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Patellar Instability and Acl Injury: A Case Report

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1. Introduction

ACL injury consists of a major lesion or sprain of the anterior cruciate ligament [ACL]. ACL injuries most commonly occur during sports that involve sudden stops or changes in direction, jumping and landing [1]. Depending on the severity of the injury, treatment may include phisiotherapy, or surgery to replace the torn ligament followed by rehabilitation [2]. We believe ACL reconstruction with LARS can be a valid and effective technique, suitable not only for old patients and also for old people who do heavy works. Patellar instability represents a severe condition where the patella bone pathologically disarticulates out from the patellofemoral joint, either subluxation or complete dislocation [3]. Over time, patients with patellar instability can have debilitating pain, limitations in basic function, and long-term arthritis [4]. We present a very peculiar case of a patient affected both by ACL injury and patellar instability.

2. Case Presentation

We describe the case of a 42 -year-old male patient presenting both ACL complete lesion and patellar instability on right knee. The patient, a sportsman and heavy worker, showed an onset of knee instability and pain on right side during since 2015. After a knee sprain he started to suffer anterior and patellar instability and he underwent several orthopaedic controls among other hospitals and they performed x- rays without evidence of any bone knee lesion. He came to our attention in May 2020 complaining right knee anterior instability and pain especially during his sport activity, with severe limitation of his own daily life. Moreover, he had been reporting external patellar hyperpressure for years always on the right knee, with some episode of dyslocation. After medical clinical examination, with evidence of positive Lachman test, positive front drower test and positive tests for patello-femural instability [J-sign and Tilt Test], we prescribed MRI exam and axial projections of the patella [30°-60°-90°] x-ray exam on right knee. Patient underwent radiological exams which showed evidence of complete ACL injury and positive external patellar hyper pressure. The patient needed an early recover and was quite worried even about postoperative period because he needed to return to work quickly, but also wanted to be back early to perform sport activities. So he was admitted to the hospital and he underwent surgical reconstruction of ACL adopting LARS device, which we believe it is an effective solution for young and heavy workers patients. As patellofemural instability we performed a Fulkerson procedure [transposition of the tibial anterior tuberosity] associated to an arthroscopic external alar ligament release. [Figure1 and 2].

He was protected with a locked articulating knee brace with a joint range of 0-20° of flexion over right knee for 20 days, then it was allowed a progressive unlock to recover full range of motion. After two days of hospitalization the patient was dismissed and started early rehabilitation path. He had several follow- up controls and the last one was on October 2022. The patient was back to his job after two months without any particular matter and he was able to kneel often without pain or subjective instability. On our last checkup he showed negative tests for ACL examination and he was able to perform also sport activities like playing football or running without pain. We performed a new MRI exam on knee after one year from surgery and it showed and integrated structure of neolegament and acceptable patellar recentering.

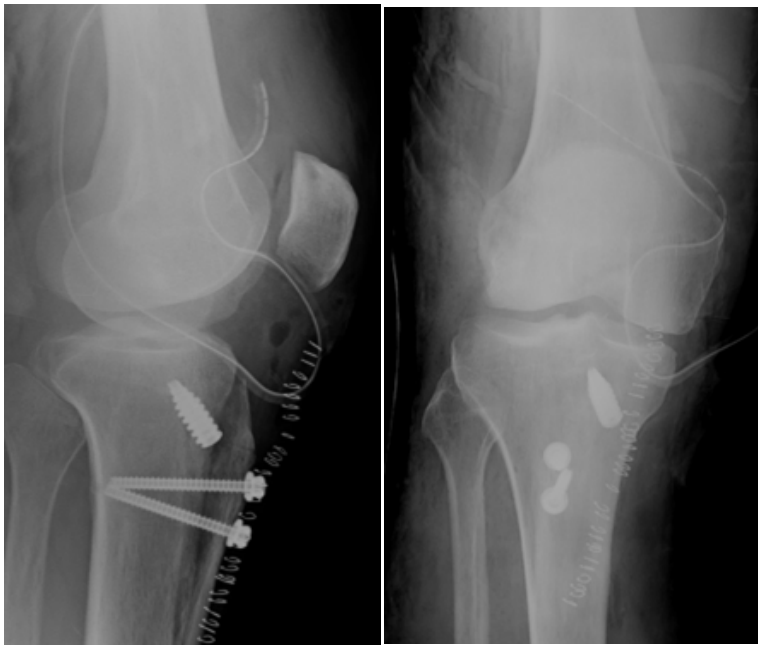

Figure 1 and 2: Transposition of the tibial anterior tuberosity.

3. Discussion

Management of ACL reconstruction represents often a difficult choice for knee surgeon, especially when it is associated to a patellar instability. LARS ligament can be considered a suitable option for ACL reconstruction in carefully selected cases, especially for patients needing a fast functional recovery. Moreover, we avoid the pain connected to the pick- up site. Lars technique device was adopter because the patient needed a quick recovery period, moreover he underwent Fulkerson procedure, so it was strictly necessary to reduce as much as possible the risk of joint stiffness. For sure the development of biocompatible materials during last 15 years and a better understanding of the knee kinematics led to the development of a new generation of synthetic graft, that can be really useful especially when ACL injury is not the only challenge for knee surgeon.

4. Conclusion

Accordingly, to these facts, this case represents an uncommon challenge for knee surgeon. The main target of this case report is to focus on how to manage acl injury and patellar instability in an effective way but also reducing risk of postoperative stiffness. LARS device contributes to improve the effectiveness of Fulkerson technique in order to allow rapid functional recovery and to perform an early rehabilitation. The target would be to increase the number of similar patients and compare the data with other orthopedic centres.

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