

Reverse Segond Fracture Variant Without Posterior Cruciate Ligament Injury: Report of an Extremely Rare Case

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Objectives: Reverse Segond fracture, which was described as the association of an avulsion of deep capsular portion of medial collateral ligament and tears of both posterior cruciate ligament (PCL) and medial meniscus, is an extremely rare injury, unlike Segond fracture. The aim is to report successful surgical treatment of a case with "Reverse Segond Fracture" with intact PCL.

Methods: The patient was a 16 years old male, who admitted to emergency department of our Level I trauma center after a pedestrian traffic accident. The main complaint was pain on left knee and shoulder. Physical examination revealed mainly limitation in range of motion (ROM) of relevant joints. Radiology revealed Reverse Segond fracture in the left knee and associated left clavicle mid-shaft fracture. Imaging with MRI and CT revealed neither PCL injury or additional ligamentous pathologies of knee. MRI only revealed medial meniscus tear.

Results: In surgery, avulsed bony portion of Reverse Segond fracture was fixed to tibia with a suture anchor and a cannulated screw securely under medial meniscus. Peripheral longitudinal medial meniscus tear was fixed with a 2-0 absorbable suture. Clavicle was internally fixed meanwhile. Knee range of motion (ROM) was started early on postoperative first day, then augmented progressively. The patient was mobilized partially-weight bearing after 1.5 months and returned to his active daily life after 2.5 months. He was without any residual complaints after a final follow-up period of 26 months.

Conclusion: This case report would be evaluated as a Reverse Segond Fracture variant, as no injury to PCL was noted, in contrast to its original definition in the relevant literature, which is also scarce. To the best of knowledge, this is the first report of successful surgical treatment of a case with Reverse Segond Fracture variant without PCL tear in the relevant literature.

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