Malignant Bowel Obstruction

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What is Malignant Bowel Obstruction?

Bowel Obstruction occurs when there is blockage of the forward flow gastric contents through GI tract.

Causes:

- Tumour growth,
- Adhesions,
- Carcinomatosis,
- Faecal impaction,
- Pharmacotherapy
- Neuropathy

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Pathophysiology

- Functional Obstruction
  - Paralytic (adynamic) ileus or functional obstruction
  - Intestinal Motility Disorders: Infiltration of mesentery, bowel muscle or nerves or coeliac plexus
  - Para-neoplastic neuropathies and related conditions

- Structural Obstruction
  - Intraluminal Obstruction
    - Polypoid tumours or Annular spread
  - Intramural: Intestinal Linitis Plastica
  - External Obstruction
    - Tumour or recurrence, Omental or Mesenteric masses,
    - Adhesions or Fibrosis
Statistics

- Frequency in advanced disease
  - Ovary: 5-42%
  - Colorectal: 4-24%

- Location
  - Small Bowel: 61%
  - Large Bowel: 33%
  - Both sites: 20%

- Benign causes: Adhesions, post RT fibrosis, herniae, etc.
  - Make up between 3-48%

- MRI and CT Scans → poor at distinguishing benign from malignant causes (Anthony 2007)
Classification

1. Partial or complete
2. Single or multiple sites
3. Location in the GI tract

This will affect Presentation, Symptoms & Clinical management
Clinical Features

Gradual onset..... So symptoms may not be typical. Often...... a partial obstruction

- **Symptoms:**
  - 90% (Continuous) tumour pain
  - 75% (Intermittent) abdominal colic
  - ‘Emptying vomiting’ & abdominal distension depends on location and extent of tumour

- **Signs: from examination**
  - Tympanic percussion,
  - Tinkling bowel sounds, rarely visible peristalsis.
Investigations

1. AXR
2. Barium can worsen the condition
3. Most important to exclude constipation as the sole cause
4. CT Scan

AXR

A small bowel obstruction
CT Scan
Consider the followings options:

1. **Surgery**
   - Resection
   - Bypass

2. **Stent**

3. **Venting gastrostomy**

4. **Chemotherapy**

5. **Medical management**

6. **Nutrition and hydration**
Surgery

- No consensus on the indications for conservative versus surgical management
- Bowel primary more amenable than ovarian
- Large bowel more amenable than small bowel
- Mortality 9-40%
- Complications 9-90%
- Survival 1-12 months (mean from reported studies)
- Non-randomised study showed no difference in survival between conservative and surgical management
- Type of obstruction and procedure performed don’t appear to affect survival
Benefits from Surgery

- Not just about survival
  - Time in hospital
  - Symptom control
  - Complications

- Need to weigh up all the benefits and burdens
Suggested Contraindications

Absolute CI
1. Recent laparotomy demonstrating corrective surgery not possible
2. Diffuse metastatic cancer
3. Involvement of proximal stomach
4. Severe motility problems
5. Diffuse palpable intra-abdominal masses
6. Massive ascites, re-occurring after drainage

Relative CI
1. Extra-abdominal metastasis
2. Poor general performance status
3. Poor nutritional status (e.g. wt loss, low albumin)
4. Advanced age associated with cachexia
5. RT to abdomen or pelvis
Upper GI Stents

- **Systematic review suggests**
  - stents for patients with shorter prognosis
  - gastrojejunal (GJJ) for those with longer. (Jeurnink 2007)

- **Upper GI stent outcomes**
  - Success rate 96%
  - Early complications 7%
  - Late complications 18%
  - Persisting symptoms 8%
  - Recurrent obstructive symptoms 18% (compared with 1% from GJJ)
  - Hospital stay 7 days

- **Complications**
  - Ulceration
  - Perforation
  - Stent migration
  - Pain
  - Blockage
  - Reflux
  - Bleeding
Lower GI Stents

- Only left sided tumours are accessible

- **Complications:**
  - Incontinence in addition to the above

- **Systematic review of colorectal stents to relieve MBO**
  - (Watt A. Annals of Surgery 2007)
    - Little high level evidence
    - Shorter hospital stays and adverse outcomes than surgery
    - Appears safe and effective
Pharmacological Management

- Focus on
  - Nausea
  - Vomiting
  - Pain

- First described 1985 (Baines, Oliver et al, Lancet)

- In-patient and out-patient management
Vomiting

- What is acceptable?
  - 1-2 per day
  - Every few days
  - No vomiting at all

- Management options
  - Steroids
  - Pro-kinetic
  - Anti-emetics
  - Anti-secretory

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Anti-cholinergic medications

- **Hyoscine butylbromide / Hyoscine hydrobromide / Glycopyrronium**

- **Actions**
  - Decrease bowel tone and peristalsis
  - Decrease secretions

- **Side-effects**
  - Central S/Es (limited by using HB and Glycopyrronium)
    (Hyoscine Hydrobromide & Glycopyrronium are less likely to cross the blood-brain barrier as they are not as lipid-soluble, thereby causing less central side-effects).
  - Dry mouth
  - Retention
  - Etc.
Somatostatin and Octreotide

• Decrease
  – GI hormone release and activity
  – Acid secretion
  – Motility
  – Bile production
  – Mucus production
  – Splanchnic blood flow

• Increase absorption of water and electrolytes
• Can inhibit acetylcholine activity.
• Half life 1.5 hours
• Cost
• Can be given by monthly depot following 2 weeks of infusion (Matulonis 2007)
Octreotide: Suggested Benefits

From Two Randomized Controlled Trials (RCTs)

More effective than Hyoscine butylbromide in terms of:

1. Reducing
   • GI secretions
   • Intensity of nausea
   • Frequency of vomiting

2. Suggested may work synergistically with anti-cholinergic

3. May prevent development of irreversible bowel obstruction

Anti-emetics

- Pro-kinetic – Metoclopramide
  - If there is no colic
- Haloperidol
- Cyclizine
- Levomepromazine
- All have been used
- No comparative data
Steroids

1. Systematic review suggests benefit though didn’t reach statistical significance
2. Anti-emetic effect
3. Reduce peri-tumour and peri-neural oedema
4. Risk of stimulating appetite when a patient can’t eat
5. Use high dose for a one week trial and gradually reduce if effective

Feuer DJ, Broadley KE (1999)
Feeds and Fluids

1. **TPN**
   - Only beneficial in very select cases
   - Risks and potential prolonged hospital stay
   - Most patients anorexic and cachexic from the malignant process already

2. **Hydration**
   - No direct correlation between hydration and dry mouth / thirst
   - May improve nausea if given > 1litre / day
   - Risk of increasing bowel secretions if too much

3. **Local measures**: mouth care, pineapple, ice cubes, regular sips, etc. are effective for dry mouth

Mercadante S et al. Supportive care in cancer. 2000
Pain

Why?

1. Tumour Pain
   ➔ Opioids for tumour pain

2. Colic from smooth muscle contraction
   ➔ Anti-cholinergic for colic

Constipation

- Avoid stimulant laxatives (Senna or Coloxyl with senna!)
- Docusate
- Movicol – especially if constipation exacerbating partial obstruction
Outcome

1. Colic
   – Almost always reduced to mild or none

2. Pain
   – Should achieve complete control in majority

3. Nausea and vomiting
   – Should be able to reduce 1/day or less

4. Prognosis
   – 3.7 months with 7/38 patients living > 7/12

5. Eating and drinking
   – Hydration can be maintained if vomiting controlled

Baines et al 1985
Naso-Gastric Tubes

- Aim is to be without them because uncomfortable and risk of complications

- May be useful
  - In early stages
  - Whilst establishing pharmacological management
  - In poorly patients with persistent vomiting especially where there is a high obstruction
Gastrostomy

❖ **Indications**
  – If pharmacological management unsuccessful

At surgery where complete bowel obstruction appears

❖ PEG can avoid need for surgery
❖ Reported control of nausea and vomiting in 90% of cases
❖ likely to be permanent or prolonged
Conclusions

Palliative care approach

1. **Dexamethasone** 16mg / day for 7 day trial

2. If no colic
   - Metoclopramide 40 – 120mg via syringe driver

3. If colic
   - Levomepromazine 5mg – 6.25mg (One vial is 25mg)
   - Buscopan 40 – 120mg
   +/- Octreotide 500 – 1000 micrograms

4. Pain
   - Morphine at appropriate dose