Elimination of Postoperative Narcotics in Infant Robotic Pyeloplasty Using Caudal Anesthesia and a Non-Narcotic Pain Pathway

OAKLAND UNIVERSITY WILLIAM BEAUMONT

Kwesi Asantey[1], Kristen Meier, M.D.[2], Zach Rollins[1], Andrew Banooni,M.D.[3], Zachary Liss,M.D.[1,2]

[1]Oakland University William Beaumont School of Medicine, Rochester, Michigan
[2]Department of Urology, Beaumont Health, Royal Oak, Michigan
[3]Department of Anesthesia, Beaumont Health, Royal Oak, Michigan

Introduction

- Research suggests **narcotic pain medications are dramatically overprescribed** for post surgical pain control[1].
- Postoperative **non-narcotic pathways (NNPs**) **are becoming more common** to minimize unnecessary narcotics.
- **NNPs involve scheduled non-narcotic agents** in isolation or in addition to a **regional anesthetic blockade.**
- **Pyeloplasty is the surgical procedure** of choice to **manage ureteropelvic junction (UPJ)** obstruction in the pediatric population[2].
- Post-pyeloplasty pain has traditionally been managed with opiates but there is **little research on the use of regional blocks and multimodal NNP medications** in post operative pain control.
- Previous research has shown that the use of an NNP after pediatric robotic pyeloplasty can result in significantly decreased usage of narcotics and decreased length of postoperative stay compared to a classical narcotic pathway[3].

Aims and Objectives

- We aim **to confirm the validity and utility of a NNP for infant robotic pyeloplasty** and further supplement this with the **addition of a postoperative caudal block**.
- Ultimately, we **hope to demonstrate that postoperative narcotics are nearly always unnecessary following infant robotic pyeloplasty.**

Methods

Figure 1. Caudal block with anatomical landmarks

Data Set

- Retrospective review
- 24 patients **≤ 4 years undergoing robotic pyeloplasty**
- May 2017 – May 2021
- Single surgeon at a single institution

Protocol

- **Caudal block** w/ 1cc/kg of 0.2-0.25% ropivacaine at end of case
- Pain control in Post Anesthetic Recovery Unit (PACU) controlled by anesthesia team
- On floor, received **scheduled IV ofirmev 15mg/kg and ketorolac 0.5mg/kg q6hrs.**
- Discharged with scheduled acetaminophen and ibuprofen instructions

Data Review

- **Demographics**
- Adjunct **opioid use**
- **30-day Outcomes** (Complications and unscheduled healthcare encounters**)**

Results

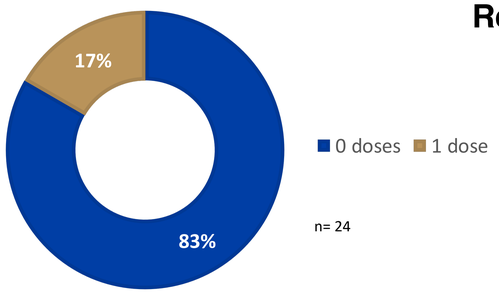

Figure 2. Percent of patients needing post operative narcotic administered in PACU)

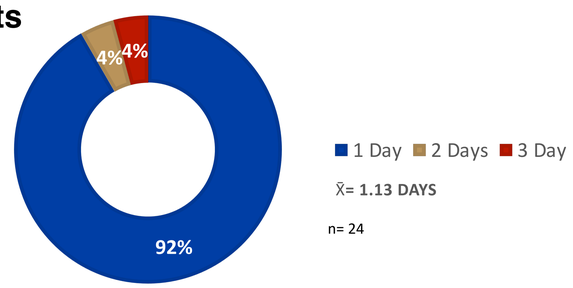

Figure 3. Postoperative length of stay

- 16.7% (4/24) of patients received a single postop narcotic dose in the PACU (Figure 2).
- One patient received 1 additional dose while inpatient
- **Remainder of patients required no narcotics during hospitalization**
- **No narcotic prescriptions were given at discharge** or anytime thereafter within the 30-day period
- Average **length of stay was 1.13 days** (Figure 3).
- **No pain-related healthcare encounters** within 30 days post-op
- No complications

Conclusions

- This series supports the idea that **postoperative narcotics are not routinely needed for infants and toddlers following robotic pyeloplasty**.
- The **addition of the caudal block to a NNP for robotic pyeloplasty is beneficial**
- **Patient pain was well managed** with this regimen both during hospitalization and after discharge.
- **Further research should investigate NNP utilization in other procedures** to reduce and unnecessary narcotic usage.

References

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