



Graft Choice and the Incidence of Osteoarthritis After Anterior Cruciate Ligament Reconstruction: A Causal Analysis From a Cohort of 541 Patients

Submitted by Beatrice Guillaumat on Wed, 01/09/2019 - 14:58

Titre	Graft Choice and the Incidence of Osteoarthritis After Anterior Cruciate Ligament Reconstruction: A Causal Analysis From a Cohort of 541 Patients
Type de publication	Article de revue
Auteur	Lecoq, Flore-Anne [1], Parienti, Jean-Jacques [2], Murison, James [3], Ruiz, Nicolas [4], Bouacida, Khaled [5], Besse, Jérémie [6], Morin, Vincent [7], Padiolleau, Giovany [8], Cucurulo, Thomas [9], Gravelleau, Nicolas [10], Hulet, Christophe [11]
Organisme	Société Française de Chirurgie Orthopédique et de Traumatologie (SoFCOT) [12]
Editeur	SAGE Publications (UK and US)
Type	Article scientifique dans une revue à comité de lecture
Année	2018
Langue	Anglais
Date	Octobre 2018
Numéro	12
Pagination	2842-2850
Volume	46
Titre de la revue	The American Journal of Sports Medicine
ISSN	1552-3365
Mots-clés	anterior cruciate ligament reconstruction [13], long-term outcome [14], meniscectomy [15], Osteoarthritis [16], Propensity score [17]

	<p>BACKGROUND: Anterior cruciate ligament (ACL) reconstruction is important to prevent knee osteoarthritis. Neither of the 2 most common graft techniques—the patellar tendon (PT) or hamstring tendon (HS) graft—has demonstrated superiority in terms of the long-term osteoarthritis rate.</p> <p>HYPOTHESIS: Based on the International Knee Documentation Committee (IKDC) radiographic grading system, PT grafts decrease the incidence of osteoarthritis by providing better knee stability as compared with HS grafts over 12 years of follow-up.</p> <p>STUDY DESIGN: Cohort study; Level of evidence, 3.</p> <p>METHODS: All adults with a first ACL rupture who underwent surgery with a PT or HS graft technique between January 2002 and December 2003 were included in the 2014 French Society of Orthopedic Surgery and Traumatology Symposium database. Baseline characteristics were collected. The primary endpoint was the occurrence of moderate to severe osteoarthritis in each group. The secondary endpoints included clinical subjective evaluations by the IKDC score and Knee injury and Osteoarthritis Outcome Score. To control the differences in baseline characteristics, the data were analyzed with propensity score matching.</p> <p>RESULTS: In the cohort, 541 patients from 18 centers were included: 311 PT and 230 HS ACL reconstructions. The baseline characteristics were similar after inverse probability weighting treatment (IPWT). The occurrence of osteoarthritis was similar after IPWT (19.3% for PT and 19.6% for HS, $P = .94$). Age at surgery >29 years and IKDC osteoarthritis stage B at the index surgery were identified as risk factors for moderate to severe osteoarthritis. Most functional outcomes were significantly higher in the HS group; however, the difference between groups remained <10 points. Of the 106 patients who needed a medial meniscectomy, the proportion of patients with moderate to severe osteoarthritis was much higher in the HS group (43.5% vs 18.3%, $P = .006$). However, after IPWT, the difference was not statistically significant.</p> <p>CONCLUSION: At 12 years of follow-up, neither graft technique was superior to the other in terms of the rate of osteoarthritis.</p>
URL de la notice	http://okina.univ-angers.fr/publications/ua18577 [18]
DOI	10.1177/0363546518795137 [19]
Lien vers le document	https://journals.sagepub.com/doi/abs/10.1177/0363546518795137?journalCode=amjs [20]
Titre abrégé	Am J Sports Med
Identifiant (ID)	30199646 [21]
PubMed	

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- [19] <http://dx.doi.org/10.1177/0363546518795137>
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Publié sur *Okina* (<http://okina.univ-angers.fr>)