Palliative Care Tip – Issue#5:
NAUSEA AND VOMITING IN ADVANCED CANCER/May 14, 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 sc 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 setting2)
- 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 guideline1
c) Nausea and vomiting not related to cancer treatment
- 1st line
  o Often an antidopaminergic agent, as CTZ and GI tract are often implicated
  o Metoclopramide: 10 mg po/subcut qid (best evidence; watch for extrapyramidal side effects, potential for QT prolongation)
  o 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)
  o 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
  o Methotrimeprazine (dopamine, acetylcholine): 2.5-5 mg po/subcut bid
  o Olanzapine (dopamine, serotonin, histamine): 2.5 mg po/sublingual bid
  o Ondansetron (serotonin): 8 mg po/subcut bid
  o Dimenhydrinate (histamine): 25-50 mg po/subcut qid
  o Scopolamine hydrobromide (acetylcholine): 1.5 mg transdermal q3d
  o Nabilone (cannabinoid): 0.5-1 mg po bid

EDMONTON ZONE – PALLIATIVE AND END OF LIFE CARE
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- Dexamethasone (anti-inflammatory): 4 mg po/subcut bid → avoid long-term use

References:
1. Alberta Cancer Guideline (link to be placed)

REMEMBER: For referrals, questions, or telephone consultations call 496-1300 weekdays and weekends.

Palliative Care Tips are now available on our Website: www.palliative.org