

1.6 Nausea and Vomiting

Key Points

1. Nausea is a source of distress even if vomiting does not occur.
Nausea is a complex symptom that may lead to vomiting by activation of the vomiting center and retroperistalsis. There are four major sources of input into the vomiting center. Patients often have more than one source of input.
2. Nausea may be due to fear and anxiety.
Fear and anxiety can lead to anticipatory nausea.
3. Nausea may be due to increased intracranial pressure.
Pressure may be due to metastatic or primary tumor, intracerebral bleed or trauma, hydrocephalus, or infection.
4. Nausea may be due to vestibular dysfunction.
Vertigo may be due to inner-ear infection, sinus congestion, primary vertigo, or hyponatremia.
5. Nausea may be due to the action of drugs, uremia, hypercalcemia, or acidosis upon the chemoreceptor trigger zone.
Multiple medications and metabolic disturbances can affect the chemoreceptor trigger zone. A careful review of medications is indicated. However, if individual needs the opioid for pain and dyspnea control, it is better to treat the nausea than to stop the opioid.
6. Nausea may be due to GI disorders such as constipation, obstruction, gastroparesis, gastritis, metastatic disease, hepatomegaly, or ascites.
Prevention of constipation and use of a prokinetic like metochlopramide are key to managing this source of nausea.

Nausea and Vomiting



The Palliative Response

Nausea

- The unpleasant feeling that there is a need to vomit
- A source of distress even if vomiting does not occur
- Accompanied by tachycardia, increased salivation, pallor, and sweating

Retching and Vomiting

- Retching
*Spasmodic contractions of the diaphragm and abdominal muscle
May lead to vomiting
May persist after the stomach has emptied*
- Vomiting
Expulsion of the gastric content through the mouth

The Vomiting Center

- Tractus solitarius, reticular formation in the medulla
- Parasympathetic motor efferents
*Contraction of pylorus
Reduction of lower esophageal sphincter (LES)
Contraction of stomach*
- Retroperistalsis

Input Into the Vomiting Center

- Fear and anxiety
May cause anticipatory nausea
- Increased intracranial pressure
*Metastatic tumor
Primary tumor
Intracerebral bleed/trauma
Hydrocephalus
Infection*

Treatmen

- Fear and anxiety
*Lorazepam: 1mg q6-8 hours
Counseling*
- Increased intracranial pressure
*Dexamethasone: 4-10mg q6
Mannitol infusion (short-term bridge to definitive treatment)
Radiation therapy
Neurosurgery*

Input

Into the Vomiting Center

- Vestibular dysfunction (Vertigo)
Causes: *Inner ear infection*
Sinus congestion
Primary vertigo
Hyponatremia
1st line treatment:
Antihistamines
Meclizine
2nd line treatment:
Anticholinergic
Scopolamine
Hyoscine

Input

Into the Vomiting Center

- Chemoreceptor trigger zone
Drugs
Opioids
Digoxin
Antibiotics
Cytotoxics
Anticonvulsants
Uremia
Hypercalcemia
Acidosis

Input

Into the Vomiting Center

- Chemoreceptor trigger zone
1st line treatment:
Dopamine antagonist
Haloperidol
Prochlorperazine
Metoclopramide
2nd line treatment:
5HT3 antagonist ondansetron
Nonspecific
Dexamethasone

Input

Into the Vomiting Center

- GI disorders
Constipation
GI obstruction
Gastroparesis
Gastritis (NSAID)
Metastatic disease
Hepatomegaly
Ascites

Treatment

GI Disorders

- Relieve constipation
- Relieve obstruction
- Review medications

Treatment

GI Disorders

- H2 blockers or PPI
- 1st line treatment:
Metoclopramide
- Consider
5HT3
Dexamethasone
Bowel rest

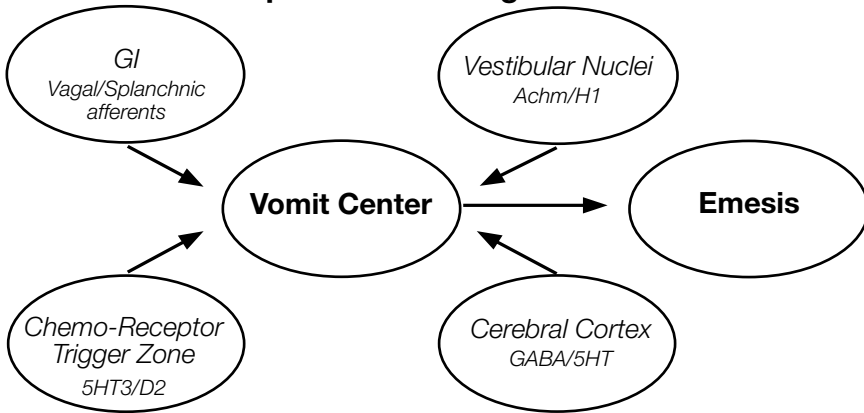
Treatment Plan

- Relaxing and nonstressful environment
- Medication after meals, except for anti-emetics
- Mouth care and topical anti-fungal prn
- Remove sources of offensive odors
- Small portions, frequent meals
- Monitor for constipation or bladder distention

Treatment Plan

- Dexamethasone as a non-specific anti-inflammatory
- Cannabinoids (Marijuana or Marinol)
- Some new atypical anti-depressants (Rimepron)
- When all else fails, go back to beginning
- If mechanical obstruction, may benefit from octatide (see plan of care for GI obstruction)

Input into Vomiting Center



Nausea and Vomiting

Selected Readings

Overview

Baines, M. J. "ABC of Palliative Care: Nausea, Vomiting, and Intestinal Obstruction." *British Medical Journal* 315 (1997): 1148–1150.

Management

Rousseau, P. "Nonpain Symptom Management in Terminal Care." *Clinics in Geriatric Medicine: Care of the Terminally Ill Patient*. 0749–0690/96: 315–326.