Abstract

INTRODUCTION
In 2012 the American Board of Internal Medicine Foundation partnered with Consumer Reports and launched the Choosing Wisely® campaign in an effort to promote a national dialogue between patients and providers with the goal of avoiding wasteful tests, procedures and treatments. In response the American Society of Anesthesiologists identified 5 Choosing Wisely® points that physicians and patients should question. Our academic medical center took this one step further by requiring each ACGME approved fellowship to identify a Choosing Wisely® group project for their trainees. Unfortunately, none of the areas identified by ASA were useful in our current stream-lined, pediatric anesthesiology practice. Hence, we were challenged with finding a project and uncovered an unexpected opportunity for change in practice as well as intraoperative education.

Postoperative vomiting (POV) following pediatric surgical procedures is a leading causes for prolonged PACU recovery times and hospital readmission. Although there can be an increased incidence in some children greater than 3 years of age, patients under 1 year of age have a relatively low risk of POV and do not require prophylaxis. We hypothesized that prophylactic ondansetron administration to patients less than 1 year of age may occur in our drive to decrease PONV in higher risk populations.

METHODS
Our studies were considered exempt by our IRB since they fell under quality improvement and no patient identifiers would be used. We retrospectively reviewed anesthesia electronic medical records from January 1, 2013 to December 31st 2014. We identified all patients less than 1 year of age undergoing surgery who received ondansetron for POV prophylaxis. Prophylaxis was also categorized by provider-type and reported as percentages of the total number of procedures where ondansetron prophylaxis was given in children less than 1 year.

RESULTS
3200 procedures were performed on children less than 1 year of age. Of these, 503 (16%) received ondansetron for POV prophylaxis. All cases were supervised by a physician anesthesiologist. Ondansetron was administered in children less than 1 year of age with anesthesia residents (55%), nurse anesthetists (23%), pediatric anesthesiology fellows (13%), and solo practicing supervising physician pediatric anesthesiologists (9%).

CONCLUSIONS
Anesthesia providers at our institution frequently administered prophylactic ondansetron in patients less than 1 year of age, despite low risk of POV in this population. Our findings support our hypothesis at our institution and provide a critical opportunity to educate our anesthesia providers. Future studies will include an analysis of prophylactic ondansetron in children less than one year of age after instituting educational vignettes, as well as other identified areas that are amenable to Choosing Wisely® in Pediatric Anesthesiology which may lead to additional unexpected opportunities for change in practice as well as intraoperative education.

Figure 1: Post-Op Nausea Risk Factors in Children Less than One Year of Age

Legend: Children < 1 year of age do not meet criteria for increased PONV.

Figure 2: Ondansetron Administration in Children Less than One Year Of Age by Provider Type

Legend: Even though every case was supervised by a Pediatric Anesthesiologist, the majority of Ondansetron doses (78%) were given by non-pediatric specific providers: Anesthesia Residents and Nurse Anesthetists.

Figure 3: Surgery by Type in Children Less than One Year of Age

Legend: Of the 503 doses of ondansetron given, 56% were during urologic surgeries.

Conclusions
Anesthesia providers at our institution frequently administered prophylactic ondansetron in patients less than 1 year of age, despite the low risk of POV in this population. While the cost per vial of ondansetron is 39 cents, these costs do not include costs of syringes, needles, pharmacy technicians to refill our PYXIS dispenser as well as disposal of 503 unnecessary single dose vials of ondansetron for the year studied. In addition, adult level of hepatic clearance of ondansetron is not reached until 3 to 5 years of age. Due to liver immaturity, doses should be titrated to reflect prolonged clearance times.

Our findings support our hypothesis at our institution and provide a critical opportunity to educate our anesthesia providers. Future studies will include an analysis of prophylactic ondansetron in children less than one year of age after instituting educational vignettes, as well as other identified areas that are amenable to Choosing Wisely® in Pediatric Anesthesiology which may lead to additional unexpected opportunities for change in practice as well as intraoperative education.

USE OF ONDANSETRON IN PEDIATRIC PATIENTS LESS THAN ONE YEAR OF AGE FOR POSTOPERATIVE VOMITING PROPHYLAXIS: SURPRISING RESULTS FROM A CHOOSE WISELY® STUDY
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