

An Alternative Method of Fixation of Transverse Patella Fracture in Elderly Patient-A CaseReport

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INTRODUCTION

Patella fractures in the elderly account for approximately 0.5–1.5% of all types of bone fractures.[1]The loss of knee extension turns these fractures into very limiting. Therefore, in case of a displacement greater than 2–3mm and loss of articular incongruity surgical treatment is advised.[2] Transverse patella fractures are traditionally fixed using the tension band wiring technique to induce compression at the fracture site Tension band wiring technique although it results in a good union rate often predisposes to multiple postoperative hardware issues and failure such as break of wire and cerclage, slippage and prominence.[3] We describe a transverse patella fracture in the elderly treated with ORIF with cannulated screw and fiber tape

CASE REPORT:

This is a case of a 65-year-old male with underlying bronchial asthma. The patient sustained direct trauma to the left knee with swelling and loss of extensor mechanism. A plain radiograph of her left knee showed a transverse patella fracture, ORIF with cannulated screw and fiber tape was done.

A mid-axial approach of the knee was done, Fracture fragments were visualized and reduced under direct vision, confirmed with I/I. 2 cannulated partially threaded screws were then inserted in a retrograde fashion, subsequently, fiber tape was passed in a figure-of-8 manner and tied. Post-fixation reduction checked under fluoroscopy was stable. Postoperatively kept immobilized with a cylindrical cast for 2 weeks. The patient was advised for gradual knee flexion, post-operative 3 months fracture united, the patient was able to ambulate unaided, range of movement of the knee was 0-100 degrees



Figure 1(AP View) & Figure2(Lateral View) show Pre-Operative X ray Of Left Knee



Figure3



Figure 4

Figure 3- Final fixation after securing with cannulatedscrew and fiber tape

Figure 4- Left knee X-Ray (AP & Lateral View) PostOperative 3 Months

DISCUSSION

Fracture fixation in osteoporotic individuals poses a challenge due to inferior bone quality[4].Conventional tension band wire fixation in an osteoporotic bone prone to have k wire pullout, cerclage wire slippage, and failure of fixation construct. Elderly patients with less soft tissue mass often present with prominent implants.

.A biomechanical cadaver study comparing cannulated screws with K-wires has found that while both constructs resist fracture displacement, cannulated screws provide superior stability and fail at significantly greater loads.[4].Another benefit is that high-strength nonabsorbable sutures may provide a superior tension band construct than traditional metal wires[5]With this technique, we did not require the use of the cerclage wire for protection of the repair. This might be attributed to the superior strength of the suture material (Fibertape) and also the post-op cylindrical slab for immobilization However, some pitfalls could occur, Cannulated screws may be difficult to place properly; the screw must be long enough to have threads distal to the fracture to allow for fracture compression; however, if the screws are too long, then the end of the screw may abrade the suture, resulting in suture breakable and failure of the tension band. The use of a blunt-ended screw can decrease the risk of sutureabrasion.

CONCLUSION

The use of cannulated screws and fiber tape for fixation of patella fracture has a good outcome as the strength of the screw and suture material is greater in an osteoporotic bone. This also prevents complications that arise from prominent hardware, have k wire pullout, cerclage wire slippage, and failure of fixation. Our patient demonstrated excellent recovery post-operative. Hence, we would like to recommend suture material (Fibertape) with screw fixation for elderly patients with inferior bone quality

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