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

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INTRODUCTION: To examine the efficacy of regional anesthesia only in arthroplasty surgery for of 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 (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, Chi-Square Tests, and ANOVA tests.

RESULTS:

A total of 145 patients were analyzed: 58 GA, 58 SA, and 29 LOH Block. Cohorts were similar in age, sex, race, CCI, STTGMA, baseline ambulatory and functional independence, AMS, injury energy, and arthroplasty type. GA patients had the highest, although normal BMI at baseline (25.3±5.33, p=0.004). SA patients had the highest 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 post-operative 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 post-operative complications were significantly different.

DISCUSSION AND CONCLUSION: “The Lateral Femoral Cutaneous and Over the Hip” (LOH) Block 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 post-operative complications, shorter length of hospital stay, and shorter time under anesthesia.