Evaluation of post-tonsillectomy hemorrhage with use of intraoperative ketorolac in the pediatric population

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BACKGROUND

Tonsillectomy and adeno-tonsillectomy
• Second common pediatric procedure in the US
• Reduces health care costs for patients with sleep disordered breathing and recurrent pharyngitis

Adverse Events
• Postoperative nausea
• Postoperative dehydration
• Insufficient pain control
• Hemorrhage

AAO-HNS practice guidelines
• “Post-tonsillectomy hemorrhage rates with ketorolac range from 4.4% to 18%, and therefore ketorolac use should be avoided”
• NSAIDs, ketorolac excluded, can be safely used for the postoperative treatment of pain following tonsillectomy

OBJECTIVES

To evaluate the post-tonsillectomy hemorrhage rate in patients receiving intraoperative ketorolac at our institution and compare to national average.

METHODS

• Retrospective chart review, Jan - Dec 2011
• 3 – 18 yrs old
• Single fellowship-trained surgeon
• All bilateral tonsillectomy or tonsillectomy plus adenoidectomy
• ASA physical status 1 & 2
• Standardized operation:
  • Extracapsular, used monopolar electrocautery
  • 0.5 mg/kg IV ketorolac given intraoperatively
  • Dexamethasone 0.4 mg/kg IV intraoperatively
  • Ondansetron 0.1 mg/kg IV intraoperatively
  • All patients were intubated and received inhalational anesthetic: Most received fentanyl 0.5 mcg/kg IV
  • Post-operative analgesia (after discharge): ibuprofen, ketorolac/opioid
  • Extracapsular, used monopolar electrocautery

RESULTS

Level 1 hemorrhage
• Any report of post-operative hemorrhage, with or without clinical evidence
• 8/422 = 1.9%

Level 2 hemorrhage
• Required inpatient admission
• 4/422 = 0.9%

Level 3 hemorrhage
• Cases with return to the OR
• 8/422 = 1.9%

Overall postoperative hemorrhage rate with intraoperative use of ketorolac: 4.7%

CONCLUSION

Ketorolac is an effective analgesic option that did not demonstrate increased post-tonsillectomy hemorrhage rates compared to published rates without NSAID use in the healthy pediatric population examined here.

These findings encourage a re-evaluation of current practice guidelines given the risks associated with other analgesic options in this subset of patients.

DISCUSSION

• 75% of levels I and II bleeds – indication for surgery was infectious (e.g. chronic tonsillitis or recurrent strep pharyngitis)
• Retrospective study; no control group
• Lack of perceived need for better post-operative pain control
• Many surgeons aware of risks of ketorolac but limited knowledge of benefits

REFERENCES