

Hamstring tendon autograft versus LARS artificial ligament for arthroscopic posterior cruciate ligament reconstruction in a long-term follow-up

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Abstract

Introduction Surgical reconstruction has been increasingly recommended for the surgical management of posterior cruciate ligament (PCL) ruptures. While the choice of tissue graft still remains controversial. Currently both hamstring tendon autograft (HTG) and ligament advanced reinforcement system (LARS) artificial ligament are widely used but there are seldom reports on the comparisons of their clinical results. Our study was aimed to assess the effectiveness of these two grafts.

Materials and methods Thirty-five patients with unilateral PCL rupture were enrolled in this retrospectively study. Sixteen of them received arthroscopically assisted PCL reconstruction using hamstring tendon autografts (HTG group) and nineteen using LARS ligaments (LARS group). All cases were followed up for 46–57 months with a mean of 51 months. Follow-up examinations included radiographic assessment, Lysholm score, Tegner score, International Knee Documentation Committee (IKDC) rating scales and KT-1000 test.

Results All patients improved significantly at the final follow-up compared with the examination results preoperatively and there were no significant differences between

HTG group and LARS group with respect to the results of radiographic assessment, Lysholm score, Tegner score, IKDC rating scales and KT-1000 test.

Conclusions Similar good clinical results were obtained after PCL reconstruction using hamstring tendon autografts and LARS ligaments. Both LARS ligament and hamstring tendon autograft are ideal grafts for PCL reconstruction.

Keywords Posterior cruciate ligament reconstruction · Hamstring tendon autograft (HTG) · Ligament advanced reinforcement system (LARS) · Arthroscopic

Introduction

It is widely accepted that posterior cruciate ligament (PCL) is an essential structure in the maintenance of the knee stability. Though the strongest and could offer effective resistance to violence, it still can be easily injured in aggravating activities or traffic accidents, and usually results in a complete rupture. The exact incidence of PCL rupture is unclear yet, but it has been estimated to occur in approximately 3.4–20 % of all knee ligament injuries [1]. Despite deeper understanding of the basic science of PCL, a lack of consensus remains regarding its therapeutic mode. Nonsurgical procedure is the preferred selection for the most isolated PCL injuries as an injured ligament could heal on its own [2]. While it is not suitable for a complete ruptured one because a totally torn ligament would retract and degenerate if not be properly connected. Given the seriousness of this problem and its long-term clinical implications, many authors recommended early surgical management [3–5].

In recent years, with the advent of arthroscopy and arthroscopic reconstructive techniques, surgical reconstruction has

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