

Analgesic Effectiveness between Preemptive Intravenous Acetaminophen and Single-Shot Caudal Block in Paediatric Inguinal Hernia Repair

Siti Sarah Othman¹, Huda Zainal Abidin¹, Mohd Zulfakar Mazlan¹, Laila Abdul Mukmin¹, Mohd Shahrulsalam Mohd Shah¹, Nik Abdullah Nik Mohamed¹, and Mahamarowi Omar¹

¹Universiti Sains Malaysia - Kampus Kesihatan

March 07, 2024

Abstract

In an era where fast-track surgery is preferred and more cases are performed under day care surgery, anaesthesia techniques and pain management evolve to suit the demand. In our study, we compared the analgesic effectiveness between preemptive intravenous acetaminophen and single-shot caudal block in paediatric patients undergoing inguinal hernia repair. This is a prospective randomised study involving a total of 40 American Society of Anesthesiologists (ASA) 1 and 2 patients who are 6 months to 5 years old, randomised into two groups: group A (intravenous acetaminophen) and group B (single-shot caudal). Our primary outcome is the postoperative pain score using Face, Legs, Activity, Cry, and Consolability (FLACC) scale at several intervals (10 min, 30 min, 1 h, 2 h, and 6 h). The time of first rescue analgesic requirement was compared. The pain score of group B patients was lower during the first 1 h postoperatively ($p = 0.018$) at 10 min, ($p = 0.013$) 30 min, and ($p = 0.05$) 1 h and was found to be insignificant beyond the period. Nonetheless, the mean pain score in both groups was low with 0.15; lowest and 0.45; highest. We found no significant mean time difference for the first analgesic requirement and mean total opioid consumption between the two groups. Preemptive IV acetaminophen is equivocal to caudal block for a paediatric herniotomy surgery. In fact, IV acetaminophen could give more pharmacoeconomics advantages as it is easily administered, less time needed hence more rapid turnovers between the cases and high safety profile.

Title: Analgesic Effectiveness between Preemptive Intravenous Acetaminophen and Single-Shot Caudal Block in Paediatric Inguinal Hernia Repair

Authors:

Othman Siti Sarah Mmed(Anaesthesiology) (1), Zainal Abidin Huda Mmed(Anaesthesiology) (1), Mazlan Mohd Zulfakar Mmed(Anaesthesiology)(1), Abdul Mukmin Laila Mmed(Anaesthesiology)(1), Mohd Shah Mohd Shahrulsalam Mmed(Paed Surgery)(2), Nik Mohamad Nik Abdullah Mmed(Anaesthesiology)(1), Omar Mahamarowi Mmed(Anaesthesiology)(1)

1) Department of Anaesthesiology & Intensive Care, School of Medical Sciences, Hospital Universiti Sains Malaysia, 16150 Kubang Kerian Kelantan, Malaysia.

2) Department of Surgery, School of Medical Sciences, Hospital Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan,

All authors declare no conflict of interest

Funding from Universiti Sains Malaysia

Address correspondence to:

Zainal Abidin, Huda;
Department of Anaesthesiology & Intensive Care,
Hospital Universiti Sains Malaysia,
16150 Kubang Kerian Kelantan, Malaysia.
hudaz82@gmail.com
+60199398443

What is already know:

- Paediatric Inguinal hernia repair is one of the most common surgery done in paediatric populations.
- Caudal block with amide local anaesthetic provides excellent pain relief for paediatric inguinal hernia repair.
- Intravenous acetaminophen has a high safety profile and used widely in paediatric patients.

What this study adds:

- Intravenous acetaminophen is equivocal to caudal block in paediatric inguinal hernia repair surgery.

We found no significant mean time difference for the first analgesic requirement and mean total opioid consumption between intravenous acetaminophen and caudal block

Hosted file

PCM-Pharmacology.docx available at <https://authorea.com/users/732030/articles/710672-analgesic-effectiveness-between-preemptive-intravenous-acetaminophen-and-single-shot-caudal-block-in-paediatric-inguinal-hernia-repair>

Hosted file

Table 1.docx available at <https://authorea.com/users/732030/articles/710672-analgesic-effectiveness-between-preemptive-intravenous-acetaminophen-and-single-shot-caudal-block-in-paediatric-inguinal-hernia-repair>

Hosted file

Table 2.docx available at <https://authorea.com/users/732030/articles/710672-analgesic-effectiveness-between-preemptive-intravenous-acetaminophen-and-single-shot-caudal-block-in-paediatric-inguinal-hernia-repair>

Hosted file

Table 3.docx available at <https://authorea.com/users/732030/articles/710672-analgesic-effectiveness-between-preemptive-intravenous-acetaminophen-and-single-shot-caudal-block-in-paediatric-inguinal-hernia-repair>

Hosted file

Table 4.docx available at <https://authorea.com/users/732030/articles/710672-analgesic-effectiveness-between-preemptive-intravenous-acetaminophen-and-single-shot-caudal-block-in-paediatric-inguinal-hernia-repair>

Hosted file

Table 5.docx available at <https://authorea.com/users/732030/articles/710672-analgesic-effectiveness-between-preemptive-intravenous-acetaminophen-and-single-shot-caudal-block-in-paediatric-inguinal-hernia-repair>

Hosted file

Table 6.docx available at <https://authorea.com/users/732030/articles/710672-analgesic-effectiveness-between-preemptive-intravenous-acetaminophen-and-single-shot-caudal-block-in-paediatric-inguinal-hernia-repair>