LATERAL MENISICAL TRANSPLANT TO CORRECT POSTEROLATERAL TEAR IN A FEMALE COLLEGIATE BASKETBALL PLAYER
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Background: A female Division I collegiate basketball player suffered a valgus rotational injury to the knee after stepping on another player’s foot during a game. The athlete complained of posterolateral knee pain and swelling in the right knee. Upon evaluation, it was determined that the athlete had 1+ effusion, tenderness over the lateral joint line, full extension, and mild discomfort with varus stress. Results of the dial test at 20° prone, posterolateral drawer test, reverse pivot shift test, and extended recurvatum test were negative. Initial MRI confirmed a tear of the posterior horn lateral meniscus as well as the popliteofibular and arcuate ligaments. Following diagnosis, a debridement procedure was performed, however the ligamentous structures were not repaired. Effusion, tenderness along the joint line, pain, and swelling continued after the debridement procedure. The athlete underwent a second procedure to remove loose bodies within the joint, but effusion, pain, and tenderness returned. A third surgery was performed to reconstruct the posterior lateral corner structures of the knee with a hamstring autograft and lateral meniscal transplant. Differential Diagnosis: Knee subluxation, knee joint effusion, knee osteochondral defects, meniscal tear, ACL tear. Treatment: Surgery was performed for debridement of the lateral meniscus. At this time, the physician felt the posterolateral corner structures were stable and were not repaired at this time. Post-surgery, the athlete needed to be free of swelling, gain full range of motion, and have normal joint stability in order resume play. Two months post-surgery, the athlete complained of tightness and swelling at the right knee. She felt popping in her knee as well as tenderness along the lateral joint line, posterior to the lateral collateral ligament. The second surgical procedure evaluated the articular cartilage and removed any loose bodies found in the joint. A significant, burned out synovitis and loose bodies of cartilage were found throughout the joint. Chondroplasty was performed at this time to remove the fragments. A lesion of the lateral aspect of the lateral femoral condyle overlying the posterolateral defect on the lateral tibial plateau was also found. The lesion made contact with the knee at 20° of knee flexion. Six months later, the athlete complained of an aching pain after intense practice and game play. Upon evaluation from a second physician, the athlete underwent the third surgical procedure that reconstructed the posterior lateral corner using a hamstring autograft with a lateral meniscal transplant. Uniqueness: Meniscus transplants are not a common treatment for young athletes at this level of competition. The purpose of the procedure is to restore normal joint kinematics and load transmission. To date, there have not been many studies to determine how meniscal transplants would affect a young athlete competing at the Division I collegiate level. Meniscal transplants are most commonly used as a salvage procedure in young, active patients with advanced joint deterioration. Conclusion: There is currently limited information regarding the effectiveness of meniscal transplants in all patients, especially in the young, active athlete. Meniscal transplants were initially performed in older patients who had degenerative, arthritic knees. As a result of this surgery, 60-100% of young patients reported decreased pain and swelling and improvement in function. Degeneration of the graft can be attributed to the level of arthrosis at the time of the transplantation. This surgical procedure should be performed in cases of extreme joint deteriorations. Ever since the meniscal transplant, this athlete has been limited in playing time. Her activity level is based on the severity of her symptoms, and the treatment protocol focuses primarily on pain management. Key words: posterolateral tear of meniscus, meniscus transplant.