



Original Article

Functional results from reconstruction of the anterior cruciate ligament using the central third of the patellar ligament and flexor tendons[☆]



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ARTICLE INFO

Article history:

Received 11 September 2014

Accepted 23 October 2014

Available online 17 October 2015

Keywords:

Anterior cruciate ligament

Knee

Treatment

ABSTRACT

Objectives: To evaluate knee function in patients undergoing reconstruction of the anterior cruciate ligament (ACL) using the central third of the patellar ligament or the medial flexor tendons of the knee, i.e. quadruple ligaments from the semitendinosus and gracilis (ST-G), by means of the Knee Society Score (KSS) and the Lysholm scale.

Methods: This was a randomized prospective longitudinal study on 40 patients who underwent arthroscopic ACL reconstruction between September 2013 and August 2014. They comprised 37 males and three females, with ages ranging from 16 to 52 years. The patients were numbered randomly from 1 to 40: the even numbers underwent surgical correction using the ST-G tendons and the odd numbers, using the patellar tendon. Functional evaluations were made using the KSS and Lysholm scale, applied in the evening before the surgical procedure and six months after the operation.

Results: From the statistical analysis, it could be seen that the patients' functional capacity was significantly greater after the operation than before the operation. There was strong evidence that the two forms of therapy had similar results ($p = >0.05$), in all the comparisons.

Conclusions: The results from the ACL reconstructions were similar with regard to functional recovery of the knee and improvement of quality of life, independent of the type of graft. It was not possible to identify the best method of surgical treatment. The surgeon's clinical and technical experience and the patient are the factors that determine the choice of graft type for use in ACL surgery.

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<http://dx.doi.org/10.1016/j.rboe.2015.10.002>

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Resultados funcionais da reconstrução do ligamento cruzado anterior com o terço central do ligamento patelar e os tendões flexores

R E S U M O

Palavras-chave:

Ligamento cruzado anterior

Joelho

Tratamento

Objetivos: Avaliar a função dos joelhos em pacientes submetidos à reconstrução do ligamento cruzado anterior (LCA), com o terço central do ligamento da patela (TP) ou os tendões flexores mediais do joelho (semitendíneo e grácil quádruplos: ST-G) ipsilaterais, por meio do Knee Society Score (KSS) e da escala de Lysholm.

Métodos: Estudo longitudinal, prospectivo e randomizado, com 40 pacientes submetidos à reconstrução do LCA por via artroscópica, de setembro de 2013 a agosto de 2014, dos quais 37 eram do sexo masculino e três do feminino, com de 16 a 52 anos, enumerados de forma aleatória de 1 a 40. Os números pares foram submetidos à correção cirúrgica com os tendões do ST-G e os números ímpares com o TP. Foram aplicados para a avaliação funcional o KSS e a escala de Lysholm na noite anterior ao procedimento cirúrgico e com seis meses de pós-operatório.

Resultados: Em análise estatística foi possível observar que no pós-operatório a capacidade funcional dos pacientes foi significativamente maior do que no pré-operatório. Há fortes evidências de que ambas as terapêuticas sejam similares em seus resultados ($p = >0,05$), em todas as comparações.

Conclusões: Os resultados da reconstrução do LCA, independentemente do tipo de enxerto, são similares na recuperação funcional do joelho e na melhoria da qualidade de vida. Não foi possível identificar melhor método de tratamento cirúrgico. A experiência clínica, a técnica do cirurgião e o paciente são quem ditam a escolha do tipo de enxerto que deverá ser usado para a cirurgia do LCA.

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Introduction

Anterior cruciate ligament (ACL) injuries are the commonest ligament injuries of the knee. Considering that tears of this ligament mainly affect young individuals who practice sports, the treatment instituted needs to provide these patients with the conditions for them to return to their sport.¹

With the aim of achieving this objective, many techniques have been developed for reconstructing the ACL, especially over the last 30 years, using autografts, allografts or synthetic grafts, including through advances in arthroscopic techniques.² Today, the two options most commonly used for ACL reconstruction using autografts involve use of the medial hamstring muscles, quadruple semitendinosus and gracilis (ST-G) and the central third of the patella ligament (PT).³

Recently, many systems have been developed for evaluating the pre and postoperative results from patients who undergo surgical procedures on the knee.⁴ Use of these scales serves as an evaluation parameter and thus makes it possible measurements to be standardized and made uniform and reproducible, in relation to treatment proposals.

The Knee Society Score (KSS) combines subjective and objective information; separates the knee score (pain, stability, range of motion, etc.) from patients' functional scores (ability to walk and go up and down stairs); and assesses the clinical condition with regard to pain intensity, range of motion, anteroposterior and mediolateral stability, contractures during flexion, deformities and misalignment.⁵

The Lysholm scale is one of the questionnaires most used for evaluating knee symptoms. It is composed of eight questions, with closed alternatives for the responses, and the final result is expressed both in words and in numbers: "excellent", from 95 to 100 points; "good", from 84 to 94 points; "fair", from 65 to 83 points; and "poor", when the values are less than or equal to 64 points.⁶

The present study had the aim of evaluating patients who underwent surgical treatment for arthroscopic reconstruction of the ACL using an autograft from the ST-G or PT. To achieve this objective, the KSS and Lysholm scales needed to be used, applied during the immediate preoperative period and after six months of follow-up, in order to ascertain whether one technique might be superior to the other (ST-G versus PT).

Materials and methods

Between September 2013 and August 2014, a randomized prospective longitudinal study was conducted among patients for whom surgical treatment for ACL injuries had been indicated, because of complaints of instability and positive physical and complementary examinations. These operations were performed using an ipsilateral autograft either from the central third of the patellar ligament (PT) or from the medial flexor tendons of the knee, i.e. the semitendinosus and gracilis (ST-G).

The inclusion criteria considered were that the patients needed to have been properly registered at the knee surgery

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