

Reducing the Incidence of Postoperative Nausea and Vomiting Begins With Risk Screening: An Evaluation of the Evidence

Christopher A. Smith, DNP, CRNA, Lisa Ruth-Sabd, DEd, RN, CEN, CCRN

Postoperative nausea and vomiting (PONV) is a daily concern for patients and perianesthesia nurses. PONV is experienced by approximately one third of all surgical patients. Identification of patients at risk for PONV through preoperative risk assessment is an effective means in reducing the incidence of PONV. Perianesthesia nurses are positioned to implement such risk assessments by using simplified risk scores to identify moderate to high-risk patients. Risk assessment allows for facilitation of targeted prophylaxis which positively impacts the patients' surgical outcome and experience. Targeted prophylaxis is efficacious in reducing the institutional incidence of PONV which decreases resource utilization and cost. The perianesthesia nurse is the crucial component in minimizing the PONV in the post-surgical patient. This evaluation of the evidence reveals that preoperative PONV risk screening leads to decreased incidence of PONV for the surgical patient, improves patient satisfaction and reduces postoperative complications.

Keywords: *PONV, PONV Risk Screening, PACU, Apfel Simplified Risk Score, Targeted prophylaxis, postoperative nausea and vomiting, quality of recovery.*

© 2016 by American Society of PeriAnesthesia Nurses

OBJECTIVES—AFTER COMPLETING THIS EDUCATIONAL ARTICLE, the reader will be able to (1) recognize why postoperative nausea and vomiting are concerns for surgical patients; (2) identify patients at risk for having an increased incidence of postoperative nausea and vomiting; (3) review nursing interventions to manage these challenging patients.

Christopher A. Smith, DNP, CRNA, is a Staff Anesthetist, Anesthesia Associates of York, WellSpan York Hospital, York, PA; and Lisa Ruth-Sabd, DEd, RN, CEN, CCRN, is a Associate Professor, The Stabler Department of Nursing, York College of Pennsylvania, York, PA.

Conflicts of interest: None to report.

Address correspondence to Christopher A. Smith, Anesthesia Associates of York, WellSpan York Hospital, 1001 S. George Street, York, PA 17403; e-mail address: csmith21@wellspan.org.

© 2016 by American Society of PeriAnesthesia Nurses

1089-9472/\$36.00

<http://dx.doi.org/10.1016/j.jopan.2015.03.011>

Postoperative nausea and vomiting (PONV) is a frequent experience for the surgical patient and a challenge for the perianesthesia nurse. Historically, with the administration of ether, the incidence of PONV had been reported to be as high as 80%.¹⁻³ In the modern era of short-acting volatile anesthetic gases and advances in pharmaceuticals, PONV is experienced in approximately 33% of all surgical patients⁴ with published frequencies of occurrence ranging from 10% to 56%.⁵⁻⁸

Myles and Wengritzky⁹ found that 20% of patients with PONV experienced clinically significant (inability to participate in activities of daily living) PONV resulting in a poor quality of recovery and complications. Complications associated with PONV include dehydration, electrolyte imbalance, aspiration, surgical wound bleeding, wound dehiscence, esophageal rupture, subcutaneous emphysema and bilateral pneumothoraces.¹⁰ Patient satisfaction related to surgical experience is greatly

affected by PONV, and patients fear vomiting more than pain.^{11,12} Patients with PONV in the postanesthesia care unit (PACU) have an increased length of stay of 60 to 180 minutes.²

The Society for Ambulatory Anesthesia (SAMBA) published their first guidelines for the prevention and treatment of PONV in 2003.¹³ These guidelines were the result of work compiled by a multidisciplinary international panel of individuals with expertise and vested interests in PONV. The guidelines were updated in 2007 and most recently updated in 2014, using a Cochrane collaborative systematic review protocol with meta-analytic techniques. These guidelines present the strongest and most reliable evidence to inform current practice.¹⁴ The recommendations contain eight guidelines for adult and pediatric surgical patients. These recommendations are as follows: (1) identify patients' risk for PONV; (2) reduce baseline risk factors; (3) administer one to two interventions for adults at moderate risk; (4) administer two or more interventions (multimodal therapy) for adults at high risk; (5) administer prophylactic antiemetics to patients at increased risk for postoperative vomiting, using multimodal therapy; (6) provide antiemetic treatment for patients with PONV whether the patient received prophylaxis or not; (7) ensure PONV prevention and treatment are implemented in clinical practice; and (8) use general multimodal prevention to facilitate implementation of PONV policies.¹⁴

The purpose of this article is to define PONV, present an overview of PONV risk factors, provide the perianesthesia nurse with evidence to support the implementation of routine PONV risk assessment, and describe "targeted prophylaxis" based on patient PONV risk assessment.

Defining PONV

PONV is an adverse reaction and physiologic response to the surgical process represented by the expression of queasiness, unsettled stomach, and urge to retch or vomit (nausea) and/or the frank expulsion of gastric contents (vomiting) occurring within 24 hours of surgery.^{2,15,16} The clinical practice guideline of the American Society of PeriAnesthesia Nurses¹⁷ describes three phases of PONV: early, late, and delayed. Where the early phase consists of the first 2 to 6 hours after surgery; the late phase occurs between 6 and 24 hours; and

the delayed phase is defined as PONV occurring after 24 hours. Commonly, the phases have been reduced to the early and late phases.¹⁴ The early phase is defined as PONV occurring within 2 hours of the end of surgery, and the late phase (a combination of late and delayed) is defined as PONV occurring between 2 and 24 hours (and beyond) from the end of surgery.^{14,18} Because most surgical procedures are performed on an outpatient basis,¹⁹ the late phase of PONV is usually categorized as postdischarge nausea and vomiting in this population and may lead to readmission.^{14,20}

Methods

A literature search was performed in CINAHL (Cumulative Index to Nursing and Allied Health Literature), MEDLINE (National Library of Medicine), Cochrane Library (The Cochrane Collaboration), and OVID SP (Resource of Wolters Kluwer). A Boolean strategy was used in the following manner: postoperative AND nausea AND vomiting AND risk assessment OR simplified risk score. The selected date ranges were 1999 to 2015, and publications were limited to English language in peer-reviewed journals (Figure 1).

Titles describing PONV risk scoring, PONV risk assessment, PONV risk factors, and/or targeted PONV prophylaxis were eligible. Articles had to meet the following inclusion criteria: (1) primarily concerned with PONV risk screening in adult surgical patients; and (2) used, developed, or validated PONV risk model(s). Articles were excluded if: (1) not published in English; (2) did not primarily involve PONV; (3) the patient population was predominantly pediatric; and (4) was primarily addressing treatment of PONV. All potentially relevant titles and abstracts for eligibility were screened. In the case of uncertainty, second and third reviewers were available for consultation.

Results

The search resulted in identification of 211 titles. The Johns Hopkins Nursing Evidence-Based Practice research and nonresearch evidence appraisal tools were used to appraise the 37 articles that met inclusion criteria regarding the level and quality of evidence.²¹ Four articles were identified as level I evidence with a quality grade of A. Seven articles were identified as level II with an average quality

Download English Version:

<https://daneshyari.com/en/article/2668239>

Download Persian Version:

<https://daneshyari.com/article/2668239>

[Daneshyari.com](https://daneshyari.com)