Bilateral ACL Tear — Basketball

KOREE STILLWELL[1], NIKOLAOS GRAVVANIS[2], BRETT HAYES[3], & ANDREAS STAMATIS[1], FACSM

[1]Exercise and Nutrition Sciences; SUNY Plattsburgh; Plattsburgh, NY
[2]Sports Medicine; General Hospital of Nikaia; Athens, Greece
[3]Sports Medicine Institute; University of Louisville Health; Louisville, KY

Category: Undergraduate

Advisor / Mentor: Stamatis, Andreas (astam004@plattsburgh.edu)

ABSTRACT

HISTORY: A 16-year-old, amateur female basketball player sustained a non-contact injury on her left knee during a game (sudden cutting movement combined with a dynamic valgus collapse).

PHYSICAL EXAMINATION: The acute clinical examination (signs of swelling, tenderness, or instability) did not indicate any signs of an anterior cruciate ligament (ACL) tear. Three days later, a magnetic resonance imaging (MRI) revealed a complete ACL tear. The orthopedic doctor recommended reconstructive surgery, and subsequent KT-2000 arthrometer tests revealed an anterior tibial translation (ATT) consistent with an 80% tear of the ACL. However, the player opted to seek a second opinion and consulted another orthopedic doctor ten days later. He conducted a new MRI revealing a partial ACL tear, and another KT-2000 test indicating a 20% tear.

DIFFERENTIAL DIAGNOSIS:
1. Complete ACL tear
2. Partial ACL tear
3. Meniscus tear, collateral ligament injury, patellar dislocation
4. Knee osteoarthritis/bursitis

TEST AND RESULTS:
- Clinical examination: No signs of ACL tear of the left knee
- MRI (initial): Complete ACL tear
- KT-2000 (initial): 80% ACL tear
- MRI (second): Partial ACL tear
- KT-2000 (second): 20% ACL tear

FINAL / WORKING DIAGNOSIS:
Partial ACL tear of the left knee

TREATMENT AND OUTCOMES:
1. 6-month abstinence from basketball for conservative treatment
2. Clinical guidance from trainer and sports medicine doctor for identified risk factors: anterior-posterior knee laxity, narrow notch (<17mm), impaired hamstring ability, and gluteus maximus fatigue
3. During first game back, player injured right knee (complete ACL tear) due to dynamic knee valgus while protecting left knee
4. ACL surgery of the right knee followed by 8 months off court
5. Perform strengthening/proprioception exercises 3 times a week on both knees

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