

Malignant Bowel Obstruction

KEY POINTS

- ➔ Reported in 5-15% of cases of advanced cancer
- ➔ Most common in ovarian cancer (5-40% of patients) and bowel cancer (5-25% of patients)
- ➔ May resolve spontaneously or occur intermittently, especially in the early stages
- ➔ Absorption of oral administration of medications is often unreliable
- ➔ There are many possible causes of malignant bowel obstruction, so a variety of treatment options, including surgical and oncological, can be considered, depending on the patient's condition and goals of care

The goals of care must be clear: "Is this a patient that we would consider for surgery, oncological treatments or conservative/symptomatic management only?"



- ➔ In children, non-malignant causes such as volvulus or intussusception should be kept in mind



ASSESSMENT

See comment on page 10



- ➔ Clinical features may include pain, nausea, vomiting, abdominal distension, and reduced or absent passing of stool or flatus
- ➔ Obstruction may be single, multi-level or functional (when there is no mechanical obstruction, just impaired peristaltic function)
- ➔ Investigations to consider for diagnosis include:
 - ➔ Abdominal x-ray, may show air-fluid level, dilated bowel loops
- ➔ If surgical intervention is a possibility, consider imaging (CT or contrast plain films) to help define the level of obstruction

(gastrografen is the preferable contrast as it may be useful in restoring bowel function in some cases)

MANAGEMENT

Pharmacological Treatment

Symptom Management or Possible Reversal of Bowel Obstruction

- ➔ In many cases, reversal of the bowel obstruction or reduction in symptoms may be possible by using a combination of corticosteroids, prokinetic antiemetics, and antisecretory drugs
- ➔ A trial of **dexamethasone 8 mg Subcutaneous/IV** daily, **metoclopramide 10-20 mg QID Subcutaneous/IV** (only use if partial obstruction), and **haloperidol 2-4 mg CSCI** for 3-5 days is often helpful
- ➔ Note that steroids should be stopped after 5 days if ineffective
- ➔ Steroids may be useful for antiemesis and reducing peritumoral oedema, thereby relieving the obstruction

Antiemetics

- ➔ Dopamine antagonists are first-line treatment in partial bowel obstruction
- ➔ Do not use prokinetics in complete bowel obstruction
- ➔ **Metoclopramide 10-20 mg Subcutaneous/IV TID** or **30-60 mg CSCI** over 24 hours for prokinetic benefit
- ➔ Discontinue if pain or vomiting worsens
- ➔ **Haloperidol 1-2 mg Subcutaneous/IV BID** or **2-4 mg continuously** over 24 hours. Maximum of 5 mg in a 24-hour period

Antisecretory Agents

- ➔ Useful for gastric outlet obstruction with high volume vomitus (particularly octreotide), but availability and cost may preclude their use in some settings
- ➔ **Hyoscine BUTYLbromide (HBB)** can be given for colicky pain. HBB

will slow gastrointestinal motility, so it can be useful in complete bowel obstruction, but it may hinder the restoration of gut function in partial bowel obstruction

- ➔ 20 mg Subcutaneous/IV q6h or 60-120 mg per 24 hours
- ➔ **Hyoscine HYDRObromide** 400 mcg q4h Subcutaneous. May cause delirium and/or sedation
- ➔ **Glycopyrronium** 200-400 mcg q4h Subcutaneous
- ➔ **Octreotide** – no evidence for use in standard management of malignant bowel obstruction, but useful in gastric outlet obstruction with high volume vomitus
 - ➔ 200-400 mcg Subcutaneous TID or via CSCI over 24 hours
- ➔ **Famotidine** – useful for reducing gastric secretions in the context of gastric outlet obstruction
 - ➔ 40 mg Subcutaneous BID or via CSCI over 24 hours

Pain Control

- ➔ Use of appropriate opioid analgesics such as morphine Subcutaneous/IV, as outlined in the Pain section is the main treatment

Non-Pharmacological Treatment

- ➔ A NG tube with low-intermittent suction or straight drainage will relieve some patients, especially those with high-level obstruction

An NG tube is usually reserved for patients with frequent or severe symptoms. Can be considered for short-term use while waiting to see if pharmacological management is effective



If necessary for the control of symptoms, conversion to a venting gastrostomy tube is beneficial if patient is expected to live for months

- ➔ Bypass surgery or stenting may be considered in selected patients depending on the nature of the obstruction, condition of the patient, prognosis, and likely benefit

Hydration

- ➔ Administration daily of 1-1.5 L solution containing electrolytes (+/- glucose) IV or Subcutaneous may be useful in maintaining electrolyte balance and preventing adverse effects such as opioid toxicity and delirium
- ➔ Use hydration with caution as it may cause symptoms to worsen due to increased third spacing and oedema

➔ **Metoclopramide** – 0.1-0.2 mg/kg/dose PO/Subcutaneous/IV q6-8h (Maximum: 10 mg/dose, 0.5 mg/kg/day)

➔ Avoid in complete bowel obstruction

➔ **Haloperidol** – Initial: 0.01-0.02 mg/kg/dose PO/IM/IV/Subcutaneous q8-12h. Titrate to effect. (Maximum: 0.15 mg/kg/day)

➔ **Dexamethasone** – 2-4 mg PO/IV daily or BID for 3-5 days (stop after 5 days if ineffective)



PITFALLS/CONCERNS

➔ *In patients in the last hours to days of life, invasive treatments should be minimized*

➔ *Prolonged use of NG tubes can cause considerable distress as well as medical complications*

➔ *Hydration should be tailored to individual needs; beware of over-hydration*

➔ *For patients with cancer, if the bowel obstruction does reverse it is likely to recur as the disease progresses*



- ➔ Hydration should be tailored to the individual; it is unlikely to be of any benefit to the patient in the end of life phase and may cause harm

PALLIATIVE TIPS

- ➔ Aggressive pharmacological management can be very effective in reversing obstruction and reducing gastrointestinal symptoms

in inoperable bowel obstruction. A combination of drugs is usually necessary

- ➔ Treatment should be initiated early
- ➔ Hydration may be given by Subcutaneous infusion (hypodermolysis) up to 80 cc/hr
- ➔ In cases of partial obstruction with constipation, continue stool softeners (lactulose) but stop stimulants (senna and bisacodyl) if colic is a problem
- ➔ Try rectal measures such as suppositories
- ➔ Metoclopramide and haloperidol (and other neuroleptics) can cause extra pyramidal reactions in children, particularly adolescents, and can be used in combination with diphenhydramine to reduce the likelihood of this

REFERENCES

- Tuca A, Guell E, Martinez-Losada E, Codorniu N. Malignant bowel obstruction in advanced cancer patients: epidemiology, management, and factors influencing spontaneous resolution. *Cancer management and research*. 2012;4:159.
- Hisanaga T, Shinjo T, Morita T, Nakajima N, Ikenaga M, Tanimizu M, et al. Multicenter Prospective Study on Efficacy and Safety of Octreotide for Inoperable Malignant Bowel Obstruction. *Japanese Journal of Clinical Oncology*. 2010 Aug 1;40(8):739–45.
- Currow DC, Quinn S, Agar M, Fazekas B, Hardy J, McCaffrey N, et al. Double-Blind, Placebo-Controlled, Randomized Trial of Octreotide in Malignant Bowel Obstruction. *Journal of Pain and Symptom Management*. 2015 May 1;49(5):814–21.
- Ripamonti C, Twycross R, Baines M, Bozzetti F, Capri S, De Conno F, et al. Clinical-practice recommendations for the management of bowel obstruction in patients with end-stage cancer. *Supportive Care in Cancer*. 2001;9(4):223–33.
- Tuca A, Guell E, Martinez-Losada E, Codorniu N. Malignant bowel obstruction in advanced cancer patients: epidemiology, management, and factors influencing spontaneous resolution. *Cancer management and research*. 2012;4:159.
- Mercadante S, Ferrera P, Villari P, Marrazzo A. Aggressive pharmacological treatment for reversing malignant bowel obstruction. *Journal of Pain and Symptom Management*. 2004 Oct 1;28(4):412–6.