

Effect of Regional Anesthesia on Opioid Use in Patients with Hip Fractures: A Single-Center Study in Southern Puerto Rico

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INTRODUCTION

- In the United States, over 300,000 older adults are hospitalized annually due to hip fractures.
- Puerto Rico mirrors this trend with a rapidly aging population.
- A significant percentage of hip fracture patients are managed with opioids
- 81% of hip fracture patients are discharged with an opioid prescription; 30% still use opioids 6 months later.
- Regional anesthesia offer targeted, opioid- sparing pain control with fewer systemic side effects.
- US-guided peripheral nerve blocks have emerged as a promising intervention in Emergency Departments (EDs), delivering localized analgesia without the widespread risks of opioids.

OBJECTIVES

- Evaluate the prevalence of regional anesthesia administration in the Emergency Department
- Identify differences in opioid requirements between patients who received regional anesthesia and those who did not;
- Demonstrate improvements in clinical outcomes associated with regional anesthesia use.

MATERIALS & METHOD

- This is a retrospective longitudinal study conducted at Centro Médico Episcopal San Lucas in Southern Puerto Rico
- Covered period: January 2022 to March 2025.
- Data collected via electronic medical record review using Meditech
- Inclusion criteria: Patients aged 21 years and older with documented hip fractures and surgical intervention.
- Exclusion criteria: lack of documentation regarding the type of fracture or surgery.
- Variables reviewed included demographics, comorbidities, regional anesthesia administration, and opioid usage (MME 48 hr after nerve block).

RESULTS

- A total of 261 were included.
- Age mean of patients with hip fracture was 80 years old (Figure 1)
- A total of 13 patients received nerve blocks
- The group that underwent nerve blocks had a lower average in MME.

LIMITATIONS

- Small sample size for the regional anesthesia group (n=13) limited comparative and statistical analyses.
- Single-center, retrospective design may reduce generalizability to other clinical settings.
- Incomplete or inconsistent documentation in the HER
- Potential underutilization of regional anesthesia may reflect the need for standardized protocols.

CONCLUSION

- Regional anesthesia is underutilized in the management of hip fractures in this single-center setting.
- Increased implementation of regional anesthesia may lead to reduced opioid use in this patient population.
- EMR limitations, such as missing data and pain scores, restricted outcome analysis and emphasized the need for protocol reform.

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FIGURES

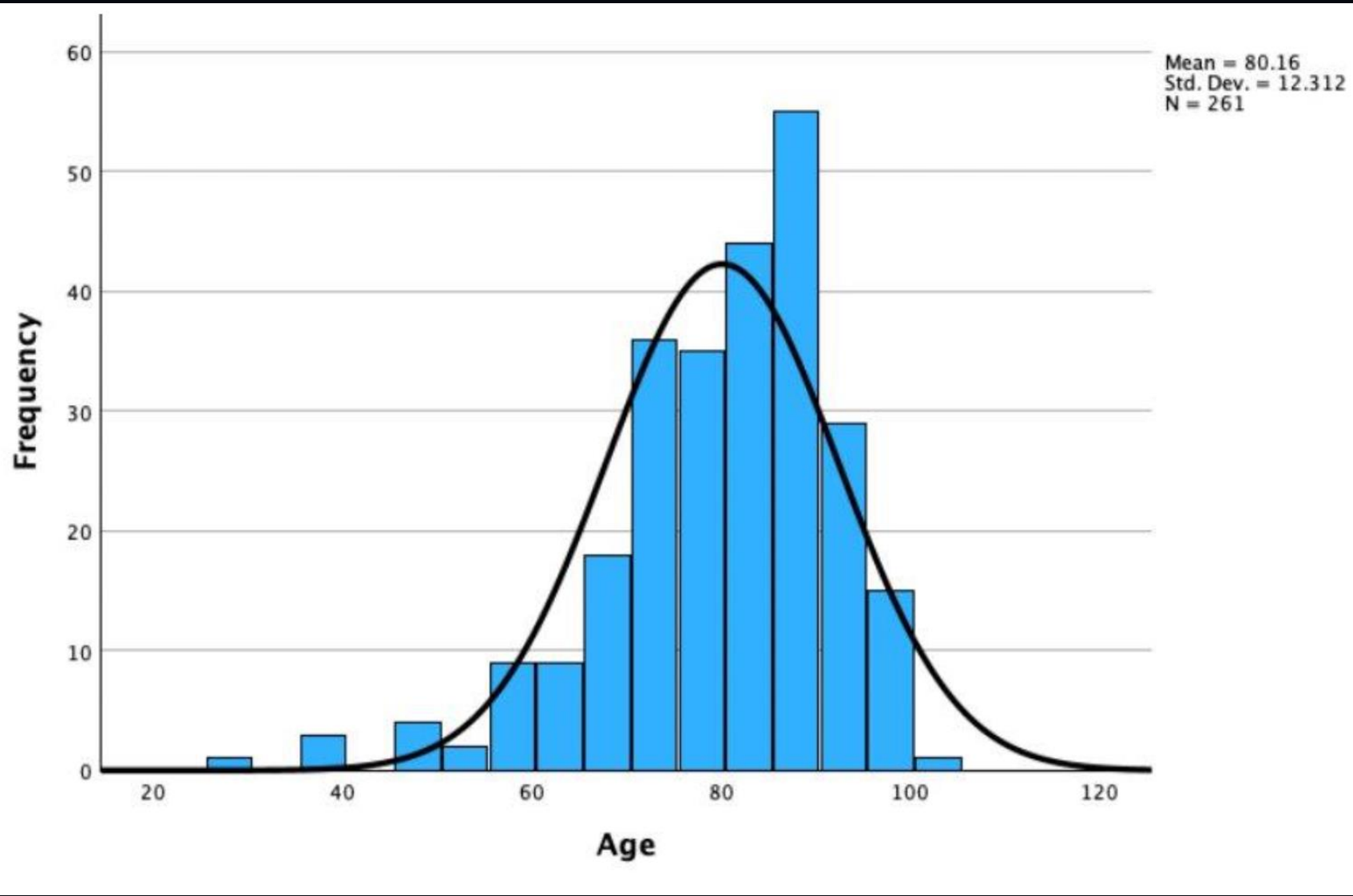


Figure 1: Age distribution of hip fractures in southern Puerto Rico

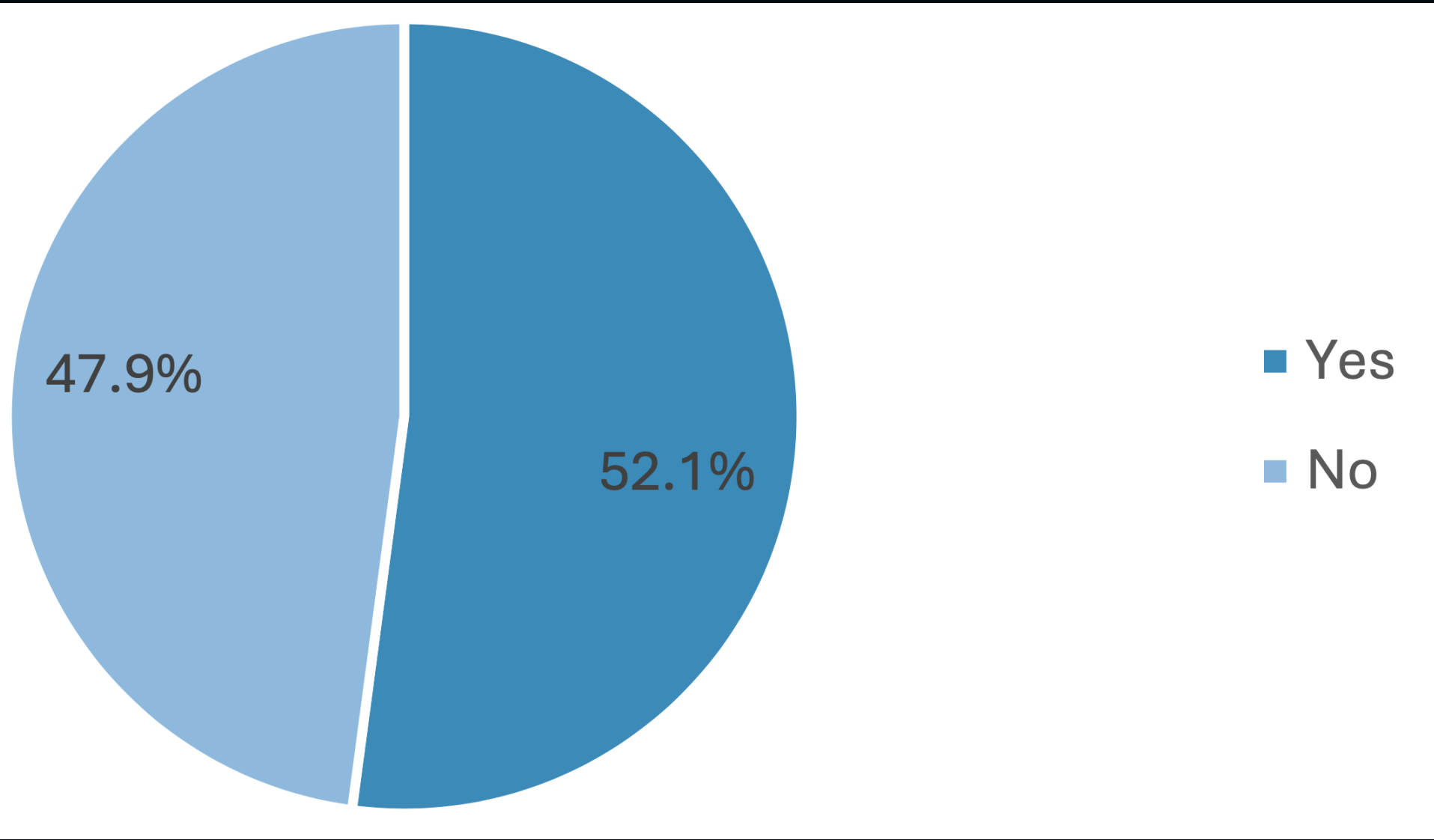


Figure 2: Frequency of opioid administration among hip fracture patients

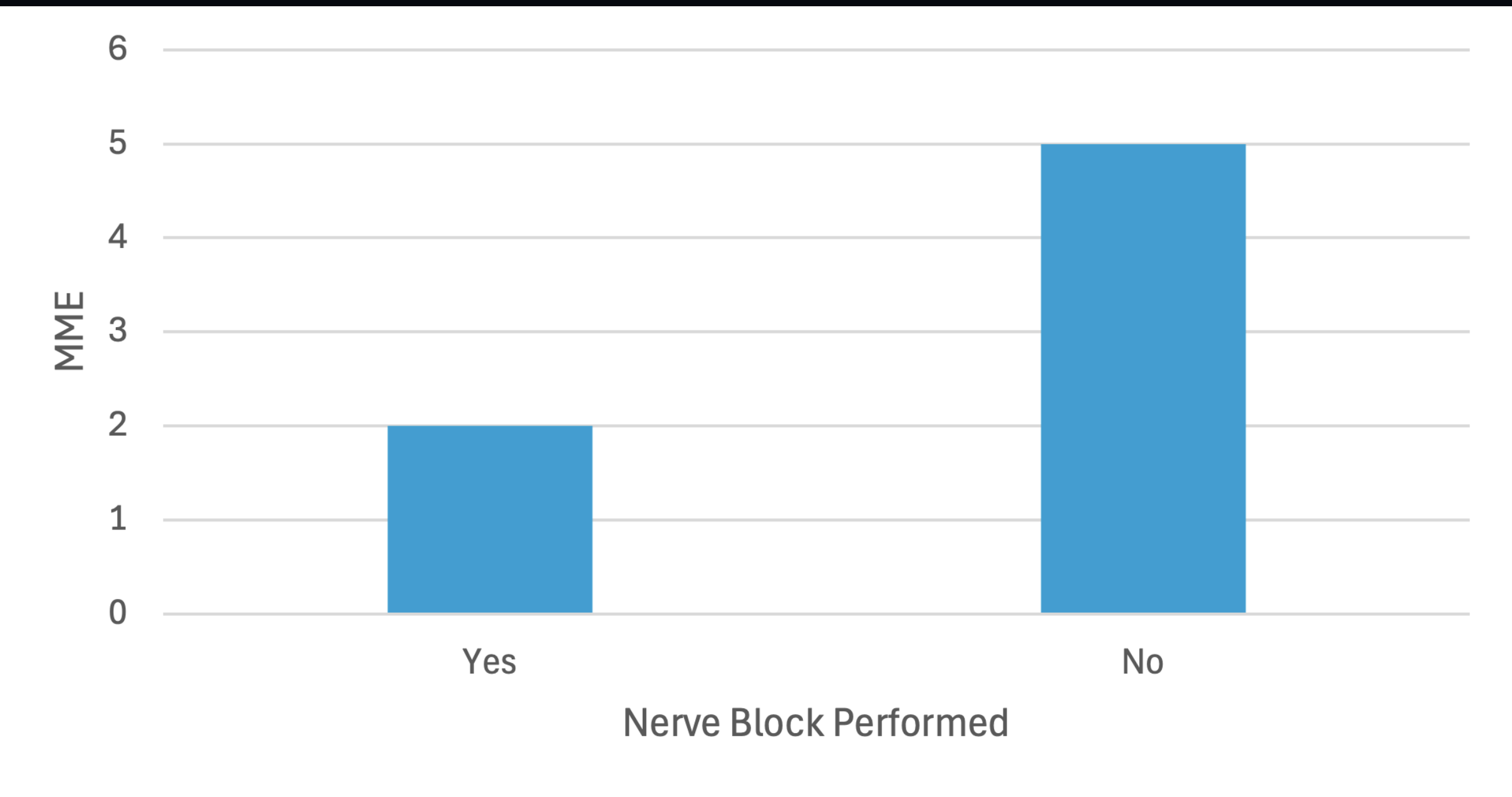


Figure 3: Morphine Milligram Equivalent Mean Between Groups