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Moving Beyond Hip Fracture Risk Assessment for Patients on Dialysis

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It is well established that patients with chronic kidney disease (CKD) and on hemodialysis are at higher risk for fracture, carry a higher overall disease burden, and are at higher risk for mortality after hip fracture.[1] What was unclear was whether the risk of mortality was due to the high disease burden or whether dialysis itself increased mortality risk. In their article "Death and Postoperative Complications After Hip Fracture Repair: Dialysis Effect," Hickson *et al*. separated out the incremental risk of postoperative complications and increased length of stay attributable to dialysis dependency as compared to the high overall disease burden carried by many dialysis-dependent patients.[2] Their findings suggest that dialysis itself increases the risk of complications, early mortality, and increased length of stay. The study did not answer whether specific interventions or best practices can reduce the risk of complications and mortality in the dialysis population after hip fracture.

Significant attention has been directed to fracture risk assessment and prevention in patients requiring renal replacement therapy,[3] although the success in reducing fracture rates is unclear.[4] When hip fracture does occur, it is accompanied by large amounts of blood loss[5] compounding the chronic anemia often seen in CKD; in addition to medical complications, CKD impairs wound healing, and chronic hemodialysis is associated with high rates of nonunion and osteonecrosis.[6] However, there are limited studies to guide optimal timing of presurgical dialysis,[7] anesthesia technique, intraoperative blood management, or postoperative protocols for the patient on hemodialysis who sustains a hip fracture. Subsequently it is unclear what impact perioperative and early postoperative practices have on length of stay, early mortality, and risk of medical and surgical complications in this population.

Current best practices are based on extrapolation of findings from large populations of patients with hip fracture applied to the dialysis patient cohort. For example, comanagement models for care with geriatricians and orthopedic surgeons have been shown to improve processes and care of hip fracture patients,[8] and are increasingly being adopted due to benefits in decreasing hospital charges and length of stay. Subsequently, a multidisciplinary approach between the medical and orthopedic surgical teams with nephrologist involvement may help to ensure lowest possible risk of hyperkalemia, bleeding, wound healing, and infectious complications. However, without more focused studies on the perioperative and early postoperative management of dialysis patients with hip fracture, it is unclear whether lessons learned in the care of general population hip fracture patients always apply. Future research in patients with chronic kidney disease and dialysis dependence should continue to focus on fracture reduction, but there is also a need for more focused guidelines on mitigating the intrinsically elevated risk of complications and death when fracture prevention fails.

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DISCLOSURE

The author declared no competing interests.

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