The possibility of postoperative nausea and vomiting (PONV) is one of the things patients dread most about surgery. Fortunately, there are evidence-based steps your ambulatory surgery center (ASC) can take to prevent this distressing complication.

Without treatment, some 20% to 30% of patients will have nausea and vomiting—rising to 70% to 80% in high-risk patients. For a few, nausea and vomiting are so severe the patient must be admitted to the hospital. Happily, that’s uncommon, accounting for about 1 to 2 in 1,000 unanticipated admissions. Still, with 31 million patients having outpatient surgery each year, PONV takes a big toll in patient discomfort, longer recovery stays, and higher costs.

Updated guidelines from the Society for Ambulatory Anesthesia (SAMBA) provide evidence-based recommendations for managing patients at risk for postoperative nausea and vomiting. The guidelines:

• identify risk factors
• recommend approaches for reducing and treating PONV
• identify the most effective prophylactic antiemetic therapy
• provide an algorithm for managing patients at increased risk for PONV.

The update draws on 250 studies published since the 2003 guidelines were issued.

*OR Manager* asked the guideline’s lead author, Tong J. Gan, MD, how ASCs can use the new guidelines to improve care. Dr Gan, who is vice chairman of the department of anesthesiology, Duke University Medical Center, Durham, North Carolina, says the guidelines have 3 key messages:

• PONV still happens frequently and more often than clinicians like to see.
• PONV has a larger economic impact in the ambulatory setting than in acute care because it can delay patients from going home, causing staff to work overtime, or cause a patient to be admitted.
• There are effective ways to reduce PONV.

**Identifying risks**

Ambulatory surgery nurses can have a major impact on patient care by estimating a patient’s risk for PONV, Dr Gan notes. The level of risk can indicate which patients are most likely to benefit from prophylactic antiemetic therapy. In adults, major risk factors are:

• female gender—women have a 3 times greater risk for developing PONV than men
• previous history of nausea and vomiting after anesthesia
• history of motion sickness
• nonsmoker.

A simple checklist with a few questions can help in assessing risk, he suggests. Examples are: Do you get sick when you ride in a car? Have you gotten sick after an anesthetic before?

After assessing the patient, nurses need to make sure risk factors are communicated to the anesthesia providers. Among evidence-based approaches anesthesia providers can take to reduce risk are:
• avoiding general anesthesia by using regional anesthesia
• using propofol
• avoiding nitrous oxide
• avoiding volatile anesthetics
• minimizing use of opioids during and after surgery
• minimizing use of neostigmine
• making sure patients are adequately hydrated.

Keeping patients well hydrated is a simple and inexpensive strategy for preventing PONV, Dr Gan notes.

Though a checklist is helpful, it can only estimate the risk, he adds. As the guidelines point out, no risk model can accurately predict the likelihood of a specific individual having nausea and vomiting.

“I can’t tell someone with certainty that their young nonsmoker wife will have a 100% risk of developing PONV. I can say that because of her risks, it is likely she will,” says Dr Gan.

**Weighing risks, benefits**

Preventive antiemetic drugs are recommended for patients who are at moderate to severe risk for PONV. The evidence doesn’t support giving antiemetics to all patients. The decision should be based on an assessment of the patient’s risk as well as risks and benefits of the antiemetics.

“These drugs all have side-effects, and some are very expensive to give if they do not offer a benefit,” says Dr Gan. For example, some patients, especially the elderly, may have hallucinations or become very sleepy when given antiemetics. That might keep them from going home in a timely manner. On the other hand, if patients develop vomiting, research shows they will stay, on average, a half hour longer in the recovery area, and patients with the most severe effects may have to be admitted to the hospital.

Which drugs or combinations are cost-effective? There’s no simple answer. The guidelines summarize the research on costs and benefits. Many of the studies have drawbacks, such as the methodology or small size. And, of course, results depend on the model used and the assumptions.

**Postoperative care**

Nurses caring for patients postoperatively should have an understanding of how different antiemetic medications act on receptors in the brain, Dr Gan notes. If a patient is nauseated or vomiting, nurses should identify if the patient has already been given an antiemetic. If so, repeating the same medication is not effective because different antiemetic drugs affect different receptors.

“If you keep attacking one receptor, you may not be effective in treating the nausea and vomiting because it may be the result of a stimulant in a different receptor,” he says.

It’s better to use a multi-modal technique, similar to the strategies used in pain management. A nurse who is knowledgeable about the different antiemetics can look at the anesthesiologists’ standing orders and choose the best one to give, says Dr Gan.

Giving less opioid medications for pain will reduce the incidence of PONV. Instead, it’s better to give pain relievers such as local anesthetics and nonsteroidal anti-inflammatory drugs like ketorolac (Toradol).

**After patients go home**

Don’t overlook the risk of PONV after discharge. One-third of ambulatory surgery patients will not experience PONV until they are home, so it’s important to alert patients to the possibility and how to prevent it, says Dr Gan.

Patients are often discharged from the ASC as soon as they are awake. If they have motion sickness, riding in the car may trigger PONV. Once they get home and have pain, they will probably take an oral opioid-containing medication such as acetaminophen/oxycodeine (Percocet) or acetaminophen/hydrocodone (Vicodin), and that can precipitate PONV.
Tell patients they may feel nauseated when they get home and why, he advises. Make sure patients also are prescribed an alternative drug, such as ibuprofen, which is less likely to cause PONV. Patients can try ibuprofen first, and if it isn’t strong enough, move to an opioid-containing medication.

“If you don’t give patients an alternative, they won’t know to take it,” says Dr Gan.

For patients at high risk for PONV, he recommends giving an antiemetic, such as transdermal scopolamine, at discharge. These patches are effective, and side-effects, such as dry mouth and dizziness, are few and mild. Patients can wear the patch for 2 to 3 days.

Not all patients will benefit from antiemetic therapy. Identifying patients who are high risk leads to the most effective use of therapy and the greatest cost efficacy.

—Judith M. Mathias, RN, MA

References


