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RESEARCH ARTICLE

POST-CAUDAL BLOCK PRIAPISM IN CHILDREN: A RARE COMPLICATION NOT TO BE UNDERESTIMATED

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Abstract

Caudal anesthesia, commonly used in pediatric sub-umbilical surgeries, is well-regarded for its safety and simplicity. However, rare complications such as priapism may occur. We report the case of a 4-year-old child undergoing inguinal hernia repair who developed pulsatile priapism following a caudal block with bupivacaine. The complication was managed through deepening of anesthesia and symptomatic measures, with spontaneous resolution after 5 hours and no long-term sequelae. This case highlights a potential reflexogenic mechanism involving parasympathetic hyperactivity due to sympathetic fiber blockade. Although rare, post-caudal block priapism requires heightened vigilance and prompt management to prevent serious complications.

Introduction:

Caudal anesthesia in children is frequently used for intra - and postoperative pain management during sub- umbilical surgeries, including inguinal hernia repair. It is valued for its simplicity, safety, and low complication rate, estimated at 0.15% in some studies [1][2]. However, although this technique is generally considered safe, rare complications such as priapism can occur.

Priapism is defined as a prolonged penile erection lasting more than four hours without sexual stimulation, potentially leading to severe complications such as penile ischemia and necrosis if not promptly treated [4].

Post-caudal block priapism, though rarely reported, warrants special attention due to the potential for long- term urological complications. This case report illustrates an episode of priapism following caudal anesthesia during pediatric inguinal hernia surgery.

Case Report

A 4-year-old male, born to non-consanguineous parents, was admitted for repair of congenital inguinal hernia. Pregnancy and delivery were uneventful, and the child developed a right inguinal mass at three months of age. The swelling increased in size during crying and feeding efforts, leading to the diagnosis of congenital inguinal hernia.

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Preoperative clinical examination and laboratory tests were unremarkable. Anesthesia induction was performed using sevoflurane, followed by peripheral intravenous access placement and co-induction with propofol. A caudal block with 20 mg of isobaric 0.25% bupivacaine was administered.

A few minutes after injection, pulsatile priapism was observed without penile edema or necrosis (Figure 1). The child's heart rate was 110 bpm, and SpO2 was 100%. Management included deepening anesthesia and postoperative monitoring with the application of ice to the penis. The erection resolved spontaneously after 5 hours, and no long-term complications were observed. The child ambulated normally the following day.

Figure 1:- Post-Caudal Block Priapism.

Discussion:

Priapism is a rare but serious complication of caudal anesthesia, with its exact mechanisms still partially understood. It is typically classified into two types: low-flow ischemic priapism and high-flow non-ischemic priapism. Post-caudal block priapism is often reflexogenic in origin, resulting from parasympathetic hyperactivity due to sympathetic fiber blockade, leading to vasodilation and engorgement of the corpora cavernosa [5].

Other mechanisms, such as instrumental pudendal stimulation, are also described in the literature, particularly during penile and urethral surgeries [5]. However, in this case, the priapism appears to be linked to the reflexogenic effects of caudal anesthesia.

Management of priapism begins with deepening anesthesia and symptomatic treatment, such as the application of ice. In some cases, medications like terbutaline or glycopyrrolate may be used, although most cases resolve spontaneously. Surgical interventions, such as caverno-spongiosum shunts, are reserved for prolonged or refractory priapism [4]. Recently, penile block has been proposed as an effective therapeutic alternative for relieving priapism [6].

Conclusion:

Although rare, priapism can occur after caudal block in children, particularly during inguinal surgery. Management of this complication involves close monitoring and symptomatic treatment. In most cases, spontaneous resolution is possible, as demonstrated by this case, without long-term sequelae. This report underscores the importance of vigilance among pediatric anesthesiologists and surgeons to prevent and manage such complications effectively.

References:

1. Giaufré E. Caudal anesthesia in children. Le Praticien en Anesthésie Réanimation.2005;9(4):289-293.
2. Veyckemans F, Van Obbergh LJ, Gouverneur JM. Lessons from 1100 pediatric caudal blocks in a teaching hospital. Reg Anesth.1992;17(3):119-125.
3. Giaufré E, Dalens B, Gombert A. Epidemiology and morbidity of regional anesthesia in children: A one-year prospective survey of the French-Language Society of Pediatric Anesthesiologists. AnesthAnalg.1996;83(5):904-912.
4. Baltogiannis DM, et al. Penileerection during ransurethralsurgery. Androl.2006;27(3):376-380.
5. Staerman F, et al. Treatment of intraoperative penile erection with intracavernous phenylephrine. J Urol.1995;153(5):1478-1481.
6. Sandeman DJ, Dilley AV. Ultrasound-guided dorsal penile nerve block in children. Anaesth Intensive Care.2007;35(2):266-269.