Alberta Health Services

Palliative Care Tip – Issue#5:
NAUSEA AND VOMITING IN ADVANCED CANCER June, 2018

Step 1. Consider etiologies (often multifactorial)

- GI: Oral/esophageal candidiasis; esophagitis/gastritis; gastroparesis; gastric outlet obstruction; ileus; bowel obstruction; constipation
- Metabolic: Hypercalcemia; hyponatremia; renal failure; liver failure
- Drugs and toxins: Opioids; antidepressants; NSAIDs; antibiotics; infection
- CNS: Brain metastases; leptomeningeal metastases; vestibular dysfunction; anxiety
- Cancer treatment: Chemotherapy (especially cisplatin, cyclophosphamide, doxorubicin), radiotherapy

Step 2. Determine which mechanisms and receptors are involved

- Chemoreceptor trigger zone (CTZ)(drugs, toxins, metabolic): dopamine, serotonin, neurokinin
- Gastrointestinal tract: dopamine, serotonin
- Brain cortex: GABA, acetylcholine, cannabinoid
- Vomiting centre: acetylcholine, dopamine, neurokinin
- Vestibular apparatus: histamine, acetylcholine

Step 3. Target management to etiologies and mechanisms

a) General principles

- Identify and treat underlying reversible causes, depending on goals of care & patient condition (see Tips on Constipation and Bowel Obstruction).
- Consider using subcut route for medications and hydration if symptom affects ability to take by mouth.
- Select an antiemetic based on underlying mechanism (note that evidence for most antiemetics is limited in the non-cancer treatment setting[2])
- Consider lower doses of antiemetics in patients who are elderly or have organ failure
- Taper/discontinue antiemetics if nausea and vomiting improve

b) Nausea and vomiting related to chemotherapy and radiotherapy

- See Alberta Cancer Guideline (*link*) and American Society of Clinical Oncology guideline[1]

c) Nausea and vomiting not related to cancer treatment

- 1st line
  - Often an antidopaminergic agent, as CTZ and GI tract are often implicated
  - Metoclopramide: 10 mg po/subcut qid (best evidence; watch for extrapyramidal side effects, potential for QT prolongation)
  - Domperidone: 10 mg po tid (does not cross blood brain barrier - lower risk of EPS; but higher potential for QT prolongation esp. combined with CYP3A4 inhibitors)
  - Haloperidol: 0.5-1.0 mg subcut bid (preferred in high-grade GI tract obstruction as no prokinetic effect, dose dependent QT prolongation)
- 2nd line
  - Methotrimeprazine (dopamine, acetylcholine): 2.5-5 mg po/subcut bid (↑delirium risk)
  - Olanzapine (dopamine, serotonin, histamine): 2.5 mg po bid
  - Dimenhydrinate (histamine): 25-50 mg po/subcut qid (↑delirium risk)
  - Scopolamine hydrobromide (acetylcholine): 1.5 mg transdermal q3d (↑delirium risk)
- 3rd line
  - Ondansetron (selective 5HT3 receptor antagonist) 8 mg po/subcut bid
  - Nabilone (cannabinoid): 0.5-1 mg po bid
  - Dexamethasone (anti-inflammatory): 4 mg po/subcut bid → avoid long-term use

EDMONTON ZONE – PALLIATIVE AND END OF LIFE CARE
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References:

1. *Alberta Cancer Guideline (link to be placed)*
2. Hesketh PJ et al. Antiemetics: American Society of Clinical Oncology Clinical Practice Guideline Update. J Clin Oncol 2017; 35:3240-3261.
3. Walsh D et al. 2016 Updated MASCC/ESMO consensus recommendations: Management of nausea and vomiting in advanced cancer. Support Care Cancer 2017; 25:333-340.

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