

FAST FACTS AND CONCEPTS #45 MEDICAL MANAGEMENT OF MALIGNANT BOWEL OBSTRUCTIONS

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Background Malignant bowel obstruction is a common oncologic complication; most common in ovarian and colon cancer. Symptoms include nausea, vomiting, and abdominal pain which can be colicky or continuous. Treatment options include surgical correction, placement of a venting gastrostomy tube, stent placement across the obstructed site, or medical management (see *Fast Fact #119* for a discussion of interventional options). Total parenteral nutrition may be beneficial in select patients with longer prognoses who may die of starvation rather than the cancer itself (see *Fast Fact #190*). Still, the need to rely on medical management is common, especially when the patient's functional status is poor and expected survival is short. There has been significant advances in the medical management of this problem, so that many patients can avoid dying with the traditional approach of intravenous fluids and nasogastric tubes ("drip and suck").

Major Drugs

- Opioids and anti-emetics: usually dopamine antagonists (e.g. haloperidol) can be administered (intravenously or subcutaneously) to relieve pain and nausea.
- Antimuscarinic/anticholinergic drugs (e.g. atropine, scopolamine): are used to manage colicky pain due to smooth muscle spasm and bowel wall distension. In the US, scopolamine can be administered by parenteral (10 mcg/hr IV/SQ continuous infusion) or transdermal (10 mcg/hr) routes, but is only available as the hydrobromide salt. This penetrates the CNS and can lead to delirium. Glycopyrrolate, a quaternary ammonium antimuscarinic with similar clinical effects to scopolamine, but without the CNS side-effects (dosed at 0.2-0.4 mg IV/SQ q2-4h), may be a viable alternative.
- Somatostatin analogs: inhibit the secretion of GH, TSH, ACTH and prolactin, and decrease the release of gastrin, CCK, insulin, glucagon, gastric acid and pancreatic enzymes. They also inhibit neurotransmission in peripheral nerves of the gastrointestinal tract leading to decreased peristalsis and a decrease in splanchnic blood flow. Octreotide (Sandostatin) is administered as a SQ injection (starting at 50-100 mcg q 8 hours) or as continuous IV or SQ infusion, beginning at 10-20 mcg/hr. Small randomized controlled trials suggest it may be more successful in improving nausea, vomiting, and colic than antimuscarinics for patients with a NG tube. One case report suggested it may help in partial bowel obstruction as well. The drug is titrated every 24 hours until nausea, vomiting, and abdominal pain are controlled. A once monthly injection of a long-acting formulation can be used for patients on a stable dose. A more recent randomized controlled trial suggested that dexamethasone with ranitidine may be a more cost-effective alternative to octreotide 600 mcg/day for MBO however.
- Corticosteroids: have been recommended to decrease the inflammatory response and resultant edema, as well as relieve nausea, through both central and peripheral antiemetic effects. A meta-analysis found that 6-16 mg of IV dexamethasone/day decreased symptoms and improved bowel function in 60% of patients. In fact, a phase III trial suggested little benefit from octreotide in patients already on intravenous ranitidine 200 mg/day and intravenous dexamethasone 8 mg/day.

Minor Drugs

Prokinetic drugs (e.g. metoclopramide) may be beneficial if there is a partial obstruction. However, if there is total obstruction some advocate the discontinuation of prokinetic agents as they may exacerbate crampy abdominal pain. On the other hand metoclopramide may inhibit the reverse peristalsis from obstruction and decrease nausea. Olanzapine, an atypical anti-psychotic, blocks multiple neurotransmitters associated with nausea. It is available in a sublingual route with some published accounts of utility in refractory cases of nausea in cancer.

Care Plan Often medications must be used in combination to achieve clinical goals in malignant bowel obstruction. The goal of medical management is to decrease pain, nausea and secretions into the bowel in order eliminate the need for a nasogastric tube and IV hydration. During the medication titration phase, IV fluids should be restricted to 50 ml/hr. When NG output is less than 100 cc/day, the NG tube can be clamped for 12 hours and then removed. Once out, patients are instructed that they may drink and even eat, although vomiting may occur. If a venting gastrostomy tube is already in place, oral intake can be normal without fear of vomiting. Supplemental parenteral hydration is only indicated if a) patients remain dehydrated despite oral intake, and b) use of hydration to extend life is consistent with the patients' goals (see *Fast Facts #133, 134*).

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