

CASE REPORT

NEGLECTED POSTERIOR KNEE DISLOCATION TREATED WITH CLOSED MANIPULATION AND UNIPLANAR EXTERNAL FIXATOR: A CASE REPORT

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ABSTRACT: Neglected traumatic posterior knee dislocations were rare in orthopaedic literature more so after a surgical intervention. Majority of the injuries are associated with vascular trauma and distal or proximal fractures and complete disruption of anterior and posterior cruciate ligaments and nerve traction injuries. Traumatic knee dislocations are therefore treated as an orthopaedic emergency. There were no definitive guide lines to open reduction as well as conservative methods of treatment. The end results of functional recovery are still controversial with residual posterior subluxation. Here we present a case of neglected posterior knee dislocation treated with closed manipulation and uni planar external fixator

KEYWORDS: External fixators, Knee Dislocation, Manipulation, Orthopaedic.

INTRODUCTION: It is unlikely that any single physician personally cares for more than a few knee dislocations in a lifetime of practice are an intercept from a classic article "Traumatic dislocation of the knee joint" by Meyers.¹ literature review reveals no two neglected knee dislocations were treated alike. Considering the rarity of neglected knee dislocation both anterior and posterior treatment options appear sparse and a common pattern of management could not be advocated. The functional outcomes of treatment also vary leaving behind residual functional limitations of knee after treatment with each modality.

CASE: A 56 year old male patient met with road traffic accident diagnosed as having fracture both bone right leg lower third and traumatic posterior dislocation of right knee has been operated elsewhere with interlocking nailing of right tibia in the month of April 2014 presented himself to our outpatient department in month of May 2014 with neglected right knee dislocation.

The patient presented to our hospital nearly six weeks after the first surgical intervention i.e., interlocking nailing right tibia at the time of presentation, patient was unable to walk or stand on his right lower limb with excruciating pain. On examination patient is having complete posterior dislocation of right knee with femorotibial overlap no distal neurovascular deficit present. On x ray examination tibia is found to contain interlocking nail in situ. A femorotibial overlap of 1cm also evident.

Patient was found to be both diabetic and hypertensive. Both were controlled preoperatively with insulin and calcium channel blockers. Clinically the dislocation was not reducible and the movements were painful in all directions radiographs of pelvis and chest were also taken and were found to be normal.

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The plan was not to disturb the tibial fixation but to reduce and maintain the reduction by closed manipulation and uniplanar external fixator application.

SURGICAL PROCEDURE: Under spinal anaesthesia supine position under c arm control dislocation was manually reduced by means of traction but the reduction so achieved was obviously not stable to maintain it in a pop cast.

Uni planar joint spanning modular external fixator was applied with three schanz pins in femur three schanz pins in upper tibia posterior to the nail. Modular external fixator was fixed with one hinge with tube to tube clamp initially the tube to tube clamp hinge was fixed not allowing any movement at knee joint in complete extension.

POST OPERATIVE CARE: Daily cleaning and dressings of schanz pin entry points was done. After eight weeks of immobilization of knee with external fixator in reduced position, we dynamised the external fixator by removing the static joint spanning distraction rod and the tube to tube clamp was loosened.

Two days of continuous passive motion applied with continuous passive motion machine under the hinge guidance (tube to tube clamp) patient was advised to partially bear weight for two weeks and full weight bearing was allowed. After full weight bearing for two more weeks patient was allowed to walk without support.

At the end of twelve weeks patient was re assessed with radiographs of knee which showed minimal subluxation. External fixator was removed at the end of twelve weeks. After removal of external fixator patient was able to walk pain free and pain less range of movement (full extension to complete flexion) of 100 degrees achieved.

Patient was able to carry out his activities of daily living comfortably without pain.

DISCUSSION: Neglected traumatic dislocations were rare in orthopaedic literature more so after a surgical intervention. Here were no definitive guide lines to open reduction as well as conservative methods of treatment.

The end results of functional recovery are still controversial with residual posterior subluxation.

In the history of management of neglected knee dislocation majority of published literature advocated, either open reduction and reduction maintained in a cast or a bi planar external fixator^[2] to stabilize the knee and maintain reduction in extension. Other modalities include total knee replacement.^[3] Some advocated two stage surgical procedures with monitoring^[4] ilizarov technique was used by some to stabilize after open reduction^[5,6] according to Nurzat et al reduction was accomplished by removal of the capsuloligamentous complex and meniscectomy along with reconstruction of cruciates.^[7]

We planned and succeeded with a closed manipulation and reduction and uniplanar external fixator with double external an o rod one attached with a hinge to allow for range of motion during the postoperative period and mobilization period.

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CONCLUSION: Closed manipulation, reduction, uni planar external fixation is an efficient way of managing neglected posterior dislocation of knee. In a patient with medical co morbidities and precarious skin conditions this method proves to be effective way of restoring acceptable knee joint function. This method is also cost effective as the maintenance of reduction and rehabilitation with both covered with the same external fixator construct.



Fig. 1: Preoperative x-ray



Fig. 2: Post ext fix x-ray



Fig. 3: Clinical photograph ext fix



Fig. 4: Dynamised ext fix clinical photograph



Fig. 5: Dynamised ext fix clinical photograph



Fig. 6: Final ROM

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