

General Anesthesia Versus Regional Anesthesia in Metacarpal Shaft/Neck Fracture ORIF: An ACS NSQIP Analysis 2008-2016

Introduction: Correction of metacarpal shaft/neck fractures involves open reduction and internal fixation (ORIF). These procedures are performed using general or regional anesthesia techniques, however, data comparing patient outcomes between the two are lacking. Moreover, since co-existing comorbid conditions are prevalent among patients, exploration into these techniques and patient outcomes needs investigation.

Methods: The ACS NSQIP database was queried between 2008-2016 for metacarpal shaft/neck fracture ORIF. Patients were categorized into general or regional anesthesia groups, with 1:1 propensity score matching to control for age and gender. Patient demographics, comorbidities, and post-operative outcomes were collected, with univariate analysis and multivariate logistic regression models to identify general or regional anesthesia as risk factors for adverse postoperative outcomes.

Results: Regional anesthesia was found to have shorter operative time (59.45 mins vs. 67.80 mins, $p=0.03$). Estimated probability of morbidity and mortality did not differ significantly ($p>0.058$). Age, BMI, and ASA class were not found to differ significantly ($p>0.679$), nor did co-existing comorbidities ($p>0.156$).

Compared to regional, the general anesthesia group did not experience significantly higher rates of adverse outcomes (all, $p>0.082$) (Table 1). Multivariate logistic regression showed general anesthesia was not associated with higher risk for post-operative complications ($p>0.655$) (Table 2) or readmissions between groups ($p>0.910$).

Conclusion: The risk of post-op complications did not differ between general or regional anesthesia, and no significant difference in comorbidities among patients undergoing either anesthesia type. Regional anesthesia was associated with shorter operation times, which should be considered when determining anesthesia type for patients undergoing ORIF for metacarpal fractures.