

Resolution of Emergency Department Nerve Blocks for Hip Fractures Prior to Surgery: A Retrospective Analysis

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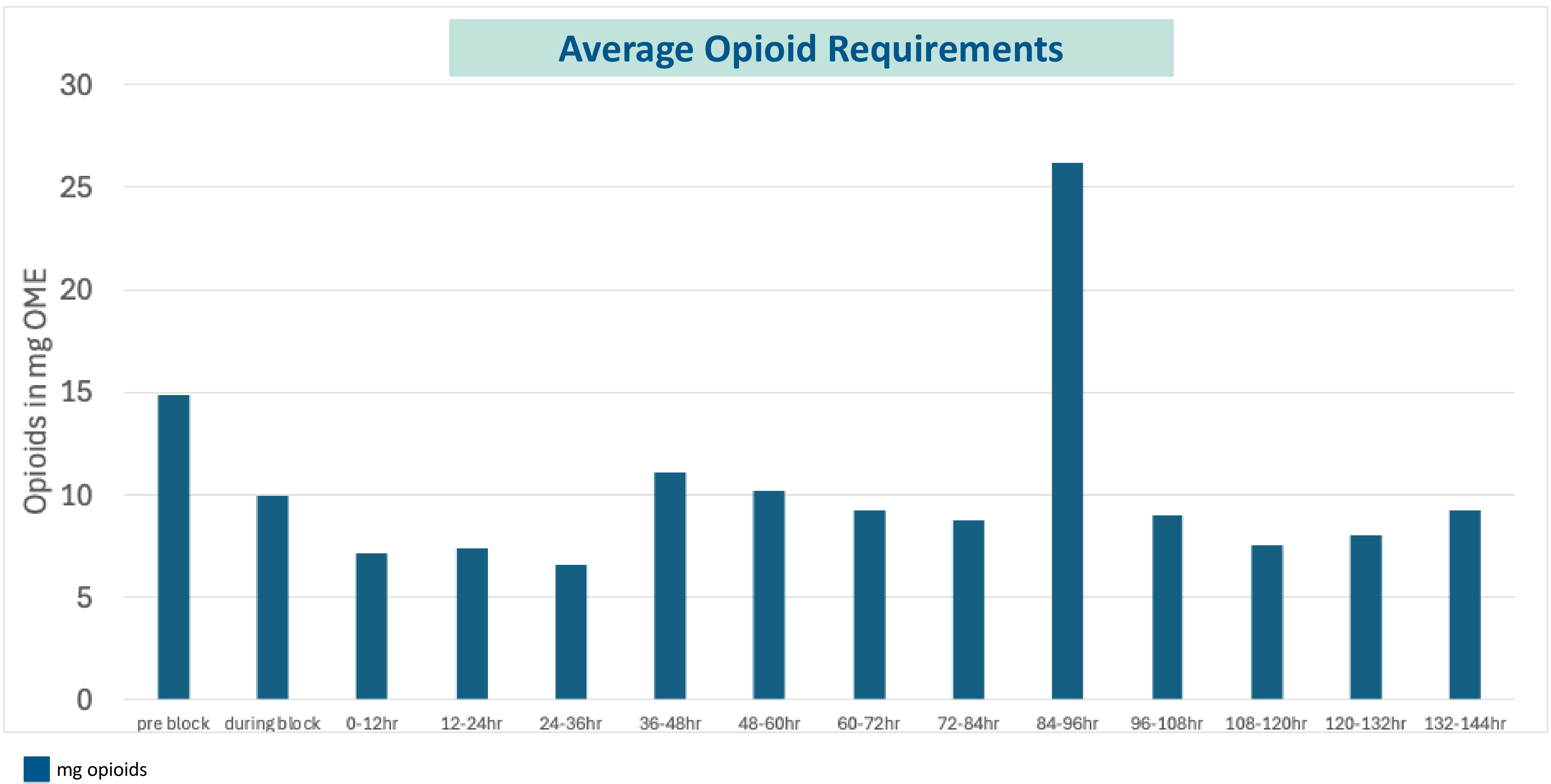
Introduction

- Patients who sustain hip fractures are often frail and are at high risk for opioid related adverse events^{1,2}
- Early access to ultrasound guided nerve blocks (UGNB) is associated with decreased opioid exposure
- Limitations in operating room capacity and need for preoperative optimization may lead to prolonged waiting times
- The expanding use of UGNB in the emergency department (ED) is effective for short term outcomes, however, few reports of long term analgesia
- It is unknown how many patients' blocks resolve prior to surgery and if there is any benefit from an acute pain consult prior to surgery
- **Goal: examine pain trajectories in hip fracture patients who receive UGND in the ED**
- **Primary outcome: opioid consumption before nerve block, during nerve block procedure, and after nerve block leading up to surgical fixation**

Methods

This study was approved by the Institutional Review Board and the requirement for informed consent was waived due to the study design. The study population of interest were patients who were admitted with hip fractures and received nerve blocks in the emergency department by emergency medicine providers over a 42-month period. The study locations were two academic medical centers in the Northeastern United States.

Results



- The average opioid requirement prior to the nerve block was 14.8 mg OME
- During the block, the average OME was 9.7 mg
- In the first 12 hours following the block, the OME dropped to 7.11 mg
- Average opioid requirement returned to pre-block levels within 36-48 hours post block
- 19 of the patients (10.5%) had opioid requirements increase to a level greater than combined pre-block and intra-block requirements

Discussion

- In alignment with previous studies, opioid requirements fell after patients received nerve blocks in the ED³
- After 36 hours, opioid requirements returned to pre-block levels
- Patients may benefit from acute pain consult prior to surgery for additional block or nerve block catheters
- Most patients went to surgery within 36 hours of hospital admission
- Based on average opioids administered ten percent of patients showed block resolution prior to surgery
- Limitations: retrospective study, data from two hospitals, selection bias for patients who received nerve blocks
- Further collaborative work with anesthesiology, acute pain, orthopedic surgery, and emergency medicine physicians on these subjects is imperative to optimize care for this vulnerable population

References

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3. Garlich JM, Pujari A, Debbi EM, et al. Time to Block: Early Regional Anesthesia Improves Pain Control in Geriatric Hip Fractures. *J Bone Joint Surg Am.* 2020;102(10):866-872. doi:10.2106/JBJS.19.01148