

RECTAL PUNCTURE: A COMPLICATION OF CAUDAL BLOCK

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ABSTRACT

We are reporting a rectal puncture during the course of a caudal block without any complication. The child was a 5 year old male child, ASA physical status I, weighing 21 Kg suffering from right side hydrocoele and presented for right side herniotomy. Anesthesia plan was to administer general anesthesia and caudal block. During the course of the block and while injecting the local analgesics the clear liquid seeps out of the anus so the trial was aborted and patient was taken under general anaesthesia only. Post operative observation did not show signs of infection. No complication reported post-operatively and was subsequently discharged.

Keywords: Caudal block, colon needle puncture, Pediatric postoperative analgesia, complication

INTRODUCTION

Pain is a very important component of anaesthetic management in pediatric population and caudal block is routinely used in pediatric anesthesia to provide postoperative pain relief, after inguinal hernia repair and other lower abdominal surgery. Most pediatric regional anesthetic techniques including caudal block are administered under sedation or general anesthesia. Large prospective and retrospective studies have demonstrated a low complication rate, after peripheral nerve blocks, and fewer long-term sequelae when comparing the same procedure in adults¹⁻⁴.

We are reporting a case of rectal puncture in the course of caudal block without any complication.

CASE REPORT

A 5 year old male child, ASA physical status I, weighing 21 Kg suffering from right hydrocoele presented for right herniotomy. Anesthesia plan was to administer general anesthesia and caudal nerve block. Anesthesia was induced and maintained using N₂O/O₂ (1: 1) Sevoflurane 2% via a mask with spontaneous ventilation.

Venous access was already secured, so Fentanyl 30 mcg injected. Laryngeal mask airway (LMA) No 2 was smoothly inserted. Fluid was maintained intravenously. Caudal Block was performed with patient positioned in left lateral position. Aseptic technique was observed. Land marks were identified; 21 g needle was introduced smoothly. Aspiration tests (two times) were negative for blood, CSF and air. After injecting 4 ml of 0.25% Bupivacaine, a gush of clear fluid came out from the child anus. Procedure was stopped immediately. Needle was withdrawn. The herniotomy was then performed in standard procedure by the attending surgical team without

any problem. The immediate postoperative course was uneventful and the child was discharged the surgical floor. He was followed up during the postoperative period in relation to tenderness or pain in the site of injection, redness of the skin and fever. The postoperative period was uneventful and patient discharged home. He was followed up in the surgical clinic, in two weeks time.

DISCUSSION

Caudal blocks are monitored in large retrospective trial were believed to be reasonably safe and have less complications⁵.

The current view regarding caudal block is nicely summarized in a retrospective study of 750 children with reported overall success rate of caudal blocks of 96%. Most failures occurred in older children (more than 7 years old). The use of short-beveled needles considerably decreased the number of traumatic punctures. The upper limit of analgesia varied widely and appropriate distribution of anesthesia was reliably obtained only after the injection of 0.75 to 1.0 ml/kg of local anesthetic solution. There were no major complications or neurological sequelae and good patient and parental acceptance of caudal anesthesia¹⁻⁴.

Individual case reports are reminders that care and attention to detail is important to prevent bad outcome. Recent reports include spinal cord injury following a thoracic epidural for appendectomy, small bowel trauma (requiring laparoscopic resection) and a colonic puncture (requiring laparotomy) following an ilio-inguinal block⁶⁻⁸.

Also there is report of sacral osteomyelitis and subperiosteal hematoma following caudal block⁹.

In the current case the authors were adherent to this approach. The surprising course of what usually is a routine matter was a surprise. Obviously it was guessed in the general consensus of anesthesiology.

Searching anesthesia literature indicated rectal perforation can occur during caudal block¹⁰, colonic puncture and small bowel perforation or hematoma during ilioinguinal/iliohypogastric nerve block was also found.

In the current case, an atraumatic short beveled needle was used. It underlines the fact that even with this type of needle and with a strict adherence to the procedure commonly followed, accidental puncture of the bowel wall is possible. The reason may be due to thin tissues and tiny sacrum of the child. The authors expected the possibility of extra-rectal bacterial spread, happily this did not happen. It is already known that perforation of the rectum, while simple needle puncture is not important, contamination of the needle is extremely dangerous if it is then inserted into the epidural space. The uneventful recovery gave an impression that this needle puncture was of minimal sequences since there were no elevation of temperature during observing the patient in the post-operative period.

Antibiotics prophylaxis may have a role in this. The patient walk was observed and was normal in the post operative period. Discussing the incident and reviewing the literature revealed that although rectal puncture may be expected but reintroducing the same needle in epidural space may be too dangerous. Also although it is rare to have complication reports on caudal block it should not be taken lightly and still it is safe and helpful to pediatric patients. Rarity of the reported complications would suggest the caudal block plays still a major and useful analgesic role in lower abdominal surgery or lower extremities procedures.

This case supports the view that no regional analgesic procedure in children should be considered as totally safe, even if its safety is widely accepted.

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