

Nausea and Vomiting

Ray Higginbotham, M3
University of Tennessee
Health Science Center

Nausea and Vomiting

- Nausea – feeling of being sick at the stomach; inclination to vomit. Conditioned effect to avoid toxic substances.
- Vomiting – expulsion of gastric contents b/c intrathoracic pressure > upper esophageal sphincter tone
- Medulla oblongata = vomiting center
- Causes of vomiting:
 - 1) Substances acting upon chemoreceptors in the intestinal wall or in the brain (chemotherapeutics)
 - 2) Increased pressure within the skull
 - 3) Excessive distension of stomach/small intestine
 - 4) Rotating movements of the head

Antiemetics

- **Phenergan** (Promethazine) – H1 blocker used for N and V, motion sickness
 - Tablet, oral liquid, rectal suppository
 - S/E – sedation
- **Compazine** (Prochlorperazine) – D2 blocker. N and V, anti-psychotic (hallucinations and hostility)
 - Tablet, extended release capsule, rectal suppository
 - S/E – muscle spasms and extrapyramidals (Dystonia, tardive dyskinesia, akathisia)

Antiemetics

- **Reglan** (Metoclopramide) - Ach facilitator and dopamine blocker in Enteric Nervous System (ENS). Pro-kinetic agent that stimulates motility following surgical anesthesia and emesis induced by cancer. Useful in diabetics with gastroparesis (delayed stomach emptying, nausea, and severe bloating)
- Tablet and liquid by mouth
- S/E – Parkinsonism and extrapyramidal effects (Dystonia, tardive dyskinesia, akathisia)

Antiemetics

- **Zofran** (Ondansetron) - 5-HT₃ inhibitor. Receptors are found in the CNS – particularly in the chemoreceptive area and vomiting center – and in peripheral sensory and enteric nerves. Used to prevent or treat N and V after surgery, chemotherapy or radiation. Take 1 hr before chemotherapy.
- S/E – difficulty swallowing, hives, itching
- Oral or parenteral
- **Kytril** (Granisetron) – S/E: difficulty swallowing, hives, itching
- **Anzemet** (Dolasetron) – S/E: palpitations, arrhythmias
- **Marinol** (Dronabinol) – acts on CB₁ receptors in the brain (medulla): reduces NT release (serotonin and dopamine) used for refractory N and V during cancer treatment. Increases appetite in AIDS patients.
- Oral capsules
- S/E – drowsiness and memory loss