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Patients with Intertrochanteric Femur Fractures Who Undergo Surgical Treatment Using Spinal Compared to General Anesthesia May Have Lower Risks of Postoperative Complications

Background: Intertrochanteric hip fractures place a significant burden on the healthcare system and on patients. Recently the literature has begun to address the question of whether regional anesthesia modalities such as spinal anesthesia confer a clinical benefit to patients when compared to general anesthesia, the mainstay for hip fracture repair procedures. The purpose of our study is to compare postoperative outcomes for surgical repair of intertrochanteric fractures under spinal anesthesia versus general anesthesia.

Methods: We performed a retrospective cohort study using data from the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) database between 2012-2020. We identified our study population using ICD-9 and ICD-10 diagnosis codes for intertrochanteric fractures in the study period. The patients were grouped by anesthesia modality (spinal versus general), the primary exposure. Confounding variables accounted for patient's basic demographics, baseline health status and surgical parameters.

Results: We identified 51,305 cases utilizing GA and 14,861 cases utilizing SA for patients undergoing surgical repair of intertrochanteric fractures. There was no significant difference in odds for readmission (OR 1.0, 95% CI 0.90 to 1.06; $p=0.500$), reoperations (OR 0.9, 95% CI 0.72 to 1.00; $p=0.056$), mortality at admission (OR 0.9, 95% CI 0.78 to 1.06; $p=0.200$) or at 30 days (OR 0.9, 95% CI 0.86 to 1.04; $p=0.200$). Compared to GA, SA reduced odds for procedure associated complications (OR 0.9, 95% CI 0.83 to 0.99; $p=0.033$) and reduced odds for hospital acquired complications (OR 0.8, 95% CI 0.75 to 0.83; $p<0.001$).

Conclusions: Compared to patients who received general anesthesia during surgical repair of intertrochanteric fractures, those who received spinal anesthesia had a lower risk of procedure-related and hospital acquired complications. No significant differences in readmissions, reoperations and mortality were noted.