

# Malignant Bowel Obstruction

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“It hath been often said, that it is not death, but dying, which is terrible.”

Henry Fielding (1707-1754) – *“Amelia”*

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## Today's Presentation

- Incidence, mechanisms and pathophysiology
- Diagnosis
- Surgical management
- Pharmacologic management
- Psychosocial implications

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## Incidence

- Ovarian cancer - 5.5 – 42%
- Colorectal - 4.4 – 24%
- Other cancers - 3 – 15%

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## Mechanisms

- Benign in 10-48% of cases at surgery (adhesions, radiation entities or fibrosis)
- Intraluminal occlusion (polypoid, annular)
- Intramural - 2° to muscle infiltration by tumor or muscle inflammatory process
- Extrinsic compression
- Single site
- Carcinomatosis – multiple sites

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## Mechanisms – “Pseudo obstruction”

- Intestinal motility disorder – caused by deranged extrinsic neural control of the viscera – D.M., paraneoplastic syndrome
- Mesenteric thrombosis or microthrombosis
- Impaction

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## Mechanisms

### Contributing Factors:

- Constipation
- Medications (opioids, anticholinergics)
- Inactivity
- Debilitation/dehydration

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## Pathophysiology

MBO may be partial or complete but usually the clinical picture varies between the two – symptoms wax and wane, obstruction most often intermittent and variable in degree.

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## Pathophysiology Progression to Obstruction

- Sub obstructive state: a colicky response to delayed transit of secretion leads to inflammatory response
- Inflammatory response activates the cyclooxygenase pathway and release of prostaglandins which are potent secretagogues
- Release of Vasoactive Intestinal Peptide (VIP) leads to venous congestion and edema, ↓ arterial blood flow → hypoxemia

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## Pathophysiology

- Fluid and electrolyte third spacing in gut and gut wall leads to systemic hypovolemia, hypotension and sepsis 2° to bacterial overgrowth
- Sepsis and hypotension lead to multisystem failure – the cause of death in patients with bowel obstruction

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## Diagnosis...

- Diagnosis of MBO is suspected on clinical grounds and may or may not require radiographic confirmation depending on the patients clinical status and goals of care
- Signs and symptoms depend on the level of the obstruction
- Acute onset or insidious

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## ...Diagnosis

### Signs & Symptoms:

- Duodenal obstruction: severe vomiting, succussion splash, little distension, little pain
- Small bowel obstruction: upper to central abdominal colic, moderate to severe vomiting, moderate distension, hyperactive B.S. with borborygmi
- Large bowel obstruction: central to lower abdominal colic, late vomiting, severe distension, borborygmi

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## ...Diagnosis

- Hallmark of complete bowel obstruction is total absence of all feces and flatus

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## Therapeutic Decision Making

- Patient and family goals of care
- Relief of suffering with maximal improvement in quality of life
- State of disease
- Stasis of patient
- Prognosis with/without intervention

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## Surgical Management...

- Treatment of choice for eligible patients
- High mortality and morbidity in advanced cancer
- High incidence of infection, fistula formation, non-healing of incision
- Good prognostic indicators: no palpable abdominal or pelvic masses, ascites <3l., unifocal obstruction, low preoperative weight loss
- Possibility of benign etiology

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## ...Surgical Management

- Poor prognostic indicators: poor nutritional status, low performance scales, end organ failure, extensive abdominal or pelvic disease, ascites, distant metastasis
- Assessment prior to surgery should be substantial, weighing the pros and cons with the patient and family
- MBO seldom an emergency – manage the patient with analgesics, NG suction and IV fluids until decision to operate is made

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## Stents

- Gastric outlet
- Gastroduodenal
- colonic

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## Types of Surgical Intervention

- Resection and reanastomosis
- Decompression
- Bypass
- Lysis of adhesions

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## Proximal Bowel Decompression...

- NG tubes
  - Only for intractable symptoms failing medical management
  - Only when gastrostomy cannot be carried out
  - To get initial symptoms under control while pharmacologic management is put into place, then remove

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## ...Proximal Bowel Decompression

- Venting gastrostomy or jejunostomy
  - Extremely effective → relieves nausea and vomiting in 83 – 93% of MBO's
  - May allow patients to resume oral intake for pleasure
- Combination of venting gastrostomy tube and feeding jejunostomy tube for gastric outlet obstruction or proximal small bowel obstruction

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## Pharmacologic Management of MBO

- Highly effective, sophisticated pharmacology with outcomes and median survivals comparable to surgical
- Medications given via SQ button or SQ infusion with syringe driver
- Rectal, transdermal route of administration effective when necessary

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## Symptoms to Manage

- Pain
- Nausea and vomiting
- Anxiety
- Hydration/feeding issues

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## Pain

- Topical, SL, SQ, IV
- Fentanyl patch – requires > 12 hours for effect; requires order for BTP medication
- Hydromorphone (Dilaudid) – good choice IV, SQ start with .25 mg q 3 hr PRN and titrate as needed

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## Metoclopramide

- 20 mg – 120 mg/day bolus doses 4 x day or continuous IV infusion
  - Used for partial or functional MBO – is drug of choice
  - Prokinetic / antiemetic
  - Stop if colicky pain develops or complete MBO
  - May delay complete obstruction by keeping secretions moving

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## Anticholinergic – Antisecretory Drugs

- Levsin SL, scopolamine topical, IV, SQ
- ↓ tone, peristalsis and ↓ secretory activity of mucosal cells
- ↓ nausea and colicky pain

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## TX of Nausea and Vomiting...

- Haldol – D2 antagonist 1-2 mg q 2-4 hr. SQ, IV. Potent blocker at the chemoreceptor trigger zone in the vomiting cascade
- Ondansetron/granisetron – 5HT<sub>3</sub> receptor antagonist may specifically ↓ nausea and vomiting in patients with MBO 2° to ovarian ca d/t ↑ serotonin levels in this condition

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## ...TX of Nausea and Vomiting

- Patients may have good control of nausea, but vomit occasionally, especially if eating
- N&V more often refractory in high obstruction and may require NG tube, if unremitting

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## Corticosteroids

- ↓ peri tumor inflammatory edema and ↓ tumor size – may reduce MBO

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## Octreotide...

- Reduces intestinal secretions by increasing reabsorption of fluid and electrolytes from the gut lumen and decreasing their secretion
- Inhibits secretion of GI hormones, ↓ gastric, pancreatic and biliary secretions
- Reverses the pathophysiologic cascade involved in progression of MBO - ↓ secretion of VIP
- May reduce MBO, delay progression of partial to complete obstruction

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## ...Octreotide

- ↓ peristalsis and ↓ colicky pain
- Given by SQ injection or SQ infusion --.3 mg to .6 mg/day
- > 70% of patients have complete or good control of N&V, abdominal distension and pain with octreotide

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## Radiation Therapy for MBO

- Twice weekly hypofractionated RT plus continuous infusion 5 FU may successfully palliate locally advanced primary or recurrent colorectal cancer and avoid colostomy

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## Nutrition and Hydration...

- Patients with intestinal obstruction with good control of N&V may take small, low residue mainly fluid meals – absorption is in the proximal GI tract
- Patients with venting gastrostomy or jejunostomy may eat with tubes clamped as tolerated
- IV fluids or hypodermoclysis

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## ...Nutrition and Hydration

- Hydration may ↓ nausea by normalizing electrolytes and improving renal function  
1 – 1.5 liters/day
- Overhydration - ↑ secretion, ↑ colic, ↑ peripheral edema, ↑ nausea
- Emotional and psychological implications of feeding

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## TPN

### Pros and cons:

- ↑ tumor metabolism
- ↑ metabolic load which patient may not be able to tolerate
- If necessary, titrate to patient's level of comfort

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## Summary – Management of partial MBO

- Have surgery, stents, venting gastrostomy been ruled out?
- Analgesics, anxiolytics, antiemetics, antisecretory, antiinflammatory

### Example:

- Reglan, Haldol, Levsin, Ativan, Dilaudid, Decadron

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## Summary – Management of Complete MBO

- Has surgery been ruled out??
- Stop Reglan
- Antiemetics, analgesics, anxiolytic, antiinflammatory
- Octreotide

### Example:

- Haldol, Levsin, Ativan, Dilaudid, Decadron, Octreotide

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## Psychosocial Implications of SMO

### Hospice Goals:

- Safe and comfortable dying
- Self determined life closure
- Family centered care

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## Core principles for End of Life Care...

1. Respect the dignity of both patient & caregivers
2. Be sensitive to and respectful of the patient's and family's wishes
3. Use the most appropriate measures that are consistent with patient choices
4. Encompass alleviation of pain and other physical symptoms

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## ...Core principles for End of Life care

5. Assess and manage psychological, social and spiritual/religious problems
6. Offer continuity (the patient should be able to continue to be cared for, if so desired, by his/her primary care and specialist providers)
7. Provide access to any therapy which may realistically be expected to improve the patient's quality of life, including alternative or non-traditional treatments

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## ...Core principles for End of Life care

8. Provide access to palliative care and hospice care
9. Respect the right to refuse treatment
10. Respect the physician's professional ability to discontinue some treatments when appropriate, with consideration for both patient and family preferences
11. Promote clinical and evidence-based research on providing care at the end of life

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The process of dying articulates in a fundamental and paradoxical way, what it is to be human, to be alive to be mortal, to be intensely transient in this life on earth. Death – for those who are dying and for those who are left behind – marks our essential connectedness to a social and relational world. The potential for healing in the midst of suffering is possible because death is about creating and transforming bonds of attachment, not severing them irrevocably.

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*“You matter because you are you.  
You matter to the last moment of  
your life, and we will do all we can,  
not only to help you die peacefully,  
but to live everyday until you die.”*

Dame Cicely Saunders

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## Bibliography

Rapamonti, Carla; Mercadante, Sebastiano – “Pathophysiology and Management of Malignant Bowel Obstruction in:” Doyle, D.; Hanks, G.; Cherry, N.; Calman, K. eds. Oxford Textbook of Palliative Medicine, 3<sup>rd</sup> edition 2004, Oxford University Press, NY, NY pp496-507

Jonjor, Nora, MD et al “Avoidance of Colostomy Placement in Advanced Colorectal Cancer with Twice Weekly Hypofractional Radiation Plus Continuous Infusion with Fluorouracil” Journal of Pain and Symptom Management, Vol. 20 No. 4, October 2000, pp 266-277

Snape, William, “Disorders of Gastrointestinal Motility in”, Bennett, J. Claude, Plum, Fred ed Cecil Textbook of Medicine 20<sup>th</sup> ed., 1996, WB Saunders, Phila, PA, pp 680-688

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