A case of spinal anesthesia in a neonate

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INTRODUCTION
Spinal anesthesia in neonate is used primarily to reduce immediate pain perioperatively as well as post-operative apneic complications due to opioid use.

CASE DESCRIPTION
A 4.7 kg 6-week old male born fullterm with no prior medical history, presented for an incarcerated left inguinal hernia needing repair. In the quest to reduce the exposure of general anesthesia as well as apneic episodes from opioid in this neonate, surgical procedure under spinal anesthesia was implemented.

Method: Patient was brought into the operating room (OR) and placed in the left lateral decubitus position on the OR table. Patient’s back was clean with chlorohexidine and draped afterwards. Skin infiltration with local anesthetic was used before the single spinal injection of 0.6ml of 0.75% bupivacaine was placed at the L5-S1 level. Patient was then laid on his back and surgery ensued. The spinal anesthesia was adequate for the duration of the surgery and perioperative course was uneventful.

DISCUSSION
- Neuraxial agents provide full-bodied pain control, have the potential to improve outcomes, and are an important component of the perioperative care of children.2
- The control of afferent traffic through neuraxial interventions (epidural or intrathecal delivery) can be utilized in neonates and infants as a sole neuraxial anesthetic technique for abdominal and lower limb surgery or as a supplement to reduce intraoperative general anesthetic requirements and manage peri-operative pain.1
- “Single shot” spinal anesthesia provides an alternative to general anesthesia for lower abdominal or inguinal surgery.3
- The clinical utility of this technique is limited by the duration of action of intrathecal local anesthetics in neonates however, and conversion to general anesthesia is often required if surgical duration exceeds one hour.1

CONCLUSION
- Neuraxial agents provide robust pain control, have the potential to improve outcomes, and are an important component of the perioperative care of children.1
- Neonates need a larger dose of neuraxial anesthetic due to high cerebrospinal fluid (CSF) volume and the duration of action is shorter due to rapid turnover of the CSF compared to an adult.

REFERENCES