



## Case Report

### Long-standing unreduced anterior dislocation of the knee - a case report

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**ABSTRACT:** A case of long standing unreduced anterior dislocation of the knee for 2 months has been reported which was treated first with open reduction and external fixation at 70° flexion of knee followed by gradual extension of knee. Once full extension was achieved, the cylindrical cast was applied for 3 months. The final range of movement of knee at one year follow up was 5-70° along with painless weight bearing. To conclude, this conservative treatment could be one of the valuable option for the patients who can not undergo major surgery because of general health problem, or unable to afford for the surgery especially in developing countries, or not willing for arthrodesis.

**KEY WORDS:** Knee joint; Dislocation; Conservative treatment

#### INTRODUCTION

Dislocation of the knee joint is uncommon.<sup>1</sup> Majority of the cases are either reduced spontaneously or treated appropriately in the community. Neglected knee dislocations and knee dislocations with delayed treatment are uncommon. In 1996, Henshaw et al<sup>2</sup> reported a case of delayed reduction 33 weeks after traumatic posterior knee dislocation. The reduction was maintained by Steinmann pins and immobilisation in a cylinder cast for 12 weeks. The final range of motion was 5–40°. In 1998, Vicente-Guillen et al<sup>1</sup> mentioned a long-standing posterior dislocation of the knee, managed by staged reduction with external fixation and finally arthrodesis. In 2000, Petrie et al<sup>3</sup> described two cases of delayed treatment that were treated finally with total knee arthroplasty. We present here a case of long-standing anterior dislocation of the right knee for 2 months, which was managed successfully with staged reduction including open reduction and external fixation followed by

immobilization in a cylindrical cast. After one year on follow up, final range of movement was 5-70°.

#### CASE DETAILS

A 46-year-old lady attended to emergency clinic of B. P. Koirala Institute of Health Sciences with complaints of progressive right knee pain, disability and gross deformity after sustaining injury in right knee while carrying heavy weight on head, she slipped on the ground. She could not come for treatment because of her poor economical condition and took bed rest for about 4 weeks along with some conservative treatment with painkillers, local injections, massage and Chinese herbal medications.

On examination, there was no joint hypermobility and no evidence of any connective tissue disease. The extensor mechanisms and the neurovascular functions were intact. Radiograph showed anterior dislocation of the right knee joint (**Figure 1 and 2**). Patient was not able to afford total knee arthroplasty and denied for the arthrodesis. After the failure of closed reduction, we tried open reduction and fixed with external fixator under spinal anesthesia (**Figure 3**).

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**Figure 1: Preoperative radiograph showing anterior dislocation of right knee joint**



**Figure 2: Anteroposterior preoperative radiograph of right knee**



**Figure 3: Radiograph showing right knee joint fixed with external fixator**

The knee was stable only up to 70° and on further extension, it tends to re-dislocate. The knee was extended gradually and non weight bearing crutch walking was started immediately. The fixator was removed after 6 weeks and cylindrical cast was applied for 3 months. After 3 months, progressive program of weight bearing and physiotherapy of knee was started. At 1 year of follow up, the final range of movement of right knee was 5-70° and the patient was able to bear painless weight bearing on right lower limb.

## DISCUSSION

Knee dislocation is uncommon. Most acute knee dislocations are diagnosed and treated accurately in the emergency department. There are some case reports of delayed treatment of knee dislocation in the English literature.<sup>2-7</sup> The time between the injury to the knee and definitive treatment was ranged from 16 weeks to 8 months, and extensive open reconstruction using the Ilizarov technique, Steinmann pin fixation, hinged external fixation or total knee arthroplasty were suggested.

Vicente-Guillen et al<sup>1</sup> reported a case of 55-year old woman whose knee was injured at the age of 5 years. They thought that the long-standing dislocation was due to trauma to the anterior aspect of the proximal tibial growth plate, which caused tibial plateau deformity and posterior dislocation of the tibia on the femur. The dislocation was treated with staged operation i.e. open release with external fixation, progressive reduction and finally arthrodesis. Richard, who had diagnosed and treated long-standing dislocations of many joints, mentioned that he had never seen a chronic dislocated knee.<sup>8</sup> His experience with chronic dislocation of other joints suggested that a primary knee arthrodesis might be the treatment of choice; but it has not been considered because may lead to major disability.

Petrie et al<sup>2</sup> reported two cases of successful treatments with total knee arthroplasty and a constraining device for posterior knee dislocation 4 months after the initial injury. However, in our case the patient was managed only conservatively because she could not afford for total knee arthroplasty and she not ready for arthrodesis.

To conclude, conservative management after reduction of anterior dislocation of knee as a definitive treatment can be valuable alternative for those who can not undergo for total knee arthroplasty or arthrodesis.

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