INCIDENCE OF BOWEL OBSTRUCTION

- 5.5 - 42% Ovarian cancer
- 10 - 28.4% Colorectal cancer
- 3% of all terminally ill patients
- 15% in major Palliative Care Units

CAUSES OF BOWEL OBSTRUCTION IN MALIGNANCY

- Extrinsic occlusion of lumen
  - tumours of splenic flexure - 49%
  - tumours (R), (L) colon - 25%
- Intraluminal occlusion
- Intramural occlusion
- Invasion of mesentery, muscle, nerves, plexus
- Tend to look at proximal or distal to the splenic flexure
  - Frago et al 2014

BEWARE!

- FAECAL IMPACTION
  - Benign causes:
    - inflammatory strictures and adhesions
    - radiation induced strictures and adhesions
    - benign intussusception
    - THE MIXED PICTURE

SYMPTOM PROFILE

- Intestinal colic 72-76%
- Continuous abdominal pain 92%
- Vomiting 68-100%
  - nausea vs. vomiting
  - intermittent vs. continuous
- Abdominal distension
- Flatus and borborygmi
- Anorexia / desire to eat
- Constipation / diarrhoea

RADIOLOGY

- AXR – erect and supine
  - Fluid levels and dilated colon
- Contrast enema and x-ray
  - Confirm the diagnosis and defining the location
  - Sensitivity 80%
  - Specificity 100%
- CT scan
  - Most common
  - Sensitivity 96% and specificity 93%
  - Location and staging
  - Triple contrast (venous, oral and rectal)
- Colonoscopy
  - Site and cause and possible to insert a stent
SURGERY

- Surgery should be considered for every patient presenting with bowel obstruction
- However,
  - rate of inoperable patients 6 - 50%
  - causes:
    - extensive tumour
    - multiple partial obstruction
    - technical / surgical correction impossible
  - Higher inoperable rates in patients with advanced disease

POOR PROGNOSTIC FACTORS FOR SURGERY

- Intestinal motility / diffuse intraperitoneal carcinomatosis
- Severe cachexia
- Age over 65yr
- Ascites
- Leucocytosis
- Poor nutritional status / low serum albumin
- Previous radiotherapy to abdomen / pelvis
- Poor performance status

POOR PROGNOSTIC FACTORS FOR SURGERY CONT'D

- Palpable intra-abdominal masses and liver involvement, or distant metastases, pleural effusion or pulmonary metastases
- Multiple partial bowel obstruction with prolonged passage time on barium examination

COMPLICATIONS AND LENGTH OF SURVIVAL AFTER SURGERY

<table>
<thead>
<tr>
<th>Authors</th>
<th>No. Patients</th>
<th>Primary Cancer</th>
<th>30-Day Mortality (%)</th>
<th>Other Operative Complications (%)</th>
<th>Survival (mo)</th>
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<tr>
<td>Soo et al.</td>
<td>13</td>
<td>Gynaecology</td>
<td>11</td>
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<td>Lund et al.</td>
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<td>Rider et al.</td>
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<td>Clarke Pearson et al.</td>
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<td>Bova et al.</td>
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<td>Fear et al.</td>
<td>66</td>
<td>Ovary</td>
<td>16.5</td>
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<td>2.7 median</td>
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<td>Borir et al.</td>
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<td>Polis and Schindel</td>
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<td>89</td>
<td>Abdominal</td>
<td>13</td>
<td>44</td>
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Palliative Surgery Versus Medical Management for Bowel Obstruction in Ovarian Cancer


- Retrospective data for 47 women
- Received either palliative surgery (n = 27) or medical management with Octreotide (n = 20)
- Women with poor performance status were excluded from surgery
- Six (22%) women who received surgery had serious complications of the operation
- Three (11%) died of complications
- Multivariable analysis found that women who received surgery had significantly (p < 0.001) better survival than women who received Octreotide
- Magnitude of this effect was not reported
- Quality of life (QoL) was not reported
- Adverse events were incompletely documented

Current Management of Acute Malignant Large Bowel Obstruction: A Systematic Review

Frago et al 2014 The American Journal of Surgery

- Proximal obstruction
  - Right hemicolecction
    - Primary anastomosis between bowel and colon
    - Anastomotic leak 2.8 - 4.6%
- Distal obstruction
  - One stage procedure (few centres with expertise)
  - Previously 3 staged: higher morbidity and mortality
  - More common 2 stage procedure
- Laparoscopic surgery
  - Need a skilled surgeon in this use

Endoluminal Stents

- Self expanding metallic stent (SEMS)
- Useful in the distal colon
- Could be considered before surgery (‘bridge to surgery’)
- Mainly considered in patients with unresectable disease
- Technical success rates: 92 – 93.3%
- Alleviation of symptoms: 88%
- Resolution of obstruction in stent 78% versus surgery 98.8%
- 30 day mortality for both 2.3%
- Frago et al 2014

Palliative patients
- Stents are the treatment of choice (Fiori et al)
  - Shorter hospital stays
  - Earlier tolerance of oral diet
- Better quality of life: psychological concerns with colostomy (Xinopoulos et al)
- Higher risk of longer term complications (Liang et al 2014)
- Mean survival rate
  - 16 – 24 months with surgery
  - 4.4-7.6 months with stent
  - Lee et al
- Less effective than Sx but shorter time to chemo and lower 30 day mortality (Xia-Dan et al 2013)

Nasogastric Tube

- Decompressing the stomach in upper GIT obstruction
- Acute pre-operative phase of management
- Should not be a reflex action or part of ‘protocol’
- Look at longterm goals of care
- Management possible with medical measures
- Prolonged nasogastric suctioning and IVT for inoperable patients is not recommended
- Not well tolerated by many patients
MEDICAL MANAGEMENT

- Oral absorption may be impaired
- Choose the subcutaneous route for drugs
- IV is possible if already in place
  - use available IV access e.g., Hickman
- Rectal route may still be feasible
- S/C bolus or continuous
- S/C can be continued at home

PAIN

- Continuous pain
  - Opioid with laxatives
  - Subcutaneous route
- Intestinal Colic
  - Hyoscine butylbromide
    - decrease spasm / colic
    - reduce intestinal secretion
    - reduce amount and frequency of vomiting
    - slows the gut
    - May cause partial to complete obstruction
    - needs review, ?cessation
- Paracetamol
  - ?absorption
  - When oral intake

NAUSEA AND VOMITING

- Differentiate between nausea and vomiting
- Possible to control nausea quite well
- May need to accept episodes of vomiting
- The aim is to reduce the frequency and amount of vomits

- Maxolon 40 – 100mg / day
  - Beware the high obstruction
- Haloperidol 2-5mg / day
- Cyclazine 25-100mg / day
  - reduces nausea
  - may decrease intestinal secretions
- Levomepromazine 25-50mg/day
- Cisapride (unavailable in most countries)
  - motility problems with partial bowel obstruction
- Do we want to start the bowel again or shut it down?
- Terminal bowel obstruction?

DEXAMETHASONE

- Cochrane review Feuer et al 2000
  - Trend towards corticosteroids versus placebo
  - Reduce peritumoural inflammatory oedema
    - thereby improve intestinal passage
  - Role in motility problems
  - Useful in nausea and vomiting
  - May not prevent tumour progression
  - 4-8mg may be used for short periods of time
  - May help to re-start bowel function
  - NOT FOR PATIENTS CONSIDERED FOR SURGERY
H2 ANTAGONISTS AND PPI

- Ranitidine
  - H2 antagonist: inhibiting the stimulatory effects of histamine on volume of gastric secretions
- Proton Pump Inhibitors (omeprazole, pantoprazole)
  - Block (H+/K+ ATPase)
  - Inhibit histamine, gastrin and acetylcholine

REducing GASTRIC secretions:
Support Care Cancer 2009, CLark et al.

- 7 studies in peri-operative period
  - Well conducted studies
  - Peri-operative period for elective surgery
- Looked at meta analysis
  - Patients: 223 ranitidine, 222 on PPI
  - Both PPI and ranitidine reduce gastric volumes
  - Volume of gastric secretions reduced by an average of 0.22 ml.kg−1; 95% confidence interval 0.04 to 0.41
  - Most superior agent was ranitidine

OCTREOTIDE

- Analogue of somatostatin
- Powerful inhibitor on secretion of gastrin, gastric acid, pancreatic juice, bile flow, and intestinal secretions (water, Na, Cl)
- Increase water and electrolyte absorption
- Inhibits gastrointestinal motility (submucosal and myenteric plexus)
- Direct analgesic effect
- Cost effectiveness: very costly
- Length of treatment?

- Many low powered studies have found octreotide of benefit with less episodes of vomiting and
- Superiority over Hyoscine Butylbromide
- Mercadante 2007, Ripamonti 2000


- Placebo versus octreotide (600mcg/24hours by infusion)
- Both arms received standardised supportive therapy (infusional ranitidine (200mg/24hours), dexamethasone (8mg/24hours) and parenteral hydration (10-20mls/kg/24hours))
- 87 participants provided data at 72 hours (45 octreotide arm)
- Seventeen people (octreotide) and 14 (placebo) were free of vomiting for 72 hours. (p = 0.67)
- Mean days free of vomiting was 1.87 (SD 1.10;octreotide) and 1.69 (SD 1.15; placebo); p = 0.47

Double-blind, placebo-controlled, randomised trial of octreotide in malignant bowel obstruction Currow et al. J Pain and Sympt Mx 2015

- Reduced number of episodes of vomiting but increased need for hyoscine butylbromide in the octreotide group
- Although there was no reduction in the number of days free of vomiting, secondary analyses suggest that further study of somatostatin analogues in this setting is warranted
**Intravenous Fluids**
- Underhydration is better than well hydrated
  - Bowel oedema
    - Exacerbates intensity and frequency of vomits
- Mouth care is very important
- S/C is not always better than IV
- Intermittent fluids may be wiser
  - Assess on daily basis
- Allow to eat and drink as tolerated by patient, not family

**Total Parenteral Nutrition**
- Only in preparation for surgery
- Patients may be set up for further complications from natural disease progression

**Percutaneous Venting Gastrostomy**
- Not a knee jerk response to not eating
- Dependent on tumour biology
  - Is there more anti cancer treatment options?
- Performance status of patients
- Care at home can be difficult
- Ethical considerations
- Many complications that are significant in the face of limited time
  - Not a useful palliative option in patients with advanced disease

**Length of Survival with Medical Management**
- Fainsinger 18.4 days (2-41)
- Baines 3.7 months
- Ventafridda 13.4 days (2-50)
- Ibster 29.2 days

**Terminal Bowel Obstruction**
- Control nausea and abdominal pain
- Reduce frequency of vomiting
- Allow to eat and drink
- Avoid naso-gastric tube
- Explanation to patient and family
- Partially dehydrated is better
- Avoid IV/Subcut fluids
- Concentrate on symptom control, psychological care and general terminal care
- Care of family and carers

**What is the Best Management for This Man?**
- Management of symptoms
  - Pain, colic, nausea, bowel care
  - Management of bowel obstruction (standard care?)
- Ask: Is surgery indicated?
  - Elective or emergency
  - Stent possible?
- Management of underlying cancer
  - Are there options?
- Hydration and feeding – what are the choices
- Psychological management
WHAT CONVERSATIONS DO WE NEED TO HAVE WITH HIM?

- Future bowel obstruction
- Cancer management
- Prognosis
- Terminal bowel obstruction
- Allow to eat and drink?
- Family preparation

- Advance care planning and prognosis
- What will end of life care be like