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LIPOSOMAL BUPIVACAINE IN TOTAL KNEE ARTHROPLASTY: PRELIMINARY RESULTS OF A TWO-SURGEON, RETROSPECTIVE STUDY

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INTRODUCTION: Liposomal bupivacaine (LB) is a slowly degrading preparation that provides local anesthesia for up to 72 hours. It targets the site directly responsible for pain sensation, with no associated motor blockade. In total knee arthroplasty (TKA), it may have superior outcomes to anesthesia with regional nerve block.

METHODS: Our surgeons began using LB in TKA patients in 2013. All patients following each surgeon's LB start date were the experimental group. An equivalent number of patients prior to 2013 served as the control group. All control group patients received a preoperative femoral nerve block, and all experimental group patients received peri- and intra-articular LB, delivered intraoperatively. All other surgical and anesthesia interventions were the same. We used retrospective chart review to identify patient demographics, time to first ambulation, time to discharge, and incidence of postoperative nausea and vomiting. We also recorded opioid consumption intraoperatively, in the recovery room, and on the floor.

RESULTS: There were 161 patients in each group. We found no significant difference between the two groups with regard to gender, age, weight, preoperative opioid exposure, side of procedure, type of anesthesia (general vs. spinal), or ASA status. On average, LB patients consumed 29.2% less opioid after leaving the recovery room ($p < 0.0001$), and required 24.4% less opioid in the entire perioperative period ($p < 0.0001$). LB patients ambulated an average of 4.3 hours sooner ($p < 0.0001$), and were discharged an average of 14.9 hours earlier ($p < 0.0001$).

DISCUSSION AND CONCLUSION: With increasing focus on the cost of TKA, there is strong incentive to manage costs associated with the procedure. Additionally, all patients, regardless of comorbid conditions, can benefit from limited exposure to narcotic pain medication. Our results indicate that LB decreases total systemic opioid requirement, time to first ambulation, and time to discharge from the hospital.

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