



Case Report

Dislocation of Knee - A Case Report

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ABSTRACT

Dislocation of knee has been long considered a rare injury. They are true orthopaedic emergencies and are associated with extensive ligamentous damage and increased potential for vascular complications associated with these injuries. Significant soft tissue injury is necessary for a knee dislocation to occur. We report one case of Anterior dislocation of knee with anteromedial ligamentous instability, most dislocations occur as a result of high velocity trauma.

We describe a case of a 50 Yr old male patient who presented with pain, swelling and deformity of left knee. Following physical examination, radiographic assessment, Anterior dislocation of knee with anteromedial ligamentous instability was diagnosed. Immediate closed reduction of the dislocation followed by Open reconstruction of the ACL and repair of the MCL was carried out 3 weeks later.

Anterior dislocation of knee needs to be addressed with proper planning and evaluated thoroughly for ligamentous injury and neurovascular injury both clinically and radiographically with early repair of ligamentous disruptions.

Key words: Anterior dislocation, Anteromedial instability, knee, ACL, MCL, Meniscus

INTRODUCTION

Dislocation of knee is considered a rare injury ⁽¹⁾ but the incidence might be higher than recognized because many of the dislocations are spontaneously reduced at the scene of the injury. ⁽²⁾

Knee dislocations are classified as anterior, posterior, medial, lateral and rotary according to the displacement of the tibia in relation to the femur. Rotary dislocations are designated as anteromedial, anterolateral, posteromedial and postero-lateral. ^(1,3) They are true orthopaedic emergencies and are

associated with extensive ligamentous injuries and associated vascular injuries. ⁽⁴⁾

We report the case of a 50 year old male patient who presented with pain, swelling and deformity of the left knee following a fall. Clinically and radiographically the dislocation was diagnosed and reduced by closed reduction, MRI of the left knee revealed ligamentous injury which was reconstructed within 3 weeks hence resulted in a satisfactory knees.

CASE REPORT

A 50 yr old male patient was admitted in our institute with complains of pain, swelling and deformity of the left knee following a fall from a flight of stairs which was about 6 feet high. There were no external injuries, patella upwards and medially directed compared to the right patella, there was tenderness over the left

knee joint with the quadriceps tendon appearing taugt with painful and restricted movement of the left knee joint(as shown in fig 1a and 1b). Distal neurovascular status was normal, further examination of the knee could not be done as the patient was in severe pain.



Fig: 1(a) – Clinical Photograph Showing Left Knee Dislocation.



Fig: 1(b) - Clinical Photograph Showing Left Knee Dislocation.

Radiological investigation revealed anterior dislocation of the knee (as shown in fig. 2a and 2b) which was reduced as an emergency under GA by closed reduction which was successful and the distal vascularity post reduction was intact. After reduction, the haemarthrosis was aspirated and the knee immobilized in full extension. The neurocirculatory status was checked at frequent intervals post reduction also.



Fig 2(a) – x-ray of left knee (AP view).



Fig 2(b) – x-ray of left knee (Lateral view).



Fig 2(c) – x-ray of left knee (AP/Lateral view) after closed reduction.

MRI scan of the knee revealed a complete disruption of the ACL with a horizontal tear in the posterior horn of the medial meniscus and a tear in the medial collateral ligament

Through an anterior approach, the ACL reconstruction was done using a PTB allograft using the patellar tendon and the torn portion of MCL was repaired using non absorbable sutures, Post-operative ligament laxity looked for and was found to be satisfactory. Post-operative period was asymptomatic and active knee movements were initiated using a restricted hinged knee brace after 3 weeks when the wound healing was found to be satisfactory.

Patient has been followed up for 1 year now with painless and complete range of motion (as shown in fig 3a and 3b).



Fig 3 (a) & 3 (b) – Post-Operative Clinical Photograph.

DISCUSSION

Dislocation of knee is considered a rare injury. It is most commonly caused as a result of knee hyperextension beyond 30 degrees with or without varus/valgus stress. (5,6) It can occur following a wide variety of mechanisms, but most commonly following high energy traumatic events. (8,9) They are known to cause extensive ligamentous and neurovascular complication. (4) Frequently orthopaedic surgeons are concentrating on the obvious skeletal injuries and ignoring the subtle signs of knee injury, a critical but often overlooked diagnostic step is to perform a good examination under anesthesia after skeletal stabilization to unmask significant ligamentous knee instability. (7)

Diagnosis of knee dislocation with ligamentous injury is made through the

history and clinical examination of the patient but is confirmed through clinical and imaging examination. The anterior dislocation of the knee is the most common type of dislocation and it is usually associated with arterial injury. (4) and occurs as a result of hyperextension of the knee. (6) The position classification system is useful for guiding the surgeon regarding the potential reduction maneuvers needed to reduce the dislocation

The anatomic classification system is based upon what structures are torn and is useful in guiding the surgeon regarding treatment options, according to which best treatment is immediate closed reduction of the dislocation followed by ligament repair as described by Shield et al.

The decision to perform arthroscopic versus open reduction in a complex knee

injury depends on the timing of the surgery and the nature of the injury itself

If reconstruction is done within the first few weeks, the capsular tissue may be torn, where open technique is preferred over arthroscopy to avoid risk of extravasation of fluid into the compartments which may increase the risk of compartment syndrome.

CONCLUSION

Anterior dislocation of knee is rare but is the most common dislocation of the knee joint and is commonly associated with extensive ligamentous injury and vascular injury. Emergency closed reduction of the dislocation depending on the type of dislocation with repeat vascular examination is mandatory to rule out any unsuspected intimal tear which may cause delayed ischemia hours or days after the reduction, followed by early ligament reconstruction and repair within 3 weeks results in satisfactory knee with minimal post-operative complications.

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Consent - was taken from the institutional ethical committee.

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