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## FAST FACTS AND CONCEPTS #45

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### Background

Malignant bowel obstruction is a common oncologic complication; most common in ovarian and colon cancer. Symptoms include abdominal pain, colicky and/or continuous, as well as nausea and vomiting. 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). The need to rely solely on medical management is common, especially when the patient's functional status is poor and expected survival is short. In the past 15 years there has been significant advances in the medical management of this problem, so that virtually all patients can avoid dying with the traditional approach of intravenous fluids and nasogastric tubes ("drip and suck"). The cornerstone of treatment is drug therapy.

### 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 mg/hr IV/SQ continuous infusion) or transdermally (10 mcg/hr). Scopolamine is only available in the US as the hydrobromide salt; this penetrates the CNS, with the attendant potential for significant side effects such as delirium. An alternative agent is 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).

A recent advance is to use somatostatin analogs, which lack the adverse effects of antimuscarinic agents. Somatostatin inhibits secretion of GH, TSH, ACTH and prolactin, and decreases the release of gastrin, CCK, insulin, glucagon, gastric acid and pancreatic enzymes. It also inhibits 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. 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 controlled on a stable dose.

### 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. Corticosteroids have been recommended to decrease the inflammatory response and resultant edema, as well as relieve nausea, through both central and peripheral antiemetic effects.

### Care Plan

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 100cc/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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