Nausea, Vomiting and Bowel Obstruction

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Nausea and vomiting
a practical model

1 Supportive measures
2 Identify the cause
3 Choose the right drug
4 Choose the right route
5 Review effect
Nausea and vomiting
a practical model

VOMITING CENTRE

Vagus Nerve
Glossopharyngeal

Vestibular Nerve
Causes of nausea and vomiting

1. Gastrointestinal Causes

- Obstruction (partial or complete)
- Distended stomach (motility problem)
- Compressed stomach ("squashed stomach syndrome")
- Gastric irritation (drugs)
- Cytotoxics, Abdo DXT
Causes of nausea and vomiting

2. Autonomic

- Sympathetic T1-L2
- Parasympathetic (Vagus)
- Peritoneal stretch (liver, bowel, ovaries)
- pleura
- Ureteric stretch
Causes of nausea and vomiting

3. Chemical

Chemoreceptor Trigger Zone (CTZ)

- Drugs
- Uraemia
- Hypercalcaemia
- Bacterial toxins
- Tumour toxins
Causes of nausea and vomiting

4. Cerebral Cortex

- Raised ICP (intracranial pressure)
- Cranial Radiotherapy
- Pain
- Fear/anxiety
Causes of nausea and vomiting

5. Vestibular Nuclei

- Motion sickness
- Middle ear infection
- Herpes zoster
- Drugs
- Local tumour
Pattern Recognition

• What are all the possibilities

• What is the context in which it is happening

• Any associated features or factors which support each possibility?
Recognising the symptom pattern

• Large vomits with little nausea?
Recognising the symptom pattern

- Large vomits with little nausea

Gastric stasis

Also ask: ?relief of nausea after vomiting

drugs (especially opioids)

symptoms of reflux
Recognising the symptom pattern

• Small vomits no nausea?
Recognising the symptom pattern

• Small vomits no nausea

  “Squashed stomach”

  ? Evidence of liver metastases, ascites…. 
Recognising the symptom pattern

- Vomiting immediately after food?
Recognising the symptom pattern

- Vomiting immediately after food

  Lower Oesophageal obstruction
Recognising the symptom pattern

- Continuous nausea, little vomiting, confused and drowsy?
Recognising the symptom pattern

- continuous nausea, little vomiting, confused and drowsy

Hypercalcaemia
Recognising the symptom pattern

- Continuous nausea, headache in mornings?
Recognising the symptom pattern

- Continuous nausea, headache in mornings

Cerebral metastases
Nausea and vomiting
a practical model

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Causes of nausea and vomiting

1. Gastrointestinal
   - 5HT₃

2. Autonomic
   - ACh

3. CTZ chemical
   - 5HT₃, D₂, α₂

4. Cerebral Cortex
   - Gaba, 5HT

5. Vestibular Nuclei
   - AChₘ, H₁

VOMITING CENTRE
- AChₘ, H₁, 5HT₂, μ
1. Gastrointestinal

Delayed gastric emptying / ‘gastric stasis’

Prokinetics ($5HT_2\ D_2$)

- Metoclopramide
- (Domperidone)
1. Gastrointestinal

Gastric irritation.
- Stop drugs
- PPI eg Lanzoprazole

DXT/Cytotoxics
- $5\text{HT}_3$ antagonist
  Ondansetron / Granisetron
(otherwise no clear indication for them!!!)
Right Drug

2. Autonomic

- anti histamine: Cyclizine
- 5HT$_2$  D$_2$ H$_1$ antagonist: Levomepromazine
Right Drug

3. CTZ chemical

- D2 antagonist:
  - Haloperidol,
  - Olanzapine
  - (metoclopramide)
Choosing the drug

4. Cerebral Cortex

- Anti-histamine: Cyclizine
- GABA Benzodiazepines
- Steroids
Choosing the drug

5. Vestibular Nuclei

- Anti-histamine: Cyclizine
- Anticholinergic: Hyoscine Hydrobromide “Kwells” & TD Patch

Vestibular Nerve

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Nausea and vomiting
a practical model

Choose the right route

What are the possible routes you could use?
Nausea and vomiting
a practical model

You may have the right drug
BUT
it will only work if you
use the right route

• oral
• rectal
• sublingual
• transdermal
• Subcutaneous
• Syringe drivers
Nausea and vomiting
a practical model

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Bowel Obstruction
Pharmacological management of bowel obstruction

Management of Pain

- **Tumour related pain** - Opioids

- **Colic**  ? Is this obstruction or constipation?
  
  Stop stimulant laxatives and prokinetics
  
  Hyoscine butylbromide 60-120mg/24hrs

  by subcut syringe driver
Pharmacological management of bowel obstruction

Management of Nausea and Vomiting

GOALS: To resolve nausea
To reduce vomiting to an acceptable level

• Explanation and dietary advice

• If Dysmotility / peristaltic failure and NO colic
  Trial of Metoclopramide 30-90mg/24hrs subcut.
Pharmacological management of bowel obstruction

Management of Nausea and Vomiting

- If Mechanical obstruction / Colic
  stop stimulants / prokinetics
  Cyclizine 150mg / 24hrs subcut
  (doesn’t mix with buscopan)
  OR
  haloperidol 2.5-5mg / 24hrs subcut
Pharmacological management of bowel obstruction

Management of Nausea and Vomiting

• If Vomiting persists
  Reduce volume of GI secretions

Hyoscine butylbromide 60-120mg/24hrs
Octreotide 300-600microg/24hrs
Role of Octreotide, Scopolamine Butylbromide, and Hydration
Ripamonti et al  J Pain and Symptom Manage 2000

• NG tubes removed in <3 days in 13/17 patients
  And in remaining 4 after increase in doses.

Significant reduction in gastric volumes
  Buscopan: by 600mls/day
  Octreotide: by 1000mls/day

(? “Suck” : NG tubes are not necessary!.......)

Pharmacological management of bowel obstruction

Role of Corticosteroids - Cochrane Report 2002

- Trend towards improvement in bowel obstruction in patients receiving corticosteroids (Dexamethasone 6-16mg IV)

- No evidence of effect on mortality at 1 month

- Recommend 5 day therapeutic trial with attention to possible side effects e.g. mouth care, gastric mucosal protection.

(??Steroids : worth a go?........)

eg Dexamethasone 6mg sc daily for 5 days
Management of Bowel Obstruction

Summary

• Identify the patient's main concerns / priorities

• Make a decision with the patient as to whether surgery is an appropriate approach

• Consider home hospice or community hospital

• Manage individual symptoms according to whether the obstruction is mechanical or motility related

• Patients can be managed at home with medical, nursing and psychological support.
Thank you

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