

Clinical Results of Acetabular Fracture Fixation Using a Focal Kocher-Langenbeck Approach Without a Specialty Traction Table

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Purpose: Our objective was to report the clinical results of a series of patients who underwent acetabular fracture fixation using a Kocher-Langenbeck approach without a specialty traction table.

Methods: After institutional IRB approval, all patients with an operatively treated acetabular fracture using the Kocher-Langenbeck approach were reviewed over a 5-year period (2013-2018). Preoperative evaluations included radiographs and CT of the pelvis with 3-dimensional (3D) reconstructions. Outcome variables included reduction quality and complications such as infection, heterotopic ossification, loss of reduction or fixation, medical complications, and neurologic injury. Data analysis was performed using Minitab (State College, PA). The means of each variable were compared using analysis of variance, and significance was set at $P < 0.05$. A χ^2 test was used to evaluate categorical data.

Results: We found 172 patients who underwent a Kocher-Langenbeck for fixation of a posterior wall or posterior wall-associated pattern. The average age was 43.4 years (range, 15-90). There were 129 males (75%) and 43 females (25%). The average body mass index (BMI) of the cohort was 30.6 kg/m² (range, 17.2-67.7). The average blood loss was 443.2 mL (range, 175-2100) and the average operative time was 200.7 minutes (range, 87-518 minutes). The average hospital stay was 11.4 days (range, 3-44 days). 73 patients had an isolated posterior wall fracture (42.4%), 88 had a transverse-posterior wall fracture (51.2%), 10 patients had a posterior column-posterior wall fracture (5.8%), and 1 patient had a T-type fracture with a posterior wall (0.6%). No articular malreductions > 2 mm were noted on postoperative CT scans. Overall, there were 13 surgical complications observed (8.1%). There was 1 death in our cohort (0.6%) and 3 patients had non-fatal pulmonary emboli (1.9%). There were no nerve injuries observed. Four patients (2.5%) required eventual total hip arthroplasty. There were 6 acute infections (3.1%) requiring surgical intervention. Nine patients developed heterotopic bone (5.2%); 4 had Type I (2.3%), 2 had Type II (1.2%), and 3 had Type IV (1.9%). The 3 patients with Type IV heterotopic ossification were symptomatic and had an excision performed. One of those patients went on to eventual total hip arthroplasty approximately 2 years after the index procedure.

Conclusion: Overall, we report on the largest cohort in the literature undergoing a prone Kocher-Langenbeck without a specialty table for acetabular fracture fixation. We found that limited extremity prepping and draping for a prone Kocher-Langenbeck approach without the use of a specialty traction table did not result in an increased rate of postoperative neurological complications or malreductions of acetabular fractures.