Introduction

AlthoughGeneral Anaesthesia continues to be used for pediatric surgical procedures, regional anaesthesia as an analgesic adjunct for pain control, both intra and postoperatively, has become increasingly popular for pediatric patients of all ages.***(Wong et al., 2004).*** Caudal epidural analgesia is the most widely employed technique for the management of pain within the distribution ofT 10 - S 5 dermatomes, covering the lower abdomen, perineum and lower extremities.***(Lonnqvist and Morton , 2006).***

Caudal analgesia is the most popular and commonly used regional anesthesia technique for post operative analgesia in children undergoing lower, anoperineal and abdominal surgical procedures. It is commonly applied in all the pediatric patients undergoing the above mentioned surgery, as the goal of balanced anesthesia is not only limited to intraoperative period but also good analgesia in post operative period ***(Pradham and Bajracharya, 2008).***

The quality and level of the caudal blockade is on the dose, volume, and concentration of the dependent injected drug. Although it is a versatile block, one of the major limitations of the single-injection technique is the relatively short duration of postoperative analgesia. The most frequently used method to further prolong postoperative analgesia following caudal block is to add different adjunct drugs to the local anesthetics solution. ***(Silvani et al., 2006).***

Bupivacaine has been in clinical use for more than 30 yrs. and is available commercially as a racemic mixture containingequal proportions of the S (±) - and R (+)-isomers. It is widelyused for caudal epidural analgesia in children because of itslong duration of action and beneficial ratio of sensory to motor block.***(De Beer and Thomes 2003).***

Neostigmine is a drug that has been used to antagonize muscle relaxants. Intrathecal administration of Neostigmine causes analgesia by inhibiting the breakdown of acetylcholine in the spinal cord. Epidural neostigmine does not cause dose dependent nausea that is not responsive to standard antiemetic; instead it causes dose independent analgesic effect and so reduction in post operative rescue analgesic consumption without increasing the incidence of adverse effects. Adding neostigmine to Bupivacaine offers and advantage over Bupivacaine alone for post operative pain relief in children undergoing lower abdominal surgeries without increasing the incidence of adverse effects ***(Tan et al., 2000).***

Ketamine is an anesthetic and analgesic agent with wide range of applications in pediatric anesthesia. Chemically related to phencyclidine, it exerts its effects by binding non-competitively to a subset of glutamate receptors stimulated by the excitatory amine N-methyl D aspartate (NMDA), blockade of which leads to a decrease in the activation of dorsal horn neurons.***(Friesen and Morrison 1994).***

Extradural Ketamine produces analgesia by a spinal mechanism. This (NMDA) receptor antagonist is devoid of opioids side effects but may produce behavioural side effects. In children, addition of Ketamine to local anaesthetics prolongs the duration of postoperative analgesia after inguinal hernia repair and orchidopexy.***(Panjabi et al., 2004).***