

Enhancing the Duration of Erector Spinae Blocks in Lumbar Fusion Surgeries: Investigating the Efficacy of Liposomal Bupivacaine

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Introduction

- Rising need for effective pain management in spinal surgery
- Regional anesthetic protocols play significant roles
- ESPB plus additives lasts ~16-24 hours
- Liposomal Bupivacaine designed for longer duration
- No current evidence of Liposomal bupivacaine with ESP blocks

Methods

Retrospective cohort study utilizing intention to treat analysis using patients aged 38-78 undergoing lumbar fusion surgery between January 2023- April 2024

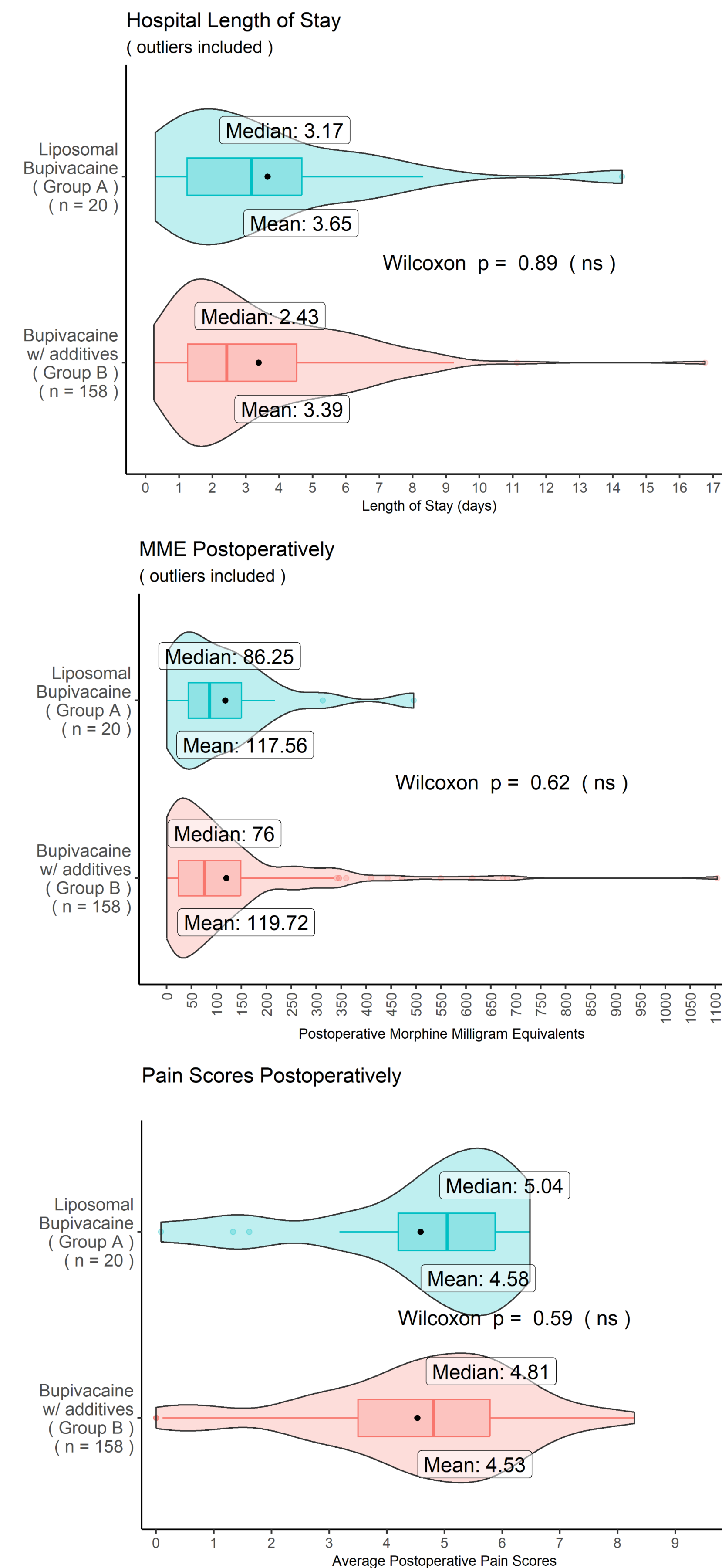
Patients categorized based on analgesic therapy:

- Group A (n=20): ESP block with liposomal bupivacaine
- Group B (n=158): ESP block with bupivacaine + dexmedetomidine, epinephrine, and buprenorphine

Outcomes:

- Primary: Length of stay
- Secondary: Postoperative pain scores and morphine milligram equivalent consumption

Figures



Results

- Length of stay: No significant difference was observed between Group A (3.65 days) and Group B (3.39 days)
- Block Duration: Group A: average block duration of 28 hours, compared to 24 hours in Group B
- Opioid Consumption: Mean MME use was slightly lower in Group A (117.56 vs 119.72)
- Pain Scores: Both groups experienced comparable pain scores (4.58 vs 4.53)
- Adverse Effects: Hypotension in Group B, which prevented administration of as-needed opioids

Discussion

Outlier/confounds specifically affecting group A

- One patient cleared POD three but had placement issues
- Second patient had revision of previous fusion

Mitigating need for post operative/chronic opioids

- Liposomal bupivacaine is a promising alternative due to longer block duration and no adverse effects reported

Opportunities for further research including larger sample sizes and inclusion criteria

