

Comparing intraoperative administration of long-acting bupivacaine, multimodal cocktails, and local anesthetics for postoperative pain management



Gabriella A. Perez, PharmD, BCPS; Alexander D. Schroeder, MD; Daniel R. Fassett, MD; Matthew W. Todd, PharmD
Leilanie Y. Crespo Hernandez, PharmD, Francisco G. Perez Diaz, PharmD; Oscar Santalo, PharmD, BCPS, MHA, MBA

Background

- Although long-acting formulations of intraoperative nerve blocks have been widely used to enhance analgesia and reduce opioid requirements, existing literature on the outcomes of this technique is mixed
- There are limited data surrounding the use of alternative strategies for optimizing postoperative pain control, including the use of multimodal local anesthetic cocktails (MCs)

Objective/Purpose

- This study aimed to evaluate the effectiveness and cost of liposomal bupivacaine (LB), MCs, and traditional local anesthetics (LAs) for postoperative pain management

Methods

- Design:** Multi-center, retrospective study
- Study period:** Aug 2023 – Jan 2024
- n = 174 patients
- Primary outcome:** postoperative day (POD) 2 pain scores
- Secondary outcomes:** total morphine milliequivalents (MMEs) administered within 72 hours and projected cost savings

Results

Primary & Secondary Outcomes

Outcomes	LB (n=51)	MC (n=73)	LA (n=50)	P-value
POD 2 Pain Score (mean)	4.69	5.05	4.42	0.41
72-hr MME (median)	48.53	51.16	40.10	0.58

Projected Annualized Savings with MCs

Total LB Quantity (n)	Total LB Cost (\$)	MC Blend Cost ^a (\$)	Annualized Savings (\$)
5646	1,746,767	53.69	2,837,766

^a: (Cost per MC × utilization) / total MC utilization during study period

Outpatient Charge Analysis (LB vs MC)

LB patients analyzed (n)	Outpatient surgeries (n)	LB Charge per Dose (USD)	Total LB Charges (USD)	Total MC alternative blend cost ^b (USD)	Patient Savings (USD)
51	21	3333.16	69,996.30	23,589.66	46,406.64

^b: MC average charge per patient: BED, \$1688.96; RECK, \$930.56; and BM, \$1542.53

Results

- Study Cohort:** 27,878 screened → 265 evaluated → 174 included in study
- LB (n=51), MC (n=73), LA (n=50)
- No difference in POD2 pain scores between LB, MC, and LA** (4.69 vs 5.05 vs 4.42; *P* = 0.41)
- No difference in opioid use (72-hr MME)** (48.5 vs 51.2 vs 40.1; *P* = 0.58)
- MCs associated with **~\$2.84M annual savings and ~\$46K savings per outpatient patient case**

Conclusion

- The use of alternative MCs offers a promising strategy to significantly reduce hospital drug expenses and patient costs
- without compromising clinical outcomes
- Our results suggest no significant difference in POD 2 pain scores or total MMEs among patients who received LB, MCs, or traditional LA's

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Disclosure

The authors of this presentation have no conflicts of interest or disclosures.