

Return To Soccer After Bilateral Knee Surgery Does Early Conservative Treatment Play A Role?

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HISTORY

On April 25th, 2022 a professional soccer player received an indirect injury to his left knee joint during a match in the top division of a European country. After the game he had complaints of only minor knee discomfort, which did not limit his everyday activity. The athlete underwent an MRI three days later and significant knee injury was diagnosed. Considering mild symptoms and complete stability of the joint, a conservative treatment was initiated. The player returned to the full team practice 62 days after the injury. Over the next three months, he took part in 8 matches and scored 2 goals. On September 25th, 2022, the athlete received an injury to the right knee joint during the game (indirect contact mechanism) and was diagnosed with another significant knee injury. At the same time, his left knee was asymptomatic.

Physical Examination:

Left knee joint on April 25, 2022: slight swelling, positive ballottement test. Lachman test grade 1. Pivot shift test is negative, there is no feeling of instability in the joint. Joint flexion angle was at 120 degrees. Right knee joint on September 25, 2022: severe swelling and a feeling of instability, positive ballottement test. Lachman test grade 3. Pivot shift test grade 2. Joint flexion angle at 55 degrees.

Differential Diagnosis:

1. Anterior Cruciate Ligament injury
2. Patellar dislocation
3. Acute meniscal tear
4. Posterolateral corner injury
5. Osteochondral injury

Tests & Results:

MRI of the left knee joint on April 27, 2022: anterior cruciate ligament rupture, longitudinal rupture of the base of medial meniscus, root rupture of the lateral meniscus (Stoller grade 2). MRI of the right knee joint on September 26, 2022: anterior cruciate ligament rupture, complex rupture of the lateral meniscus with a subtotal radial rupture, destruction of the meniscal junction and partial damage to the root of the anterior horn of the lateral meniscus with 60% fragments displacement.

Final/Working Diagnosis:

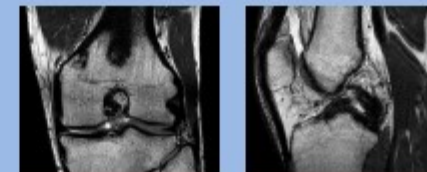
Left knee joint: ACL rupture, lateral meniscus tear.
Right knee joint: ACL rupture, medial and lateral meniscus tears.

Discussion:

According to the literature, ACL rupture is treated surgically in most cases and after such treatment, more than 95% of soccer players can return to play. At the same time, cases of successful conservative treatment of such injuries are rare. It is possible that conservative treatment of ACL injuries pose higher risks for ACL re-rupture or injury of the other knee than surgical treatment. We could not find any cases of successful sequential surgical treatment of ACL rupture in bilateral knee joints in professional soccer players. In this regard, the outcome and mid- and long-term effects on athletic performance of such treatment are of great scientific interest.

Outcome:

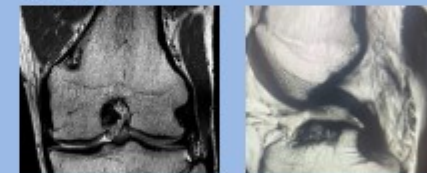
Sequential surgical treatment of ACL injuries in bilateral joints was performed. On October 11, 2022, the first surgery was performed on the right knee: ACL reconstruction and fixation of the root of the lateral meniscus. Three months after the first surgery, second one was performed on the left knee: ACL reconstruction and fixation of the anterior horn of the lateral meniscus.



MRI OF THE RIGHT KNEE JOINT
Date of injury: 09/25/2022

Return to Activity and Follow-Up:

The rehabilitation process after each surgery proceeded without complications. An analysis during intensive training at the final rehabilitation stage demonstrated that external load indicators and lower extremities muscles strength and power were comparable to the pre-traumatic level. The patient returned to the full team practice after 47 weeks and 6 days from the right knee injury.



MRI OF THE LEFT KNEE JOINT
Date of injury: 04/25/2022