SYNOVITIS POST ACL RECONSTRUCTION WITH NEOLIGAMENTS SYNTHETIC GRAFT IN 17 YEARS OLD BOY

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Introduction: Injury of anterior cruciate ligament (ACL) is one of the most common knee injuries, results in anteroposterior laxity, which often leads to an unstable knee. Therefore, ACL reconstruction is commonly performed. Autograft is most commonly used, complications such as donor site morbidity, insufficient graft size and length and a long rehabilitation period. Artificial ligaments as advantages of lack of donor morbidity and additional scars, decreased operation time, significant strength, immediate loading and reduced postoperative rehabilitation period. Unfortunately, the long-term results of grafts have been disappointing with a high percentage of complications and failures.

Discussion: 17 years old gentleman, underwent right ACL reconstruction with neoligaments synthetic graft and able to return sport activity post-operative. Post-operation 18 months, he sustained infection over proximal tibia tunnel, resolved after treating with antibiotic. Aspiration shows 60mls yellow fluid, no clinical evidence of infection, blood investigations normal, aspiration culture no growth. However, he developed right knee pain and swelling associated with weakness. MRI shows ACL complete tear at tibia insertion with complex lateral meniscus tear. Diagnostic arthroscopy, debridement, synovectomy and removal of ligament was done with intra-operative finding: synovitis, chondrolysis at medial and lateral femoral condyles, graft lax, PCL and meniscus intact. All cultures were negative, HPE: synovial tissue acute inflammation. Post-operative, symptoms relieve and ambulate without assist, full ROM.

Conclusion: Artificial grafts have multiple complications: cross-infections, immunological responses, breakage, chronic effusions, synovitis and knee osteoarthritis. The synovium within the knee is sensitive to foreign material. The particle debris from repetitive graft abrasion can result in chronic effusion, synovitis and foreign body reaction. Exudative and infiltrative phenomena can be observed in the presence of foreign bodies and are characterized by leukocytic exudation, accompanied by lymphomonocytic infiltration. The inflammatory reaction by foreign body leads to peculiar modification in the composition of synovial fluid increase in response to synovitis reaction.