Knee Instability of a Collegiate Athlete with a Subluxed Patella and ACL Tear

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Abstract

A 21 year old male collegiate football player, with no previous history of right knee instability or injury, presented with right knee pain and swelling at the patella and medial knee. The athlete was diagnosed with a patella subluxation after a positive Apprehension test and a negative Lachman's test were performed. After reinjuring the right knee, an MRI revealed a Grade II Anterior Cruciate ligament sprain. Patella subluxations are most commonly found in active individuals with an increased Q-angle, a weak VMO, and anatomical variance of the patella in the trochlear groove. A patella subluxation damages the Medial Patellofemoral Ligament, the major medial patella stabilizer of the knee. Subsequently, the Anterior Cruciate Ligament is the main stabilizer of the knee joint itself, resisting anterior translation. It is important to recognize the signs and symptoms of both a patella subluxation and an Anterior Cruciate Ligament sprain due to the importance of knee stability when playing sports, as well as the need for functional stability as individuals age.

Introduction

In this case report, an athlete went to plant to make a tackle, and suffered a patella subluxation of the right knee. After being non-compliant with given restrictions, the athlete further suffered an ACL tear. An autograft qudriceps tendon was used to fix the ACL.

Purpose

This case report highlights the importance of compliance, when adhering to injury restrictions, as well as a regular rehabilitation schedule.

Background

- 21 year old male
- Collegiate football player
- Weight: 185 lbs
- Height: 6’1”

Differential Diagnosis

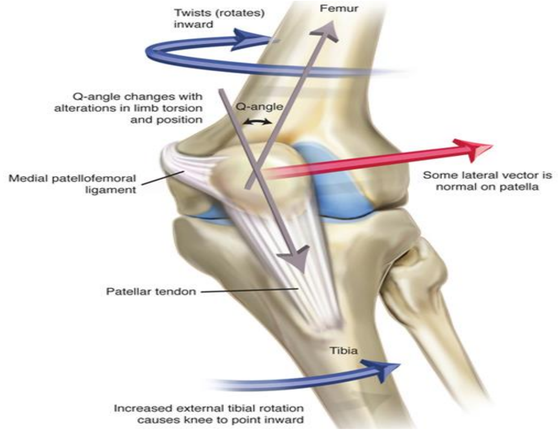
- MPFL Tear
- ACL Tear
- Tibial fracture
- Athlete Triad

Clinical Presentation

- Patella laterally translated
- Point tenderness over lateral knee and patella
- Swelling in left knee
- Positive Lachman’s and Anterior drawer
- Feeling of instability in left knee

Treatment

The athlete had an autrograft quadriceps tendon ACL repair. The Athlete received ice and Normatec treatments to control the swelling of the knee. Therapeutic exercises, and the Biodex, were used to increase range of motion, strength, and functionality of the left knee.



Uniqueness

Ninety-four percent of patella subluxations result in an MPFL tear. In the case of this athlete, although he suffered a severe subluxation, the MPFL was grossly intact. However, due to the original injury, he still suffered from recurrent instability of the knee. Furthermore, due to non-compliance, the recurrent knee instability resulted in an ACL tear. Finally, unlike most ACL repairs, this athlete opted to have an autograft of the quadriceps tendon instead of using the hamstring, a typically older style repair.

Conclusion

This case report demonstrates the consequences of non-compliance in regards to restrictions while injured, and in regards to rehabilitation compliance. This case demonstrates that non-compliance can lead to further injury, and can lead to fewer gains in rehab. As soon as the athlete came in to do supervised rehab, his range of motion improved, and he was able to start strength training.

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