[PR2-116] The use of paravertebral nerve block catheters for postoperative pain management in a patient following anterior mediastinal mass resection via left thoracotomy

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Introduction: There has been utilization of regional anesthesia techniques in children undergoing surgical procedures, as these techniques have been shown to reduce post-operative pain scores, improve overall patient satisfaction, decrease opioid use and associated side effects, reduce hospital length of stay and readmission rates for uncontrolled postoperative pain. The use of paravertebral nerve blocks have been showed to have equal or superior efficacy when compared to epidurals for post-operative pain control in patients who have undergone thoracic and abdominal procedures.
Case: 16 year old male with PMH significant for ADHD on Adderral and Stretera, who developed pleuritic chest pain and underwent a medical evaluation, with anterior mediastinal mass seen on the CT scan. He subsequently presented for a biopsy with possible excision of the mass under general anesthesia. General anesthesia was induced by mask with nitrous oxide and sevoflurane with placement of two large bore peripheral IVs with successful and maintenance of general anesthesia while maintaining spontaneous respirations. After the biopsy confirmed the presence of a teratoma, patient was subsequently positioned in semi-recumbent right lateral decubitus position and underwent left thoracotomy with the excision of a large teratoma and chest tube placement. Paravertebral nerve blocks were subsequently performed in the operating room prior to extubation. Patient was already secured in the semi-recumbent right lateral decubitus position by a beanbag, which made repositioning of patient for neuraxial block placement difficult and the decision was made to place paravertebral catheters instead. Patient was pre-consented for possible thoracic epidural or paravertebral nerve block placement depending on the extent and location of surgical incision. The site was prepped and draped in a sterile fashion and left T8 and T10 paravertebral catheters were placed using landmark technique and secured with tegaderm. Patient was subsequently placed in the supine position and extubated and transported to PACU. During the postoperative period, patient was followed by the pediatric pain service and pain was well controlled with paravertebral nerve block catheters in addition to IV Tylenol and Dilaudid PCA. Paravertebral catheters were removed on POD#4 and he was later discharged home without sequelae.
Discussion: The use of regional anesthesia techniques in children has been shown to provide excellent postoperative pain control in addition to reducing the use of opioids and its associated adverse effects. Paravertebral nerve blocks are an excellent alternative to neuraxial blockade in this patient population as it provides unilateral blockade with excellent pain control while reducing the risks of motor weakness, difficulty ambulating and urinary retention that are often associated with epidural blockade or in cases where placement of epidural catheter is difficult or contraindicated. The use of peripheral nerve blocks in children will continue to increase and it is imperative for pediatric anesthesiologists to embrace and master these techniques as they offer immense benefits to improving the perioperative pain management of their patients.
