenario should be further studied in the literature.

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Thank you

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Small Hamstring Tendon Graft for Anterior Cruciate Ligament Reconstruction Combined With Anterolateral Ligament Reconstruction Results in the Same Failure Rate as Larger Hamstring Tendon Graft Reconstruction Alone

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Helito CP, da Silva AGM, Sobrado MF, Guimarães TM, Gobbi RG, Pécora JR. Small Hamstring Tendon Graft for Anterior Cruciate Ligament Reconstruction Combined With Anterolateral Ligament Reconstruction Results in the Same Failure Rate as Larger Hamstring Tendon Graft Reconstruction Alone. Arthroscopy. 2023 Feb 10:S0749-8063(23)00160-3. doi: 10.1016/j.arthro.2023.01.101. Epub ahead of print. PMID: 36774971.

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