



Contents lists available at ScienceDirect

International Journal of Surgery Case Reports

journal homepage: www.casereports.com

A case report of anterior cruciate ligament and posterolateral corner reconstruction using tendon graft preserved in situ

Bosco Mpatwenumugabo^a, Emmanuel Bukara^a, Muhammed Semakula^b,
Albert Nzayisenga^a, Rene Mukezamfura^a, Lambert Dusingizimana^a,
Basile Habumugisha^a, Salvador Kamarampaka^a, Leon Mutesa^{c,*}, Alex Butera^a

^a Orthopedic Department/University of Rwanda, King Faisal Hospital, Kigali, Rwanda

^b Rwanda Biomedical Center, Kigali, Rwanda

^c College of Medicine and Health Sciences, University of Rwanda, Kigali, Rwanda

ARTICLE INFO

Article history:

Received 28 November 2017

Received in revised form 17 January 2018

Accepted 7 February 2018

Available online 17 February 2018

Keywords:

Anterior cruciate ligament

Posterolateral corner injury

Tendon graft

In situ

ABSTRACT

INTRODUCTION: Combined anterior cruciate ligament (ACL) and posterolateral corner (PLC) reconstruction are a rare clinical entity in orthopedic literature, whose management requires different types of tendon grafts. Missed PLC injury leads to the failure of ACL repair due to the joint instability.

PRESENTATION OF CASE: We are presenting a case of posttraumatic right ACL, PLC and lateral meniscus injury. The patient was taken to theatre for arthroscopic meniscectomy, ACL and PLC reconstruction. We had to harvest bilateral Gracilis and semitendinosus tendon grafts. Intraoperatively, we used a pump and after meniscectomy and ACL reconstruction the knee was quite swollen; we opted to offer a two-staged procedure for PLC reconstruction. Hence we had to preserve the graft in situ for the next procedure. Posterolateral corner reconstruction was done in a week's time and preserved ligament was found to be intact.

DISCUSSION: The fact that we did not have a tissue bank or facilities for cryopreservation of the harvested tendons at -80°C or with liquid nitrogen at -179°C yet we had to keep the harvested tendons safe.

CONCLUSION: In case of absence of graft and bone bank, tendon graft was in situ and found intact and ready to be used after seven days.

© 2018 The Author(s). Published by Elsevier Ltd on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

Anterior cruciate ligament (ACL) injuries represent one of the most common injuries in orthopedics [1]. The ACL is an important stabilizer of the knee and its main function is to prevent the tibia from moving forward relative to the femur. Successful outcome of ACL reconstruction depends on multiple factors including proper management ACL itself and of associated injuries [2]. Combined injuries cause more severe functional impairment [3]. Posterolateral corner (PLC) also known as “the dark side of the knee” is rare and it is only seen in 2% of all knee ligament injuries [4]. Combined ACL and PLC occur in approximately 10% of complex knee injuries and it is more common when combined with Posterior Cruciate Ligament (PCL) injury seen in 60% of cases [5]. Missed PLC injury leads to the failure of ACL because the deficiency of posterolateral structures significantly increases the varus load on the ACL graft, resulting in an increased risk for failure. PCL repair is important in preventing the posterolateral laxity clinically [6].

Anatomically, the posterolateral corner consists of the lateral collateral ligament (LCL), popliteus tendon complex, popliteofibular ligament (PFL), and posterolateral capsule. It plays a very important role in resisting external rotation of the lateral side of the tibia on the femur. PLC injuries cause severe disability and articular cartilage degeneration. Furthermore, multiple ligament knee injury that includes PLC disruption often associated with palsy of the common peroneal nerve (CPN), which occurs in 44% of cases. Approximately half of these cases may not functionally recover [7].

This case report aims to present a two staged ACL and PLC repair where the autograft tendons were used. The second staged procedure was performed using the tendon grafts preserved in situ. The present work has been reported in line with the SCARE criteria [8].

2. Presentation of case

A 35 years old male Burundian previously healthy consulted our outpatient department complaining of painful right knee. He reported having sustained a direct blow on the lateral side of the right knee while playing soccer a month earlier. He sustained an anterior dislocation of his right knee, which was reduced immediately on the pitch, but he failed to walk at the scene. He was

* Corresponding author.

E-mail address: l.mutesa@ur.ac.rw (L. Mutesa).

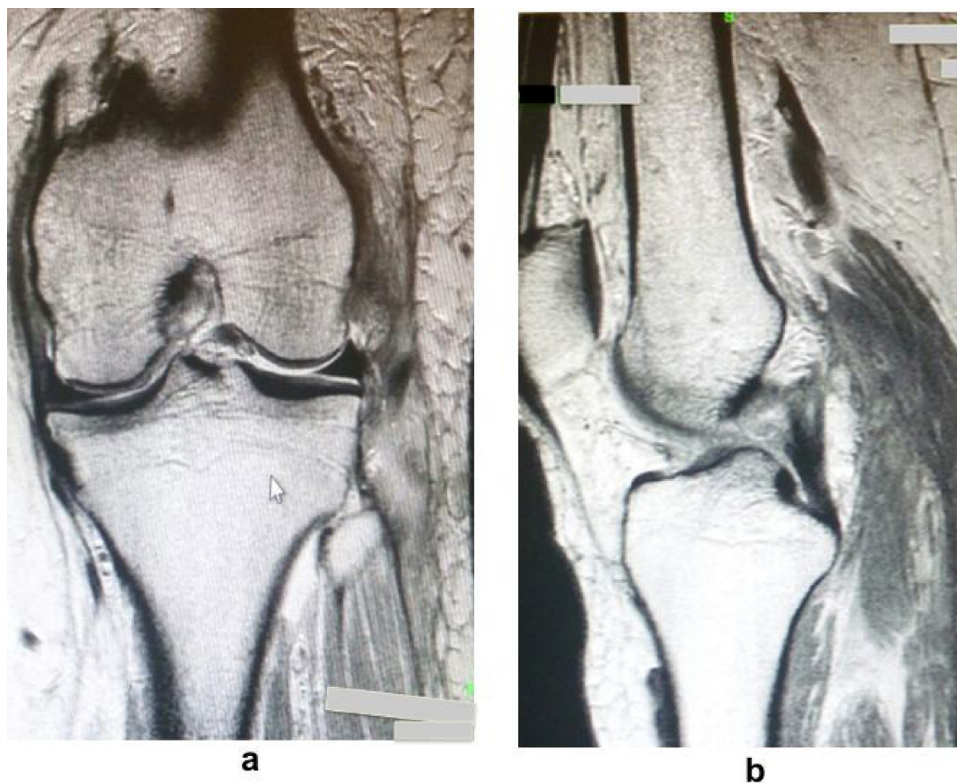


Fig. 1. (a) Magnetic Resonance Imaging (MRI); T2 weighted coronal image showing posterolateral corner structures tear. (b) MRI T2 weighted sagittal image showing the anterior cruciate ligament rupture and Lateral meniscal tear.

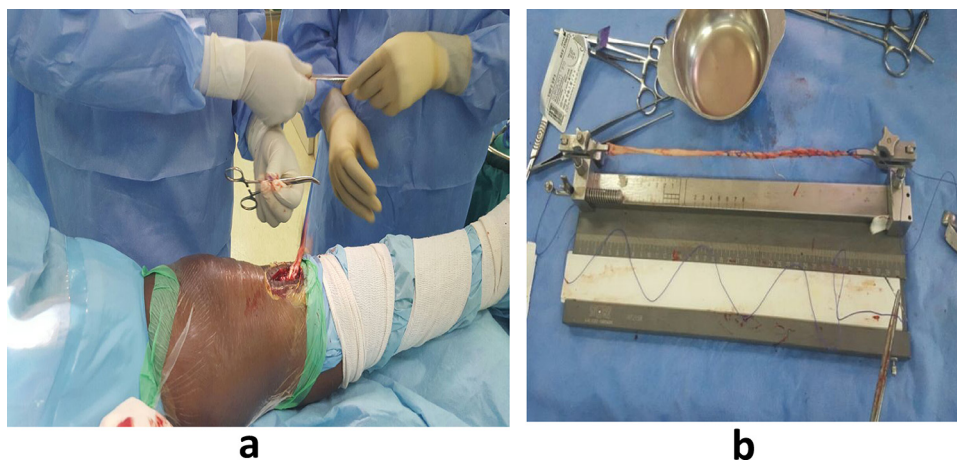


Fig. 2. (a) Intact preserved tendon was removed from the tissue and ready to be used for PLC reconstruction. (b) Preserved tendon after preparation.

taking pain medication and using a single elbow crutch and knee brace. The right knee was swollen, tender with large effusion. Passive range of motion and special test were not performed due to severe pain. Peripheral examination revealed inability of dorsiflexion of the right ankle and hallux presenting with a drop foot and the sensory function of the common peroneal nerve (CPN) was absent. The Manual Muscle Test grade of the tibialis anterior muscle and extensor hallucis longus muscle was 0.

Radiography showed no fracture in the injured right knee. Magnetic Resonance Imaging (MRI) showed evidence of a complete ACL rupture and PLC injury with Lateral meniscal tear (Fig. 1).

Following informed consent and pre-operative optimization, the patient was taken to theatre for arthroscopic meniscectomy, ACL and PLC reconstruction. The fact that we did not perform complete examination of the injured knee; we had to do an examination

under Spine Anesthesia before surgery which revealed positive Lachman test, positive external recurvatum test (Reverse Dial Test), positive anterior drawer test but with stable posterior drawer test. The knee had laxity with varus stress at both 0° and 30° of knee flexion but good stability with valgus stress testing.

Intra operatively, we used a pump; bilateral gracilis and semi tendinosus autograft tendons were harvested. Arthroscopic meniscectomy and ACL reconstruction were performed successfully using one side harvested autograft tendons.

At the end of above procedures the knee was quite swollen with a high risk of compartment syndrome. The actual situation was communicated to the patient and explanations on the best options and alternatives. The second procedure of posterolateral corner repair was postponed, and planned a second staged procedure after one-week. Hence we had to preserve the pre-harvested grafts for

Download English Version:

<https://daneshyari.com/en/article/8832761>

Download Persian Version:

<https://daneshyari.com/article/8832761>

[Daneshyari.com](https://daneshyari.com)