Intestinal obstruction is a common complication in terminal cancer patients. It often signifies a short survival time and distressing gastrointestinal symptoms. Although most cases are inoperable, advances in medical treatment and endoscopic intervention relieve patients’ symptoms in end of life. Meanwhile, reversible causes and alternative diagnoses should also be borne in mind.

CASE ONE

Presentation:
A 61-year-old housewife initially presented as change in bowel habit for two months. Investigations confirmed Stage IV carcinoma of the colon at hepatic flexure with peritoneal and liver metastases. Palliative ileo-transverse bypass was done, followed by adjuvant chemotherapy, which was stopped later due to disease progression. She was admitted this time for malignant intestinal obstruction due to carcinomatosis. She was managed conservatively and then was transferred to palliative care unit.

Upon arrival to our unit she still had intractable vomiting. She was put on subcutaneous haloperidol and hyoscine butylbromide initially. She was unable to tolerate oral feeding until subcutaneous dexamethasone was added. Thereafter she was able to attend the physiotherapy and occupational therapy to improve her functional status.

Social issue
The patient was a housewife, living with her husband (a retired cook) and 2 sons of their late twenties in a private apartment. She became homebound since the diagnosis of the cancer. She was filled with anger at her fate, feeling that she worked so hard to combat against the cancer, and she still suffered. Her perfectionist personality gave her determination to fight the disease, although she understood that her prognosis was poor. At the same time, she did not want to suffer and agreed comfort care in the end of her life. Her husband and children had the same opinion.

Progress
The patient’s condition deteriorated two weeks later. In fact the distressing nausea and vomiting caused much psychological burden to patient. She was depressed, feeling herself useless. She vented her anger towards her family and medical staff. Clinical psychologist service was offered to her, but her vomiting was so severe that she was unable to attend the counseling sessions. Chaplain gave her spiritual support by bedside daily and prayed with her. Even the subcutaneous octreotide 600mcg/day was unsuccessful in controlling her symptoms. She refused nasogastric tube insertion. And she continued suffering.

Later subcutaneous morphine 10mg/day together with midazolam 2.5mg/day were added. Her symptoms finally became less disturbing: she felt less nauseated and so was able to attend the activities offered by the palliative care unit. Her mood was improved, and was very thankful to her family and medical staff’s support. Finally she passed away peacefully two weeks later.

Discussion
Malignant intestinal obstruction is common in patients especially those with abdominal and pelvic cancer. Up to 24% terminal colorectal cancer patients experienced malignant intestinal obstruction. The obstruction leads to increased distension of the bowel, which in turn triggers series of inflammatory response and hence a further increase in secretion and distension.

Surgical management may be a possible treatment option after considering the site of obstruction, life expectancy, operation mortality and quality of life. Depending on the obstruction level, bypass procedures or diverting colostomy was performed in colorectal cancer. Bypass usually is considered as the first line as no stoma
is needed. In this patient, she initially presented as obstructing symptoms due to the tumor at the hepatic flexure. Therefore ileo-transverse bypass was done.

The use of self-expanding metallic stents (SEMS) may be useful for those at high surgical risk. They are suitable for single level of gastric outlet obstruction and large bowel obstruction and relatively contraindicated in multiple obstructive levels and peritoneal carcinomatosis, as in our first case. SEMS are placed by gastroenterologists under endoscopic guidance with aid of fluoroscopy or by interventional radiologists using fluoroscopic guidance alone. Covered stents have a membrane to prevent tumor growth through the mesh wall but it has higher chance of migration if they are not fully embedded into the tumor. Uncovered stents are made of woven, braided mesh, thus permit good anchoring. However it permits tumor ingrowths through the interslices and higher chance of bowel perforation and bleeding.2-3

Tilney and colleagues conducted a meta-analysis on 10 studies (between 1990 and 2005, including two randomized-controlled trials) comparing colonic stenting and open surgery for malignant intestinal obstruction. A total of 451 patients were included. The authors found the technical success rate of SEMS insertion was 92.6% (ranging from 88% to 100% on different studies). Mortality was 5.7%, compared with 12.1% in the group treated by emergency surgery.4 In the SEMS group, the length of hospital stay was 8 days shorter, with lower mortality (OR = 0.48) and complications rate (OR = 0.22) and long-term stoma rate (OR = 0.01).4

Most advanced gastrointestinal cancers causing obstruction are inoperable. And the SEMS insertion depends on the availability of expertise in each hospital. Medical treatment remains the major modality for relieving symptoms in malignant intestinal obstruction. The anti-cholinergics and antiemetics have been used together for decreasing gastrointestinal secretion and inhibiting bowel wall motion. The common examples are hyoscine butylbromide and hyoscine hydrobromide, haloperidol and cyclizine.

Somatostatin analogs such as octreotide are increasingly used to control symptoms in inoperable malignant intestinal obstruction. They reduce gastric and intestinal secretion and bile flow5. Several studies (including multicentred randomized trials) confirmed the superiority of somatostatin analogues than the anti-cholinergics6-9. However the cost of the somatostatin analogues is a major constraint.

Corticosteroids also are used to reduce inflammatory edema and decrease water and salt secretion in bowel. They are relatively inexpensive and well tolerated. Lavel and colleagues’ double blinded randomized control trial on 58 patients showed 68% response rate in resolving bowel obstruction in corticosteroid arm, compared with 33% only on placebo arm. But there is so far no studies directly comparing corticosteroids with somatostatin analogues.5-10

Lavel et al suggested a protocol for medical treatment of malignant intestinal obstruction. A three-staged management was recommended. First line involves steroids, antiemetics, anti-cholinergics, analgesics and parental rehydration. If it fails, somatostatin analogues supersede steroid and anti-cholinergics. Octreotide 600mcg/day was started as the initial dose, it was continued as long as the symptoms are present, at the smallest effective dose. When the second stage (use of somatostatin analogues) fails to relieve symptoms, patients were offered venting gastrostomy as a last resort. They applied this protocol to 80 cases, 50 of which had successful outcome in the first line management, and overall 61 cases (76%) in total had symptoms relief via medical treatment.11

Last but not the least physicians should not neglect patient’s psychological concern. Intractable vomiting and nausea causes physical and psychological stress to patients. It destroys patients’ dignity. In this case, our patient had much negative thoughts when facing the distressing symptoms. Psychological and spiritual support can be a good “antiemetic”; they played an important role in treating the patient.

CASE TWO

Presentation

A 48-year-old lady with terminal Ca ovary with extensive peritoneal metastasis was admitted for renal failure due to bilateral ureteric obstruction. Her renal function returned to her baseline after bilateral percutaneous nephrostomy. She was
then transferred to our palliative care unit. She developed severe nausea and vomiting upon transferral. Physical examination was unremarkable except a mildly distended abdomen. The AXR however showed extremely fecal-loaded bowels. On direct questioning she revealed no bowel opening for 2 weeks.

**Treatment**

Subcutaneous Haloperidol 3mg/day was given for controlling nausea. Digital evacuation was done twice. High dose laxatives, daily bisacodyl suppositories and fleet enema were given, aiming to keep bowel opening at least once daily. Five days later, subcutaneous haloperidol was stepped down to oral and then weaned off successfully. The patient’s nausea subsided completely and she was able to participate in the rehabilitation programme.

**CASE THREE**

**Presentation**

A 57-year-old housewife, with stage IV Ca colon, was clinically admitted for whole brain radiotherapy for the brain metastasis. She developed severe vomiting up to 10 times daily after admission. Her abdomen was slightly distended. Bowel sound was absent. PR revealed an empty rectum. Her AXR showed dilated bowels.

**Treatment**

Paralytic ileus was diagnosed. She was kept nil by mouth, given intravenous fluid support. Domperidone 20mg tds was given to improve bowel motility. Bowel sounds appeared one day later. She was able to wean off domperidone and finally normal diet was resumed.

**Conclusion**

The above three cases illustrate the common gastrointestinal problems in terminal cancer patients. All of them present as nausea, vomiting and a distended abdomen. Yet the management is totally different in each case. Malignant intestinal obstruction is a difficult symptom though can be palliated, while full attention should be paid to its accompanying distress and indignity.

**Reference**