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### CAUDAL BLOCK OR SKIN INFILTRATION FOR PAEDIATRIC LAPAROSCOPIC INGUINAL HERNIA REPAIR: A SURVEY OF PERIOPERATIVE ANALGESIA

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#### Introduction

Inguinal hernias are common in children and can be repaired by open or laparoscopic surgery. Currently, in our hospital, inguinal hernias are repaired laparoscopically, but there is no consensus as to whether a caudal block (CB) has advantages over local infiltration (LA). We surveyed a cohort of children having laparoscopic inguinal hernia repair (LIHR) to investigate any effect of CB on perioperative opioid requirements.

#### Methods

We conducted a retrospective review of the records of children who underwent LIHR from May 2016 to April 2018. This was classed as a service evaluation by the Research & Development Department. Descriptive statistics and Chi squared tests were used.

#### Results

153 patients were identified: 35 received a CB with laevobupivacaine+/-clonidine and 118 received LA with laevobupivacaine. The weight and age distributions were (mean, range): CB group 7.0kg (3.8-17.8kg), 7.9 months (corrected gestational age (CGA) 44 weeks-5 years); LA group 7.3kg (2.2-31.0), 10.6 months (CGA 40 weeks-9 years). There was a wide range in the dose (0.9-2.5mg/kg) and volume (0.4-1.5 mls/kg) of caudal laevobupivacaine administered. 8/35 CB patients also received caudal clonidine.

Intraoperatively 37% of CB patients received opioids versus 96% of LA patients ( $p < 0.0001$ ). In recovery 9% of CB patients received opioids versus 5% of LA patients ( $p = 0.44$ ). On the postoperative ward 3% of CB patients received oral morphine versus 20% of LA patients ( $p = 0.01$ ). Our results did not demonstrate correlation between the dose or volume of CB/caudal clonidine and perioperative opioid administration. The complication rate was low: one LA patient who received 2mcg/kg fentanyl intraoperatively required naloxone in recovery and one LA patient who received 100mcg/kg morphine intraoperatively was admitted overnight due to somnolence and poor feeding. There was one failed attempt at CB.

#### Discussion

Several studies have shown that CBs benefit children undergoing laparoscopic surgery [1,2] despite evidence that the spread of caudal solution does not reliably reach a level higher than the second lumbar vertebra [3]. Lundblad et al. have proposed a model of secondary cranial spread of the CB solution to account for observed differences between the radiologically assessed level of spread and the level determined by cutaneous testing [4].

Our results show that children who received a CB required fewer doses of perioperative opioids, suggesting that a CB may have analgesic benefits over LA for paediatric LIHR. The inguinal region is not thought to be painful following paediatric LIHR. The CB may be providing analgesia by reaching the dermatomes of the port insertion sites or treating the visceral pain component.

References:

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