

Periprosthetic Tibial Fracture - Felix Type IV: a Rare Hurdle

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INTRODUCTION:

Periprosthetic fractures involving the tibia are rare. Hence, literatures available for management of tibial periprosthetic fracture are scarce. In 1997, Felix classified these fractures [1].

REPORT:

This is a case report of an elderly lady with Type 2 diabetes, hypertension, and a history of bilateral total knee replacement in 2000.

She had a trivial fall and complained of pain, swelling of the left knee and inability to walk. Examination revealed swelling and ecchymosis of the left knee with a healed scar over the anterior knee. Extensor mechanism was absent. Neurovascular examination was unremarkable. X-ray revealed a displaced avulsion fracture of the left tibial tuberosity. An open reduction and screw fixation of the left tibial tuberosity was done. The fixation was protected with a cylinder slab. Post operatively, she was discharged on day 3 of surgery with wheelchair ambulation. A one-month review revealed improved range of movement and radiological evidence of healing.

A Felix type IV periprosthetic tibial fracture is rare, with limited literatures on its management. A 2022 review found 5.9% treated conservatively, 58% with open reduction and fixation, and 11.2% required revision TKA. [2]. For avulsion fractures involving the tibial tuberosity, treatment options include K wires or cerclage wires, though hardware removal is often necessary post-union. In our case, screw fixation with fiber tape augmentation was chosen, as it provided better stability, resisted patellar tendon pull, and eliminated the need for implant removal. Thus, offering a more biologically superior option compared to stainless steel wire. While anchor sutures may be an alternative, they are less cost-effective.



Figure 1: Xray post trauma



Figure 2: 1 month post operative

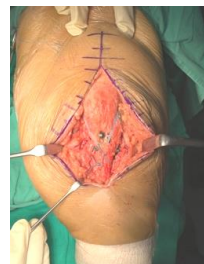


Figure 3: Intraoperative picture

CONCLUSION:

Further reports are needed to establish management guidelines, our approach may offer a viable treatment option for Type IV tibial periprosthetic fractures.

REFERENCES:

- 1.Lombardo DJ, Siljander MP, Sobh A, et al. Periprosthetic fractures about total knee arthroplasty. *Musculoskeletal Surg* 2020;104: 135–43
- 2.Shukla T, Vaish A, Vaishya R, et al. Tibial periprosthetic fractures in total knee arthroplasty-a scoping review. *J Clin Orthop Trauma* 2022;29: 101892