

Incident of Complications Following Surgical Fixation of Patella Fractures Is Independent of Surgical Fixation Technique: A Retrospective Analysis of 100 Cases

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Purpose: There is no consensus on the detailed method of fixation of patella fractures. The aim of the study was to establish if there were less complications associated with different fracture types and methods of surgical fixation.

Methods: The electronic records of our institution were interrogated to identify patients with patella fractures treated (2013-2020). Inclusion criteria were patients with patella fracture that was treated with surgical intervention. Exclusion criteria were patients lost to follow-up or died prior to fracture healing. The AO/OTA classification was used to define and classify all fractures. For each patient the ISS was calculated. Other clinical metrics were recorded. The minimum follow-up was 12 months, all followed a standard postoperative protocol.

Results: Out of 120 patients, 100 patients met the inclusion criteria with a mean age of 46.57 years (range, 16-100; standard deviation [SD] 22.3), with a 1.53 male to female ratio and with a mean ISS of 4.55 (range, 4-13; SD 1.5). The majority of the injury mechanisms were blunt force trauma (62.4%) and high-energy injuries (22.8%), with the patella fracture being an isolated injury in 54.5% of cases. The mean time from injury to surgery was 4.3 days (range, 0-15; SD 6.9). The mean hospital stay was 6.7 days (range, 1-25; SD 4.6). Overall, the complication rate was 8%, with 6% infective cases and another 2% of deep vein thrombosis. Of the 6% percent suffering from infection, only 1 suffered from a deep infection that led to a nonunion and further surgical intervention. Another patient with superficial infection went on to malunion and required further surgical intervention. Overall, 14% experienced prominent metalwork, and 13% had this removed. Range of knee motion and KOOS (Knee injury and Osteoarthritis Outcome Score) functional subscore improved with time reaching near normal values compared to the opposite site at final follow-up. The rate of complication was independent of the type of the type of surgical fixation ($P>0.05$), age ($P>0.05$), and type of fracture ($P>0.05$) (Kruskal-Wallis test). Further, the length of hospital stay was independent of the type of fracture and methods of surgical fixation ($P>0.05$), when confounding factors such as other injuries and open fractures were removed.

Conclusion: This is one of the largest case series of patella fractures. The type of fixation and fracture is independent of complications, thus enabling a pragmatic approach to the fixation of this type of fracture.