Endoscopic Anterior Cruciate Ligament Reconstruction & Repair of Partial Patellar Tendon Tear with AmnioFix® Augmentation

Daniel Kharrazi, MD
Kerlan-Jobe Orthopaedic Clinic
Los Angeles, CA
CLINICAL HISTORY

The patient is a 28-year-old female who sustained a grade III anterior cruciate ligament (ACL) tear while skiing in Aspen, Colorado, as evidenced by preoperative MRI studies. Her examination confirmed positive Lachman, anterior drawer and pivot shift tests. She was also diagnosed with a concurrent tear of the lateral patellar tendon at its proximal attachment. She underwent surgical reconstruction of the left knee approximately three months after her injury, which included endoscopic reconstruction of the anterior cruciate ligament utilizing Achilles tendon allograft with augmented repair of a partial tear of the lateral patellar tendon using AmnioFix allograft augmentation.
SURGICAL PROCEDURE

Arthroscopic inspection revealed significant fibrosis and scar tissue with a cyclops lesion anteriorly, secondary to the ruptured ACL. The ACL was noted to be completely ruptured from its femoral attachment (Figure 2). The ACL stump was resected with a resector blade. The PCL was found to be intact. The articular surface of all three compartments was intact. The medial meniscus had some mid-body fraying, which was debrided, but no frank tears.

The femoral and tibial tunnels were then drilled in standard fashion using the Stryker® VersiTomic® Flexible Reaming System to prepare the femoral tunnel in the anatomic position of the ACL attachment. In addition, the tibial tunnel was created at an angle of 55 degrees and a diameter of 11 mm. The allograft was passed through both tunnels and secured on the femoral side with an 8 x 22.5 mm bio-absorbable screw (Figures 4 & 5). This provided excellent fixation on the femoral side. Full extension clearance was confirmed. Next, the tibial fixation was carried out with an 11 X 35 mm MILAGRO® Interference Screw with the knee flexed 15 degrees, and posterior drawer pressure applied manually. The ACL Achilles tendon allograft was wrapped with AmnioFix.

Figure 2. The ACL was noted to be completely ruptured from its femoral attachment.

Figure 3. Achilles tendon allograft used for reconstruction of the ACL with AmnioFix wrap of the allograft.

Figure 4. Anatomical ACL reconstruction using augmented allograft wrapped with AmnioFix.
Attention was then given to the partially torn patellar tendon laterally. Allograft tissue was used to repair the tendon with AmnioFix amniotic membrane allograft augmentation (Figure 6).

**CLINICAL FOLLOW UP**

The patient’s postoperative course revealed initial healing as expected, with rehabilitation based on an accelerated ACL protocol. Due to the partial tear of the patellar tendon proximally, the patient had use of a postoperative functional hinged brace for the first few weeks postoperatively. At approximately two months post-op, she was switched to a functional ACL brace, and was noted to have full extension with flexion of 130 degrees, with stable Lachman and anterior drawer tests with a negative pivot shift. She also had 5/5 strength in extension of her left knee. At approximately four months post-op, a light jogging program and swimming program was initiated. At approximately eight months post-op, she was discharged from care, as she had excellent progress and recovery following reconstruction of her anterior cruciate ligament, along with repair of partial tear of the lateral patellar tendon with AmnioFix augmentation.

**CONCLUSION**

This patient benefitted from an endoscopic surgical reconstruction of the anterior cruciate ligament grade III tear and partial patellar tendon tear, which was repaired with a tissue allograft supplemented with AmnioFix augmentation.