The Effect of NSAID-Based Post-Tonsillectomy Pain Management on Post-Tonsillectomy Hemorrhage Rate: A Retrospective Institutional Review

Julia A. Pfaff, DO, MPH; Kevin Hsu, MS, DO, FARS; Sri Kiran Chennupati, MD, FAAP
Philadelphia College of Osteopathic Medicine, St. Christopher’s Hospital for Children, Philadelphia, PA

INTRODUCTION

Adverse outcomes related to post–tonsillectomy hemorrhage are the most feared complication of tonsillectomy in children. Although NSAID medications have been shown to demonstrate improved analgesia in various pediatric surgical procedures, there continues to be debate in the literature regarding their use in post tonsillectomy patients due to the concern of increased bleeding risk. Here we present our institution’s experience during transition from opioid-based to NSAID-based post-tonsillectomy analgesia over a four year period.

MATERIALS AND METHODS

A retrospective chart review was conducted at our institution after approval from the IRB. Our transition from opioid-based to NSAID-based post-tonsillectomy pain medication occurred on July 1, 2012. The charts were analyzed for patients presenting with post-tonsillectomy hemorrhage and separated into two categories. Those presenting from July 1, 2010 to June 30, 2012 were placed in the opioid category and those presenting from July 1, 2012 to June 30, 2014 were placed in the NSAID category.

RESULTS

A total of 6,064 patients presented for tonsillectomy and adenotonsillectomy between July 1, 2010 and June 30, 2014. There were 260 patients who presented for post-tonsillectomy hemorrhage during the same period. The data was stratified into opiate and NSAID categories in accordance with our institution’s transition from opioid to NSAID pain control. The incidence of post tonsillectomy hemorrhage was 4.13% and 4.49% (p=0.488565), among the opiate and NSAID groups respectively, and the incidence of second operations for control of post-tonsillectomy bleeding among the opiate and NSAID groups was 2.66% and 2.61% (p=0.297695) respectively. Chi square statistical analysis reveals that there is no statistically significant increase in the rate of post-tonsillectomy hemorrhage associated with the NSAID medication.

DISCUSSION

Postoperative pain is a significant morbidity among patients undergoing tonsillectomy and is the most common concern among patients and is providers. With recent reports of opioid-related fatalities after tonsillectomy in children, the use of opiates has been more heavily scrutinized. As a result of these reports, our institution terminated the use of opioid medications for pain control in children undergoing tonsillectomy. For the past two years, our institutional standard for post-tonsillectomy analgesia is now ibuprofen at a dosage of 10mg/kg.

Despite reports that NSAIDs are equivocal or analgesic to opioid-based pain control with fewer side effects, there remains significant debate in the literature regarding the use of NSAIDs in post-tonsillectomy patients due to the potential increased risk of bleeding.1,3,7,13

The existing data on the safety and efficacy of NSAIDs in post-tonsillectomy analgesia lacks consensus and reproducibility with respect to multiple variables. This is likely attributable to large meta-analyses that encompass and stratify results across multiple studies and institutions. To the best of our knowledge, our institutional review is the largest of its kind and generates significant statistical power in comparison to previous studies.

CONCLUSION

Based on our retrospective review at a high-volume institution, we have found that there is no statistically significant difference in the incidence of post-tonsillectomy hemorrhage among patients treated with opioid-based analgesia and those treated with NSAIDs after undergoing tonsillectomy.

REFERENCES