

The Role of Race in Disparate Postoperative Outcomes Following Arthroplasty for Femoral Neck Fractures

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Purpose: Femoral neck fractures (FNFs) are common injuries in the elderly population associated with significant morbidity and mortality. Racial disparities in health and the delivery of health care are present in this population, potentially resulting in disproportionately worse outcomes among racial minorities. Our aim was to determine the association of race and outcomes in patients undergoing primary hip arthroplasty for FNFs.

Methods: We retrospectively reviewed patients undergoing total hip arthroplasty (THA) or hemiarthroplasty (HA) for FNFs at 9 different institutions from 2010 to 2019. Patients with bilateral FNFs, concomitant ipsilateral acetabular fractures, missing racial information, or less than 1 year of follow-up were excluded. Postoperative outcomes were compared between groups, and multivariable logistic regression models were performed for each outcome of interest.

Results: The study population included 1529 patients, of whom 1334 (87%) were White, 172 (11%) were Black, and 23 (2%) were of other minority groups. Race was not associated with increased risk of any study outcomes for patients undergoing THA. However, in patients undergoing HA for FNF, Black race was associated with an increased risk of nonambulatory status at discharge (odds ratio [OR] 1.66; 95% confidence interval [CI] 1.07-2.57; $P = 0.02$), heterotopic ossification (HO) formation (OR 1.81; 95% CI 1.17-2.82; $P = 0.008$), and 1-year mortality (OR 1.56; 95% CI 1.02-2.39; $P = 0.04$) compared to White race.

Conclusion: Black race is associated with worse outcomes including increased risk of HO formation, nonambulatory discharge, and 1-year mortality for patients undergoing HA for FNF after controlling for confounding variables, but no racial disparities were identified among patients undergoing THA. Management teams should include inpatient physical therapy and emphasize the importance of regaining ambulation in these patients, particularly in Black patients, and thorough patient education for all HA patients. We also postulate that factors unavailable in the present study, such as sociodemographic variables and health-care inequities, may further contribute to these disparate outcomes.