

Vertical Wire: A Choice of Treatment for Inferior Pole Patella Fracture

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INTRODUCTION:

Displaced fracture of patella has almost always warranted for surgical intervention to restore the patellofemoral joint congruency and the knee extensor function. There are many methods of fixing inferior pole patella (IPP) fracture and it has been a challenge to decide on the best surgical option. We are reporting a case of displaced inferior pole patella fracture that was fixed using method of separate vertical cerclage wiring (SVW).

REPORT:

This is a 43 year old gentleman who was involved in trauma and sustained closed comminuted fracture inferior pole right patella with impaired knee extensor mechanism.

Procedure was done using standard midline approach. Intraoperatively, there was comminuted fracture of IPP. Fracture site then cleared from hematoma and reduced. A hole was made using 1.4mm K-wire, inserted retrogradely from fracture site at posteroinferior patella to anterosuperior aspect of the patella. A 1.0mm cerclage wire was passed through the hole in the same manner. The distal end passed through the patellar tendon as close as possible to the bone from the posterior aspect of the two bone fragments. The distal end of the wire was then pulled anteriorly, twisted and tightened with the proximal end at the anterosuperior aspect of the patella. Fixation is stable in full passive range of motion. Post operatively, patient is allowed for weight bearing and passive range of motion exercises for 6 weeks, and subsequently allowed for active ROM after 6 weeks.

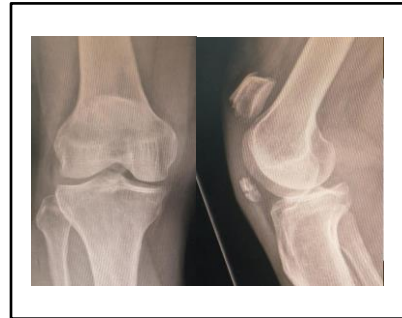


Figure 1. Pre-operative X-ray on AP and lateral view, showing inferior pole patella fracture

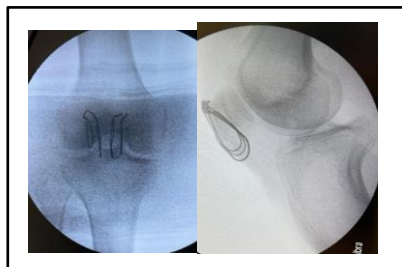


Figure 2. Post-operative X-ray on AP and lateral view.

CONCLUSION:

SVW is an option for surgical treatment of IPP fracture. It has the advantage of preserving the patella tendon length by avoiding the need for patellectomy, thus preventing risk of complication from patella baja/alta. Biomechanically, it is more stable as compared to transosseous suture fixation. In cases of comminuted IPP fracture, the tightening of the vertical wires during the procedures able to reduce the number of fragments with minimal soft tissue compromise.

REFERENCES:

Song, H. K., Yoo, J. H., Byun, Y. S., & Yang, K. H. (2014). Separate vertical wiring for the fixation of comminuted fractures of the inferior pole of the patella. *Yonsei medical journal*, 55(3),785–791. <https://doi.org/10.3349/ymj.2014.55.3.785>