Utilization of Non-opiate Analgesics for Post-operative Pain in The Pediatric Population

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BACKGROUND

- Effective postoperative pain (POP) therapy in the pediatric population is an essential component of smooth recovery and the prevention of harmful physiologic and psychological responses to pain. While systemic opiates are almost universally used, a multimodal approach targeting other nociceptive pathways may provide better analgesia with fewer side effects.

- Currently, a variety of techniques and pharmacologic treatments are used alone or in combination to supplement opiate therapy (1,2).

- The aim of our study was to determine the most common POP analgesic regimens used at major pediatric institutions after major abdominal, cardiac, and spine surgeries.

METHODS

- A survey was sent out to 54 pediatric institutions with questions about the utilization of different non-narcotic analgesics as supplements to opiates.

- The pediatric population included patients from Age 0-9. Twenty-five institutions responded and the responses were stratified by type of surgery, pain medication, and route. Choices included acetaminophen intravenous (IV) or per oral (PO), dexmedetomidine IV, non-steroidal anti-inflammatory drugs (NSAIDS) IV/PO, ketamine IV, and gabapentin PO; as well as neuraxial and regional anesthesia.

RESULTS

- Acetaminophen IV, acetaminophen PO, and NSAIDS IV were the most utilized non-opioid therapies following abdominal surgeries. Dexmedetomidine IV and acetaminophen PO were the medications most commonly used following heart surgery.

- Following spine surgeries, acetaminophen IV, acetaminophen PO, and NSAIDS were most frequently used. (Please refer to the figure attached for actual percentages)

CONCLUSION

- Multi modal analgesia has now become standard practice for post operative analgesia in the pediatric population.

- Acetaminophen remains a staple of virtually every pediatric pain regimen whether given IV or PO. Surprisingly, NSAID use is more limited. While there is evidence to recommend gabapentin use after pediatric spine surgery (3), it was used less frequently than acetaminophen or ketamine.

- Different institutions use a variety of analgesic combinations with no clear consensus as to the best practice. Further research is needed to develop practice guidelines.

REFERENCES