

PCL and PLC Injury by Hyperextension Varus; Report of 2 Cases

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Introduction

There has been great interest on the jury of the posterior cruciate ligament (PCL) and the posterolateral corner (PLC) of the knee joint. Unique injury mechanism is presented.

Case 1

A 37-year-old male had undergone the left knee injury 6 months before. The physical examination revealed positive posterior drawer test and tibial dial test, which evidenced the PCL and PLC insufficiency. The plain lateral knee radiographs showed a marginal fracture of the anteromedial tibial plateau and a dimpling on the adjacent part of the medial femoral condyle. On arthroscopy, there were no gross tear of the cruciate, but the posterolateral capsule disclosed stigmata of stretching injury with multiple petechiae and scarring. The compression fracture on the anteromedial side and the stretching injury on the posterolateral side altogether support the hyperextension varus injury mechanism.

Case 2

A 55-year-old man was involved in a road traffic accident. Radiographs revealed an avulsion fracture of the lateral epicondyle of the femur and a fracture of the tibial shaft. An MRI scan showed the lateral epicondyle was avulsed by the lateral collateral ligament (LCL) and the popliteus tendon. The PCL signal was absent. The tibial shaft fracture was fixed with an intra-medullary nail. Sagging of the tibia, with loss of prominence of tibial tuberosity and a positive posterior drawer test, demonstrated a complete tear of the PCL. The avulsion fracture of the lateral epicondyle was treated by an open reduction and internal fixation with two staples. A laceration of the knee on the anteromedial side suggests that the knee might have been under hyperextension whilst pivoting on the anteromedial side. The current case was speculated to have been caused by hyperextension and varus mechanism.

Discussion

Hyperextension and varus of the knee is a unique mechanism of PCL and PLC injury. A small bony lesion around the knee joint should be inspected rigorously for it may herald major ligamentous injury.

