

Allografts in PCL Reconstructions

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Abstract

Posterior cruciate ligament (PCL) injuries are often associated with other ligament lesions. Multiligament reconstructions require an important quantity of grafts and often determine the need for cadaver allografts during the surgical repair procedures. Herein, the fundamentals of allografts that have been currently used for PCL reconstructions are overviewed. The main issues to be considered when surgeons choose this therapeutic option are also discussed.

Introduction

The low frequency of PCL and PCL-based multiligament knee injuries is responsible for several limitations in clinical studies. Similarly, a delay in basic science and clinical research exists when compared to other ligament injuries (Fanelli et al. 2010). However, it has been stated that the incidence of lesions of this “forgotten” ligament could not be correctly established overtime. In fact, it might be somewhat higher than previously thought (Miller et al. 1993). Controversy still exists considering conservative versus surgical treatment (Shelbourne et al. 1999; Rosenthal et al. 2012).

Clinical diagnosis and grading is not considered an easy task even when led by experienced surgeons. Given the need to couple image with function for correct classification, stress radiography (Fig. 1) techniques have been attempted (Garavaglia et al. 2007; Menetrey et al. 2007; Levy and Stuart 2012). Recent developments from Porto School have allowed dynamic and functional evaluation in the same MRI imaging protocol (Espregueira-Mendes et al. 2012). A device has been developed which enables MRI imaging while posterior stress is put in the tibia at different knee flexion angles and foot rotation (Fig. 2).

The best graft source for posterior cruciate ligament (PCL) reconstruction is also debated and it can include autografts, allografts, and synthetic ligaments (Rosenthal et al. 2012). In the multiligament-injured knee, a combination of autograft and some source of allograft (e.g., allograft Achilles tendon, allograft BPTB, anterior tibialis) is often required (Fanelli and Edson 2002; Adler 2013).

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