

Bilateral Traumatic Patella Fracture

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ABSTRACT

Fracture of Patella is rare and constitutes almost 1% of all skeletal injuries. Bilateral fracture of patella is even rarer accounting for 2.9% of all patella lesion. Very few cases of bilateral patella fractures have been reported in literature. We report the rare case of bilateral patella fracture in a healthy female and discuss the management challenges.

INTRODUCTION

Fractures of the patella is rare and constitute almost 1% of all skeletal injuries¹. Bilateral patella fractures accounts for 2.9% of all the lesions of patella, resulting from either direct or indirect trauma and are usually associated with high energy polytrauma or comorbidities like hyperparathyroidism, osteoporosis, stress fracture and kidney failure (non-traumatic cases) can be found in the literature².

Few cases of bilateral patella fractures have been reported in literatures and are usually due to high velocity injuries. We are presenting a similar case, which was due to moderate velocity injury in a healthy female. As the literatures have not yet mentioned regarding the better modality of treatment of bilateral patella fractures, we were in dilemma regarding management of the patient for better functional outcome.

CASE REPORT

A 45 year old peri-menopausal female presented to ER with history of fall from tree around 10 feet height, landing on the ground with her knees. The patient was

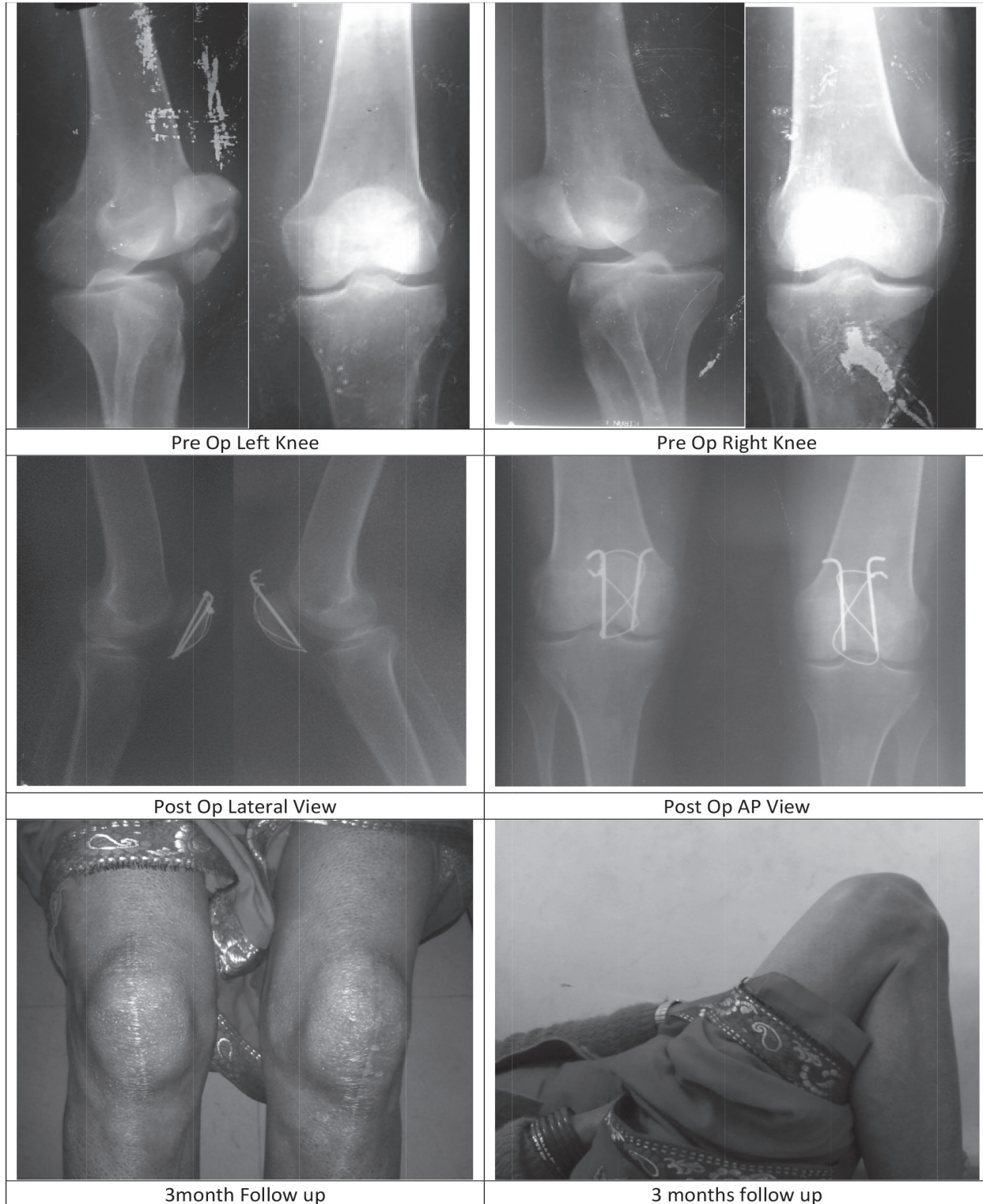
conscious and her vitals were stable. She complained of pain around both her knees. Clinical examination of the head and neck, chest, abdomen and spine, and pelvis showed normal results. On local examination of knees both the knees were swollen with painful restriction of movement. There were no any external injuries around the knee joint. Distal circulation and neurology of both the lower limbs were normal. X-ray of the knees AP and Lateral view showed comminuted fracture of both the patellas, with more comminution of the left patella. The patient was admitted with A/K slab in both the lower limb and planned for surgery. After all the pre-operative investigations and ruling out associated co-morbid conditions patient was taken to operation theatre for operative management. Spinal anaesthesia was given. Tourniquet was applied in the proximal thigh. Anterior midline incision was given directly upto the periosteum and lifted. There were no associated retinacular injuries. Both the fractures were fixed with modified TBW simultaneously and closed in layers. Drains were not used. Post operatively Jones bandage was applied in both the knees and external splint was not used. Quadriceps strengthening exercise was begun

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and range of motion of the knees were encouraged within the limits of pain from the immediate post-operative day and the patient was encouraged to walk with the help of crutches. By the end of second week

patient was able to walk without the aid of crutches and was discharged after removal of sutures. Patient was followed up at 4 and 6 weeks. By the end of 6 weeks patient was able to squat, sit crossed leg and



perform her house hold activities independently.

DISCUSSION AND REVIEW OF LITERATURE

Patella is the largest sesamoid bone and lies within the fascia lata and the fibres of the quadriceps tendon. The anterior subcutaneous location makes it vulnerable to direct trauma, such as blow to the patella from a fall or a motor vehicle crash. Various treatment modalities have been discussed for unilateral patella with indications. But it has not been mentioned clearly regarding treatment of bilateral patella fractures.

Preservation of patella is necessary to optimize the function of extensor mechanism. In case of bilateral patella fracture early operative management is required for better rehabilitation and early mobilization, and good functional outcome.

In our case there was not much displacement of left patella and could have been managed conservatively with cylindrical cast, but this would have taken a much longer recovery time. So, surgery was planned and fracture fixed with modified TBW. Minimal soft tissue dissection was done and bilateral fractures were fixed simultaneously in same sitting. Patellectomy was not required in our case because the major fragments were large enough to fix with TBW. In such cases with injury around the bilateral knee, urgent management with stable fracture fixation, rehabilitation with early active range of motion exercises and weight bearing are essential, so as to minimize intra-articular adhesion, post-traumatic arthritis and optimal function of extensor mechanism can also be achieved.

Similar case has been reported by Guptay Vinay², as a result of RTA. ORIF with TBW was done on the right side and partial patellectomy with reattachment of quadriceps tendon was done on the left side. Gradual weight bearing was allowed only at 4 weeks and full weight bearing without support was allowed only at 8 weeks. Patient was able to squat and sit crossed leg

only at 6 month. In our case patient was allowed to walk bearing full weight from immediate postoperative period and recovery was also good with patient able to squat and sit crossed leg at 6 weeks postoperatively. This quick recovery may be as partial patellectomy was not required and rehabilitation was aggressive in our case.

Another similar article has been reported in Turkish by Cýrpar M³. The mechanism of injury was RTA. The fracture was fixed with TBW and cerclage bilaterally. Hinged knee brace allowing 30° of flexion was allowed for first 4 weeks and crutches were used up to 6 weeks postoperatively. In our case no braces were applied and crutches were discarded by the end of 2 weeks and no complications were yet noticed.

Similarly Carneiro M⁴ treated stress fracture of 64 year old marathon runner with TBW resulting in good outcome.

Thus we have come to a conclusion that regardless of indications, bilateral patella fractures should be treated operatively and a good rehabilitation program should be initiated so as to minimize complications and achieve a good functional outcome. Immobilization postoperatively is not necessary if stable fixation has been achieved.

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