Management of Nausea and Vomiting

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Content of the Session

- Causes of Nausea and vomiting
- Physiology of nausea and vomiting
- The anti-emetics
- Management
Causes of Nausea and Vomiting

Cerebral Causes
- Raised intracranial pressure
- Anxiety and anticipation
- Degenerative Brain disease: MS, AIDS

Chemical Causes
- Drugs: antibiotics, NSAIDS, steroids
- Chemotherapy
- Infection
- Metabolic
  - Uraemia
  - Hypercalcaemia
  - Hyponatraemia
# Causes of Nausea and Vomiting

## Oropharyngeal Causes
- Cough
- Regurgitation
- Pharyngeal irritation e.g. candida

## Gastrointestinal Causes
- Gastroparesis
  - Drugs
  - Paraneoplastic
- Gastric irritation/ulceration
- Hepatomegaly
- Ascites
- Bowel obstruction
- Constipation
Pathophysiology
Prokinetics

Metoclopramide 10-20mg tds-qds
Domperidone 10mg bd-tds after food
(5HT4 Agonist + Dopamine (D2) antagonist)

Side Effects:
- tardive dyskinesia (M)
- QT prolongation/dysrhythmias (D)
Dopamine Antagonists

- Haloperidol 0.5 - 3mg
- Levomepromazine 6/6.25mg nocte (po/sc) (Metoclopramide)

**Side Effects (extrapyramidal)**

- Muscle stiffness
- Tremor
- Reduced movements
- Hypothermia and hypotension
- Sedation
Histamine Antagonists

Cyclizine 25 – 50 bd-tds; 100-150 sc (WFI)
Levomepromazine 2.5 – 12.5mg po/sc

- SIDE-EFFECTS (Anticholinergic)
  - Drowsiness
  - Caution in elderly: postural hypotension, memory impairment effects, urinary retention, narrow angle glaucoma, extrapyramidal effects
  - Cause tachycardia in severe heart failure - avoid
Serotonin (5HT3) Antagonists

Granisetron 1-2 mg od po/sc; patch 3.1mg/24hrs up to 7 days
Ondansetron 8mg bd-tds po/sc
– Use in “acute emesis” post chemotherapy; role less clear in palliative care
SIDE-EFFECTS
– Constipating ++
– Can prolong QT interval in combination with prokinetics
– Headache (10%)
Anticholinergics

Hyoscine Hydrobromide (centrally acting)
Hyoscine Butylbromide / Buscopan (anti-secretory)
Glycopyrrolate

- SIDE-EFFECTS
  - Dry mouth/Stuffy nose/Blurred vision
  - Sedation/agitated delirium
  - Postural hypotension
  - Urinary retention
Additional Drugs

- Steroids: can potentiate anti-emetics
- Benzodiazepines
- Octreotide
- Nabilone (Cannabinoid)
- Aprepitant
Management of Nausea and Vomiting

- Diagnose cause(s) for the nausea and vomiting (including bloods if appropriate)
- Treat reversible causes and exacerbating factors e.g. constipation
- Choose an appropriate anti-emetic
- Choose the appropriate route
- Review the response and, if necessary, change the management
Non-Drug Measures

– Calm environment
– Reduce food smells and malodor of stomas/wounds
– Dietary changes e.g. smaller meals more frequently
– Sea bands/ginger
– Acupuncture/pressure
Correct Reversible Causes

- Stop gastric irritant drugs and treat gastritis
- Treat cough and constipation
- Treat raised intracranial pressure (dexamethasone and radiotherapy)
- Treat hypercalcaemia with rehydration and Bisphosphonates if appropriate
- Address anxiety and emotional distress
- Insight, information and expectations
Prescribe an Appropriate Anti-Emetic

- Dependent on the cause of nausea and vomiting
  - Start with first line anti-emetic
  - Give regularly and prn options
- Parenteral route necessary if unable to absorb
  - Stat dose injections
  - Continuous subcutaneous infusion
Prescribing Anti-Emetics

- Optimise the dose every 24 hours
- After 24-48 hours, if little or no benefit on optimum doses:
  - Do you have the correct cause?
    - No: change to an appropriate anti-emetic
    - Yes: add in or substitute the 2nd line anti-emetic
- Most can be given SC
- Doses generally the same if given PO, SC or IV.
Gastric Stasis

**Symptoms**
- Low grade nausea made worse on eating
- Large volume vomits
- Early satiety
- Belching
- Reflux/epigastric fullness/tenderness
- Hiccups
- Succussion splash

**Management**
- Metoclopramide 30-100mg /24 hours
- Adjuncts:
  - PPI
- Persistent
  - Switch to Buscopan (anti-secretory)
  - NG tube
Bowel Obstruction without Colic

**Symptoms**
- Variable nausea
- Vomiting dependent on site of obstruction
- Abdominal distension
- Background aching pain
- Constipation
- Absent or hyperactive bowel sounds

**Management**
- 1st line: metoclopramide 30-100mg / 24hrs
- Adjuncts:
  - Dexamethasone
  - Granisetron
  - Octreotide: 300-600 mcg/24 hrs (max 1000mcg)
  - morphine, docusate
Management of Bowel Obstruction with Colic

- 1st line: Cyclizine 100 - 150mg/24hour PLUS Buscopan 30 -120mg/ 24hours (anti-colic, anti-secretory)
- 2nd line: Cyclizine and Haloperidol 1.5 - 3mg or Levomepromazine 5-12.5mg/24hours
Management of Chemical Nausea

- Significant nausea/variable vomiting
- Few other GI-related symptoms
- Biochemical evidence

- 1st line: Haloperidol 1.5 - 5mg / 24 hours
- 2nd line: Add in Cyclizine or substitute with Levomepromazine
Raised Intracranial pressure

Symptoms and Signs

- Early morning headaches
- Predominant nausea
- Intermittent vomiting
- Papilloedema
- Neurological deficit and seizures

Management

- 1st line: Dexamethasone and Cyclizine
- 2nd line: Add in Haloperidol
- 3rd line: Substitute with Granisetron 1mg
Motion-Related Nausea and Vomiting

- 1st line: Hyoscine Hydrobromide
- 2nd line: Cyclizine
Nausea and Vomiting of Indeterminate Cause

- 1st line: Levomepromazine
- 2nd line: Haloperidol AND/OR Cyclizine
- 3rd line: Consider: Metoclopramide, Granisetron, Dexamethasone, Diazepam/lorazepam
Syringe Driver Compatibilities

- Try not to mix more than 3 drugs
- Cyclizine can be problematic
  - Irritant
  - Precipitation
- If in doubt
  - use water
  - ask pharmacist / hospice
- Compatibility charts
- www.palliativedrugs.co.uk
Other Things to Consider

- Nasogastric tube
- Venting Gastrostomy

- Some patients continue to be nauseated
- Some patient continue to vomit
Choice of anti-emetics in Parkinson’s Disease

- Domperidone 10mg bd if oral route possible
- Less harmful option otherwise if 5-HT3 antagonist **but** narrow spectrum of action
- Granisetron patch available (but off license and costly).
- Could try cyclizine at reduced dose (25mg tds)