

High Mortality Rates After Distal Femur Fractures in Patients With End-Stage Renal Disease

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Purpose: Hip fractures in patients with end-stage renal disease (ESRD) are associated with high mortality rates. The effect of ESRD on mortality following operative treatment of distal femur fractures is not known. We hypothesized that distal femur fractures carry a similar mortality risk and complication rate compared to proximal femur fractures in patients with ESRD.

Methods: Utilizing the US Renal Data System registry (2008-2015), we investigated all-cause mortality risk for ESRD patients after operative fixation of proximal (6118 patients) or distal femur fracture (430 patients). Survival rates were compared using Kaplan-Meier analysis and Cox regression. Results were adjusted for potential confounding variables including age, body mass index, gender, comorbidities, and duration of dialysis. Complications were analyzed with the χ^2 test and 1-way analysis of variance with the level of significance set at $P < 0.05$.

Results: In ESRD patients who sustained a proximal or distal femur fracture, the mortality rate was respectively 50.1% and 45.8% at 1 year ($P = 0.09$) and 68.0% and 62.6% ($P = 0.02$) at 2 years. The adjusted risk of death was not different between ESRD patients with a proximal or a distal fracture (hazard ratio [HR] = 1.08, 95% confidence interval [CI]: 0.95-1.23, $P = 0.23$). Rate of venous thromboembolic events at 90 days was similar between both groups (4.1% vs 4.4%, $P = 0.72$) as well as pneumonia (11.8% vs 10.7%, $P = 0.48$).

Conclusion: In patients with ESRD, mortality rates after distal femur fractures is high and similar to mortality rates after hip fractures.