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Contents lists available at ScienceDirect

International Journal of Surgery Case Reports

journal homepage: www.casereports.com

Late reconstruction of the patellar tendon in rheumatoid arthritis using bone-patellar tendon-bone allograft



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ARTICLE INFO

Article history:

Received 12 May 2016

Accepted 11 August 2016

Available online 17 August 2016

Keywords:

Patellar tendon

Allograft

Late reconstruction

Rheumatoid arthritis

Case report

ABSTRACT

INTRODUCTION: chronic patellar tendon rupture is rare and its incidence and prevalence are unknown. Furthermore, the data about late reconstruction of the patellar tendon in rheumatoid arthritis is limited. Such condition, if not managed properly, can substantially affect the patient's activities of daily living.

CASE PRESENTATION: We report a case of chronic patellar tendon rupture in a 49 years old lady who has been suffering from rheumatoid arthritis for over 20 years. She presented with an inability to extend the right knee which started suddenly a year and a half ago without any history of trauma. She underwent reconstruction of the patellar tendon using a massive BTB allograft. Three years after surgery, the patient had an active range of motion between -20 and 120° and was walking normally without any external support.

DISCUSSION: When the primary repair of the patellar tendon is not possible, it is necessary to either repair with autologous augmentation or use a graft to reconstruct the tendon. We believe autografts may not be suitable in the presence of rheumatoid arthritis since the disease is associated with excessive levels of collagenase that could contribute to the degeneration of the tendons.

CONCLUSION: Late patellar tendon reconstruction in rheumatoid arthritis is a challenging procedure, and we believe it is best performed using an allograft to achieve the desired outcome.

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1. Introduction

Rheumatoid arthritis is a systemic disease that has a wide range of burdening symptoms especially on the long term [1]. The disease has been linked to tendons impairment due to either its progression or the treatment used to control the symptoms [2,3]. Although it is rare, the patellar tendon, for instance, is prone to spontaneous rupture in rheumatoid arthritis [4]. This can substantially affect a patient's life through the loss of the knee extensor mechanism [5].

There are various options to manage patellar tendon ruptures. They include primary repairs with or without tendon augmentation or reconstruction using different types of autografts or allografts. Each technique has its pros and cons and the decision should be made according to the pattern and duration of injury along with other influential factors such as the patient's status [6–8].

After extensive review of the literature, it was evident that chronic patellar tendon rupture is rare and its incidence and prevalence are unknown [9,10]. We also noticed the scarce data about the

late patellar tendon reconstruction in rheumatoid arthritis. Thus, we present the results of a late reconstruction of a patellar tendon using a bone-tendon-bone (BTB) allograft in a lady with rheumatoid arthritis.

2. Case report

We report a case of chronic patellar tendon rupture in a 49 years old female patient who has been suffering from rheumatoid arthritis for over 20 years and was on a long-term therapy with corticosteroids and methotrexate. She came to our hospital complaining of her inability to extend the right knee which started suddenly a year and a half ago without any history of trauma. The reason behind the delayed presentation is that she had been managed in another hospital using different kinds of orthotics. Clinical examination showed a high riding patella along with a gap in the patellar tendon area. A magnetic resonance imaging (MRI) was done and it showed a complete rupture of the patellar tendon (Fig. 1).

After seven months from the patient's presentation to our hospital, she underwent reconstruction of the patellar tendon using a massive BTB allograft. Prophylactic antibiotics were administered

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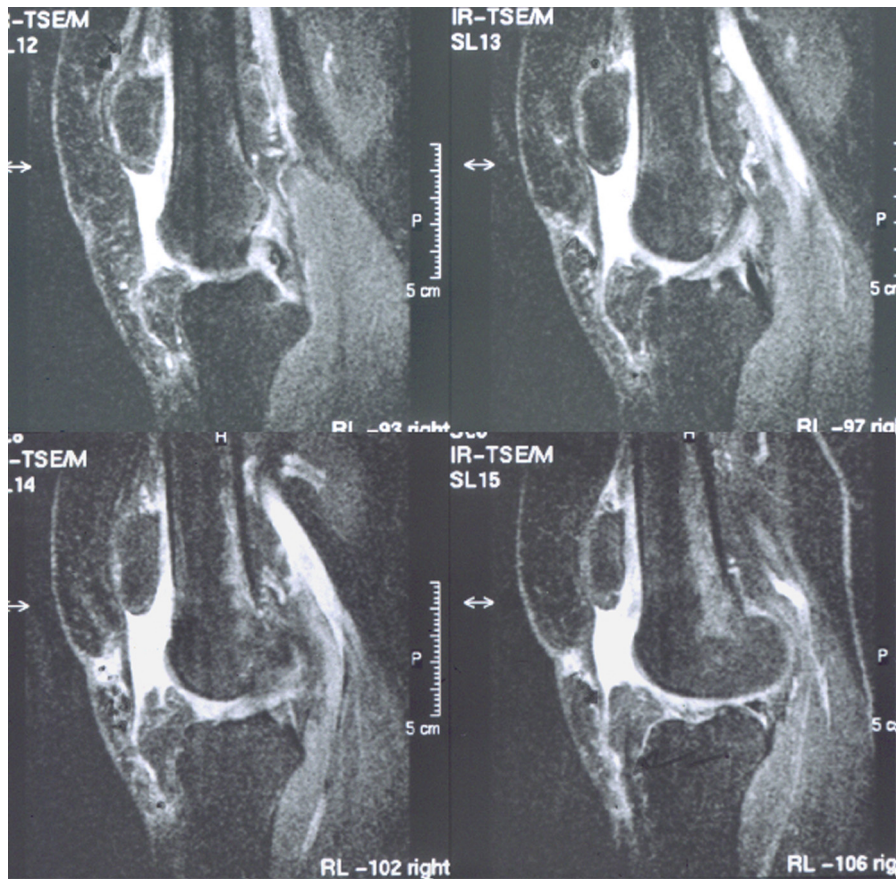


Fig. 1. Multiple sagittal MRI views showing the complete patellar tendon rupture and the patella alta.

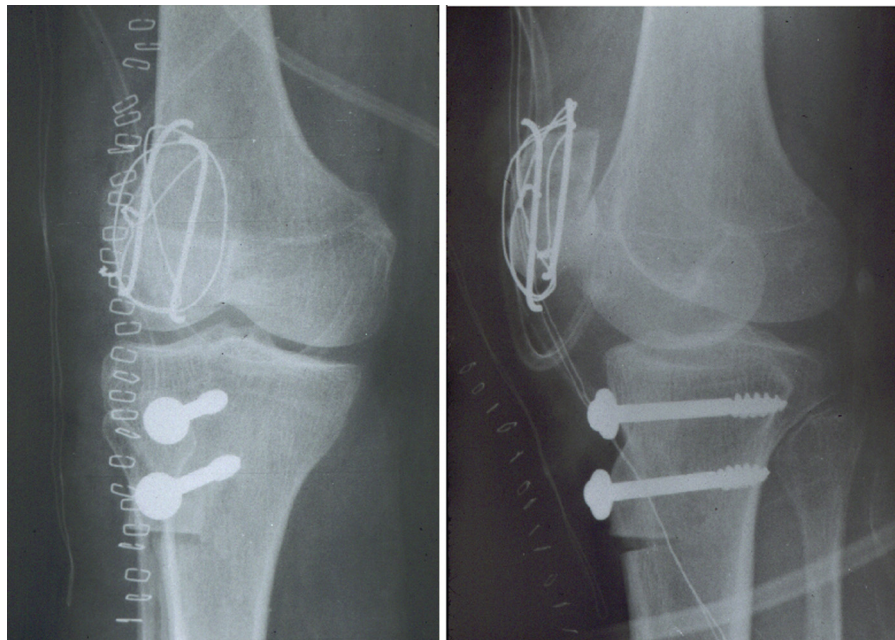


Fig. 2. Postoperative x-ray images showing the fixation using two k-wires, tension band and two screws.

prior to surgery and the patient was put under general anesthesia with an appropriate dose of muscle relaxant. While the patient was in a supine position with a tourniquet applied and a bump placed beneath the ipsilateral thigh, a midline longitudinal incision extending beyond the superior pole of the patella and distal to the

tibial tuberosity was made. The soft tissue was released to bring the retracted patella distally. The large bone block of the BTB allograft was fixed to the patella with two K-wires and a tension band in a similar technique to that used in the fixation of patellar fractures. After performing a tibial osteotomy to contain the distal bone block,

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