

Proximal vs Distal Fragility Femur Fractures: Differences in Outcomes

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Purpose: Fragility fractures are becoming increasingly prevalent as the population ages. Although there is extensive research focused on proximal femur fragility fractures, there is a paucity of research on the outcomes and treatment of distal femur fragility fractures. Therefore, the purpose of this study was to investigate differences in outcomes and treatment between distal and proximal femur fragility fractures.

Methods: Patients age 50 years and older who underwent surgical treatment for a fragility fracture of the neck, intertrochanteric, subtrochanteric, or supracondylar region of the femur between March 2018 and April 2023 were evaluated. Patients were excluded if they sustained high-energy injuries or polytrauma. Patients were grouped by fracture location. Tranexamic acid (TXA) administration, need for blood transfusion, time to the operating room (TTOR), and mortality within 1 year of surgical intervention were compared between groups.

Results: This study included 828 patients (74% female, age 79.4 ± 11.3 years), of which 674 sustained a proximal fracture and 154 sustained a distal fracture. There were no differences between groups with the exception of age; the distal group was on average 7 years younger ($p < 0.001$). TXA was used less frequently in the distal group compared to the proximal group (53% vs 71%, $p < 0.001$). There was no difference in transfusion rates (28% proximal vs 32% distal, $p = 0.351$). Complications including venous thromboembolism within 90 days and emergency department visits within 30 days were similar between groups ($p = 0.989$ and $p = 0.861$, respectively). One-year mortality rates between the two groups were also similar (17.6% proximal vs 16.9% distal, $p = 0.756$). Patients with a distal fracture had on average 13 hours longer TTOR compared to those with a proximal fractures ($p < 0.001$). Regression analysis demonstrated that TTOR was significantly associated with mortality regardless of fracture location, with a 23% increased risk of mortality per 24 hours delay in TTOR ($p = 0.011$, 95% CI: 1.05–1.44).

Conclusion: This work indicated that distal femur fragility fractures have similarly poor outcomes compared to those of proximal femur fragility fractures. Given the findings concerning TTOR and transfusion rates, consideration should be given to treating distal femur fragility fractures with the same urgency and diligence as proximal femur fragility fractures.