Pain Module

Opioid-Related Side-Effects:
Nausea and Vomiting
Constipation
Opioid-related Nausea and Vomiting

- Caused by stimulation of the CTZ (chemoreceptor trigger zone) at base of 4th ventricle.
- Opioid-related nausea and vomiting occur in about two-thirds of patients during the initiation of a course of opioids and typically last a few days to a week. These symptoms are extremely unpleasant and may lead to patients preferring to tolerate the pain rather than accepting opioid analgesics.
- Risk factors
  - Female sex <50
  - Nonsmoking status
  - History of motion sickness
  - Taking PO opioids on an empty stomach
  - Type of opioid
Prevention/Treatment

• PO opioids should be taken with food.
• Because N&V may be related to opioid dose, the lowest, effective dose should be administered.
• Administering an NSAID with an opioid may allow for a lower dose of an opioid.
• For patients at high risk for post-operative nausea and vomiting (PONV), the anesthesiologist usually administers a combination of dexamethasone with one of the 5HT\textsubscript{3}-receptor antagonists.
• There is no evidence of any difference in effectiveness among ondanestron, granisetron, or dolasetron.
Traditional Antiemetics

- Hydroxyzine (Vistaril) is a calming agent with minimal antiemetic effects. It potentates central nervous system and respiratory depressive effects of opioids. This drug must never be administered intra-arterially, intravenously or subcutaneously due to potential for tissue necrosis.
- Promethazine (Phenergan) does not potentate analgesia as previously believed, but will potentate respiratory depression. The sedative effects typically last longer than the analgesic effects of the opioid; therefore it is dangerous to couple this drug to each dose of an opioid.
- Phenothiazines (Phenergan & Compazine) and metoclopramide (Reglan) may cause unpleasant and possibly severe extrapyramidal symptoms and tardive dyskinesia (see next slide).
Extrapyramidal side-effects of certain drugs used to treat nausea & vomiting

• These side-effects may occur with a single dose. Risk increases with repetitive dosing.
• Metoclopramide is contraindicated in patients with confirmed Parkinson's disease.

• Extrapyramidal side effects (EPSs)—extremely uncomfortable
  – Akathisia—a feeling of inner restlessness, inability to sit still, motor restlessness, jitteriness, agitation, anxiety, pacing, foot tapping, and/or a feeling of muscular quivering.
  – Dystonia—A state of abnormal tonicity in any of the tissues, involuntary movements of limbs, facial grimacing, tongue protrusion, and/or torticollis (contractions of the muscles in the neck).
  – Opisthotonos—A titanic spasm in which the spine and extremities are bent with convexity forward, the body resting on the head and heels.
  – Oculogyric crisis—eye balls rotate to their limits

• Tardive dyskinesia—distressing, involuntary movements of the facial muscles and tongue, trunk, and/or extremities. Elderly women at highest risk.

• Acute treatment
  – diphenhydramine for acute dystonia
  – lorazepam for akathisia
Non-Pharmacologic Treatment of N&V

- Adequate hydration is essential.
- Eliminate strong odors if possible e.g., cleaning agents, perfumes.
- Dietary interventions per patient preference may be offered: Crackers, toast, tea, pretzels, bland fruits, sherbet.
- Stimulation of P6 (Nei-Guan) acupoint with acupressure wrist bands, acupuncture, electroacupuncture or by transcutaneous nerve stimulation has been shown to be helpful for adults. This point is located between the flexor tendons and three fingerbreadths distal to the hand-wrist crease.
- Acupuncture has been recognized by the National Institutes of Health as an effective treatment for certain types of nausea, vomiting, and pain including chemotherapy related- and postoperative-related nausea and vomiting.
Constipation

- Almost a certainty for anyone taking opioids.
- Can be a problem with only 1 or 2 doses of an opioid.
- Unlike the other side-effects of opioids, the risks for this side-effect increases over time.
- Constipation will continue as long as the person takes opioids unless a bowel regime is begun as soon as possible after the initiation of opioids and is continued for the duration of opioid use.
Prevention is the Key

• Sample bowel regime
  – Stool softener bid.
  – Laxative every other day if no bowel movement.
• Bulking agents such as Metamucil are not recommended for opioid-related bowel regimes. Obstruction can occur especially if the patient does not take enough fluid.
• The whole bowel is affected by the opioid; therefore using only enemas is just chasing after the problem.
Note

• Explore other possible causes for nausea and vomiting and constipation if these symptoms persist for more than a few days.