A Retrospective Review of 1-Year Outcomes Based on Approach for Total Hip Arthroplasty in Femoral Neck Fractures

Kyle L. McCormick, MD*; Michael Mastroianni, MD; Nana Sarpong, MD, MBA; Carl Herndon, MD; Alex Neuwirth, MD; Roshan Shah, MD, JD; H. John Cooper, MD; Jeffrey Geller, MD*

Purpose: The purpose of this study was to compare complication rates and clinical outcomes at 1 year or until death based on surgical approach for total hip replacement in femoral neck fractures.

Methods: This retrospective study was performed on 101 patients with displaced femoral neck fractures at our institution between 2005 and 2022. All surgeries were performed by fellowship-trained arthroplasty surgeons via either a posterior Kocher-Langenbeck approach, anterolateral approach, or a direct anterior approach. Demographics were collected, as well as baseline ambulatory status, use of cement, length of stay in the hospital, time to ambulation with physical therapy in the hospital, and complications.

Results: 37 patients underwent a direct anterior approach, 42 underwent an anterolateral approach, and 22 underwent a posterior Kocher-Langenbeck approach. There was no difference in age, time to operating room, or Charlson comorbidity index between the groups (P = 0.27, 0.79, and 0.83, respectively). 69.3% of patients were women, and 63.3% of patients were community ambulators without assistive devices. The average age of the patients was 76.2 years (standard deviation 10.8) with an average follow-up of 25.7 months (range, 3-144). 18% of patients died within the 1-year follow-up period. 43.3% of patients were able to be discharged home, while 55.4% of patients went to subacute rehabilitation or other nursing home facility. One patient died during initial hospitalization. Overall, there was a 30.6% complication rate, a 7% reoperation rate and a 0.9% dislocation rate. When evaluating anterior-based versus posterior-based approaches, the posterior group was more likely to be discharged to rehab instead of home (82.0% compared to 48.6%, P = 0.0054) and had a statistically significant increase in complication rate (P = 0.04). Specifically, there was a 36.3% rate of transfusion in the posterior group compared to a 5.0% rate in the anterior group (P <0.0001).

Conclusion: Anterior-based total hip arthroplasty for fracture in our series demonstrated a significantly lower rate of complications and a significantly higher rate of being discharged home.