

Regional-Only Anesthesia Is a Safe Alternative to Perform Arthroplasty for Femoral Neck Fracture

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Purpose: Our objective was to examine the efficacy of regional anesthesia only in arthroplasty surgery for displaced femoral neck fractures.

Methods: This IRB-approved study evaluated patients who sustained a displaced femoral neck fracture (OTA 31B1.3) treated with either a hemi- or total hip arthroplasty. Patients were grouped based on type of anesthesia: regional (LOH) block vs general anesthesia (GA) vs spinal anesthesia (SA). LOH patients were matched with a 1:2 ratio to GA and SA based on risk (Score for Trauma Triage in the Geriatric and Middle Aged [STTGMA]) score and arthroplasty type. Patient demographics, injury characteristics, and surgical history were compared. Outcomes included postoperative complications, 90-day readmission rates, mortality within 1 year, and discharge location. Analysis employed independent t-tests, χ^2 tests, and analysis of variance tests.

Results: A total of 145 patients were analyzed: 58 GA, 58 SA, and 29 LOH Block. Cohorts were similar in age, sex, race, Charlson Comorbidity Index (CCI), STTGMA, baseline ambulatory and functional independence, AMS, injury energy, and arthroplasty type. GA patients had the highest, although normal, body mass index (BMI) at baseline (25.3 ± 5.33 , $P = 0.004$). SA patients had the highest American Society of Anesthesiologists (ASA) score at surgery (2.91 ± 0.66 , $P = 0.036$). The GA group spent the longest time under "anesthesia" (2:55:33 hours, $P = 0.013$) and in the operating room (3:35:08, $P = 0.009$). LOH block patients had the shortest time under "anesthesia" (2:26:57, $P = 0.013$) and in the operating room (2:54:06, $P = 0.009$). All forms of anesthesia allowed for successful completion of surgical procedures without bleeding complications. GA was associated with higher complication rates (56.9%, $P = 0.039$), including major complications (20.7%, $P = 0.025$) and postoperative anemia (34.5%, $P = 0.049$). Patients who underwent GA had a longer length of stay (6.43 ± 2.96 days, $P = 0.022$). More LOH block patients were discharged to home with health services (51.7%, $P = 0.004$) while more GA and SA patients were discharged to skilled nursing facilities ($P = 0.004$). LOH block patients were able to ambulate soonest after surgery (1.03 ± 0.186 days, $P = 0.001$). No other postoperative complications were significantly different.

Conclusion: The "lateral femoral cutaneous and over the hip" (LOH) block only is safe and effective for hemi- and total hip arthroplasty following a displaced femoral neck fracture. This anesthetic approach has the added benefit of lower rates of operative and postoperative complications, shorter length of hospital stays, and shorter time under anesthesia.