



Introduction

- Pediatric supracondylar fractures are the most common elbow fractures in children
- 66% require anesthesia for surgical reduction and pin fixation
- IV lidocaine infusion is a readily available, adjunct that has shown promise in reducing opioid consumption

Methods

- This study was approve by the NCH IRB (2116987)
- Patients aged 2-18 were identified by CPT codes from August 2023 through May 2024
- Primary outcomes included were intraoperative and post-operative and total morphine milli-equivalents (MME)
- The secondary outcome was post-operative pain scores
- Mann-U-Whitney test was used to compare data sets and determine statistically significant differences

The Impact of Intraoperative Lidocaine Infusion on Opioid Consumption in Pediatric Supracondylar Fracture Repair

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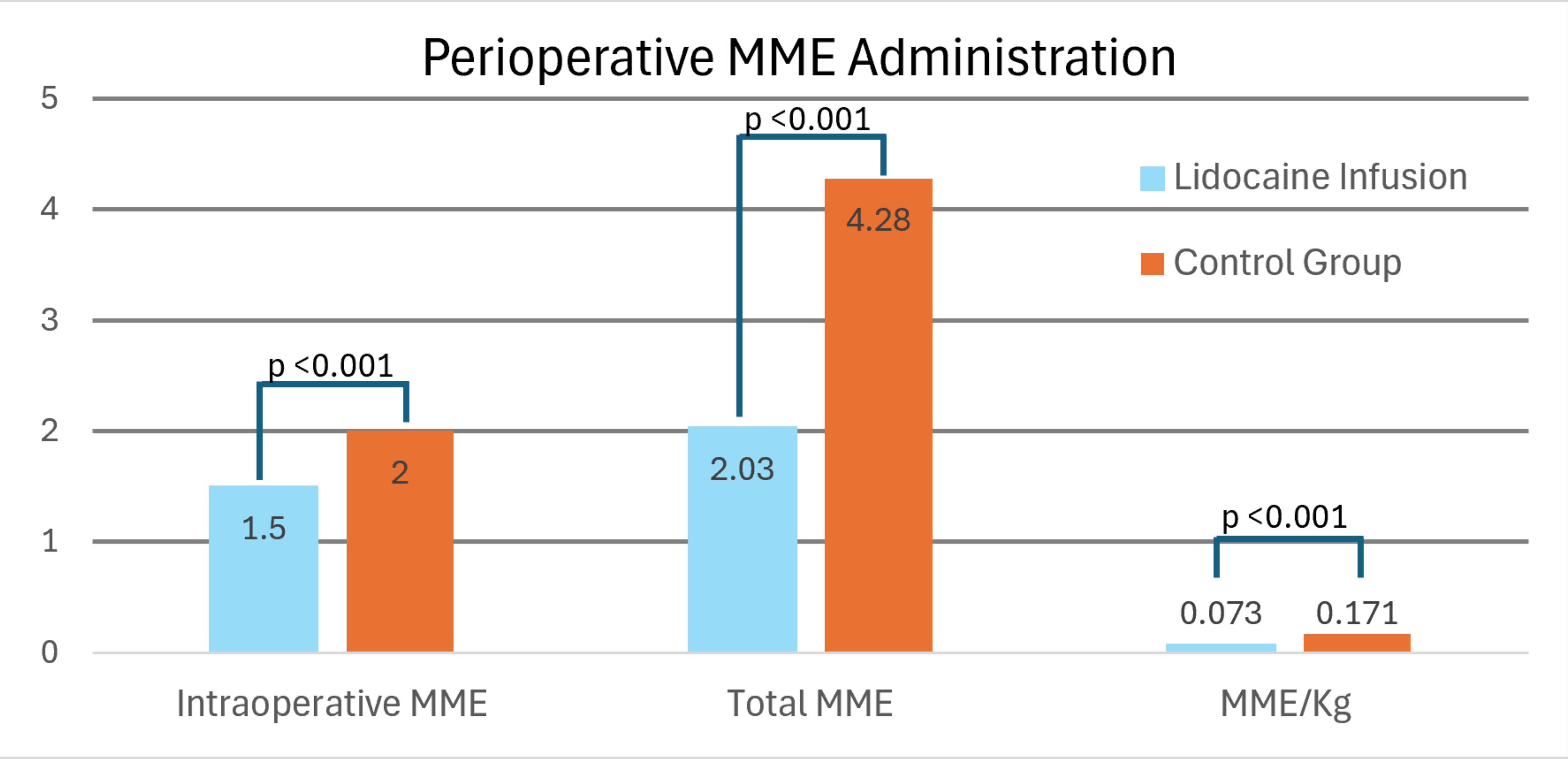


Figure 1. Perioperative MME administration showing statistically significant differences between groups for intraoperative, total MME and total MME/kg

	Lidocaine Infusion	Control Group
# of Patients	54	54
Average Patient Weight (Kg)	26.0	26.2
Intubated & Paralyzed	26 (48.1%)	26 (48.1%)
Average Procedure Time (min ± SD)	67 ± 50.3	63 ±36.4
Max Pre-op Pain Score (FLACC ± SD)	2.42 ± 2.64	2.91 ± 3.14
Max PACU Pain Score (FLACC ± SD)	2.09 ± 2.68	1.73 ± 2.50

Table 1. Demographic data for lidocaine infusion (IVLI) and non-infusion (control) groups

Results

- 108 patients were enrolled in this study, 54 in each group
- There were no statistically significant demographic differences between the groups (Table 1)
- Patients in the IVLI group had significantly lower intraoperative (1.5, 2.0; p<0.001) , total perioperative MME (2.03, 3.0; p<0.001) and total MME/kg (0.076, 0.145; p<0.001) when compared to the non-infusion group (Figure 1)
- There were no statistically significant differences between groups in maximum PACU pain scores

Discussion

- Supracondylar fractures are a common reason for surgical procedures under GA in otherwise healthy children
- The current opioid crisis requires clinical pathways to reduce opioid exposure in the perioperative period
- IV lidocaine is readily available with a good safety profile and may provide a valuable alternative without compromising effective pain management
- Our findings support the need for further prospective studies to establish standardized protocols for use of IV lidocaine in pediatric patients

References

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