

Patella Plating in Comminuted Patella Fracture

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INTRODUCTION:

Comminuted patella fracture possesses a significant challenge in trauma management due to their impact on the knee's extensor mechanism. Traditional fixation method such as tension band wiring or cerclage wiring has been done tailored to the fracture pattern. With recent advancements in surgical techniques and implants, patella plate offers a stable fixation with low profile design¹. Here, we present a case of comminuted closed patella fracture managed with plate fixation.

REPORT:

A late thirties gentleman presented to the emergency department following right knee pain post motor vehicle accident. On examination, the knee appeared swollen and gap was palpable over the patella. The skin was intact with mild bruise surrounding the knee. Radiographic imaging revealed a comminuted fracture of the right patella (AO C3.3). Due to the multifragmentary fracture pattern, a mesh plate was chosen as the mode of fixation for this patient.

The surgery was performed 3 days post trauma. Patient was positioned supine with a pneumatic cuff placed on the thigh. A mid line incision was made, and the extend of patella retinaculum damage was assessed. The fracture was then reduced under direct visualization and fixed temporarily with Kirschner wires. A 2.7mm patella mesh plate was measured and cut into appropriate size then contoured to fit onto the dorsal surface of the patella. Two small fragments were stabilized with three 2.7mm locking screw. Reduction was checked under image intensifier. Post operative the knee was placed with back slab for 2 weeks. Patient was allowed for full range of motion after 6 weeks of surgery.

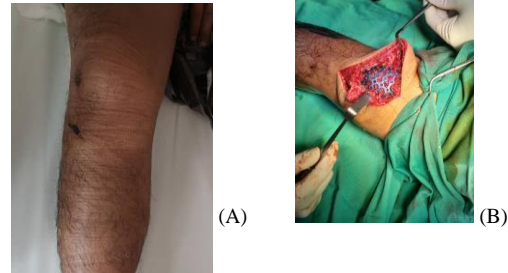


Figure 1: (A) Preoperative knee
(B) Plate in-situ



Figure 2: Preoperative (A&B) and postoperative (C&D) imaging

CONCLUSION:

Plate provides an alternative to a more traditional tension band or cerclage wiring in complex patella fracture involving multi fragmentary or comminution fracture pattern. While the treatment of patella fracture with patella plate is a promising approach, the need for future prospective studies to validate the current systematic review remains essential².

REFERENCES:

1. Treatment of patella fracture, Jacob L, <https://doi.org/10.3928/01477447-20181010-08>
2. Tsotsolis, S., Ha, J., Fernandes, A.R.C. *et al.* To plate, or not to plate. *Eur J Orthop Surg Traumatol* **33**, 3287–3297 (2023). <https://doi.org/10.1007/s00590-023-03597-9>