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Association of Hip Fracture With Mortality and Long-term Outcomes in Korean Patients Undergoing Maintenance Hemodialysis: A Nationwide Propensity Score-Matched Cohort Study

SUA LEE, Do Hyoung Kim, Soh Yeon Kim, Hayne Cho Park, Young-Ki Lee
Department of Internal Medicine-Nephrology, Kangnam Sacred Heart Hospital, Korea, Republic of

Objectives : Hip fracture is a serious complication in patients undergoing maintenance hemodialysis (HD), yet its long-term prognostic impact has not been fully characterized in nationwide real-world data. We evaluated the association between hip fracture and mortality and long-term outcomes in Korean HD patients.
Methods : Using the HD Quality Assessment program linked with National Health Insurance claims (October–December 2015), we identified patients undergoing maintenance HD and classified them into hip fracture and no-fracture groups. A propensity score–matched cohort (3:1) was constructed using age group, sex, body mass index, diabetes, ischemic heart disease, stroke, and atrial fibrillation. Outcomes included all-cause mortality (primary outcome), pneumonia, and a composite outcome of heart failure (HF), ischemic heart disease (IHD), cerebrovascular disease (CVD), and pneumonia. Associations were evaluated using multivariable Cox proportional hazards models.
Results : The matched cohort included 2,219 patients (fracture, n=555; no fracture, n=1,664). Patients with hip fracture had markedly higher mortality, with crude death rates of 275.84 vs 142.76 per 1,000 person-years (rate ratio 1.93). Excess mortality was most pronounced within the first year after fracture (421.68 vs 99.97 per 1,000 person-years; rate ratio 4.22). Hip fracture was independently associated with increased all-cause mortality (hazard ratio [HR] 1.99; 95% confidence interval [CI] 1.78–2.23; p<0.001) and pneumonia (HR 1.29; 95% CI 1.10–1.52; p=0.002). HF and CVD were not significantly associated with hip fracture, whereas IHD showed a lower hazard in the fracture group (HR 0.56; 95% CI 0.45–0.69; p<0.001). The composite outcome did not differ significantly between groups (HR 0.97; 95% CI 0.84–1.11; p=0.622).
Conclusions : In this nationwide propensity score–matched cohort of maintenance HD patients, hip fracture was associated with nearly doubled mortality and increased pneumonia risk. These findings underscore the need for intensive post-fracture monitoring and preventive strategies in this high-risk population.