Lessons from Practice

Small bowel carcinoma: an elusive diagnosis

Clinical records

**Patient 1**
A 77-year-old woman was referred to us for an urgent surgical opinion regarding an abdominal mass.

Fifteen months previously, she had been referred to a major metropolitan hospital with symptomatic iron deficiency anaemia, and weight loss of 5 kg in 6 months. Gastroscopy, colonoscopy and abdominal CT scan were unremarkable. There were no clinical features to suggest malabsorption, nutritional deficiency or inflammatory bowel disease.

A diagnosis of angiodysplasia was considered, although there was no direct evidence of this. The patient received a 5-unit blood transfusion and iron supplements. During the 7 months after initial presentation, she was seen in medical outpatient clinics six times. Over the next 8 months, she was admitted six times, transfused 13 units of red cells, and given two iron infusions. A labelled red cell scan showed no gastrointestinal bleeding. An abdominal ultrasound was unremarkable. Results of investigations for coeliac disease and pernicious anaemia were normal. A bone marrow biopsy was consistent with iron deficiency anaemia. On one occasion, the admitting registrar considered a small bowel follow-through, but this was not performed. Paroxysmal nocturnal haemoglobinuria was excluded. During the last of these admissions, a firm abdominal mass was palpated. A computed tomography (CT) scan revealed an 8 cm heterogeneously enhancing soft tissue mass in the proximal jejunum. Lymphoma was considered the most likely diagnosis, and the patient was referred to our department.

Push enteroscopy revealed an ulcerated adenocarcinoma in the proximal jejunum (A).

A 10 cm, poorly differentiated jejunal adenocarcinoma was resected. Eleven months after surgery, the patient has shown no further symptoms of anaemia, and no evidence of recurrence.

**Patient 2**
A 68-year-old man was admitted to our department for laparotomy for a small bowel tumour.

The patient had a past history of an open cholecystectomy. Twenty-eight months before admission, he had been referred to a gastroenterologist with symptoms of gastro-oesophageal reflux disease; he underwent gastroscopy, which showed reflux oesophagitis, and was treated with proton pump inhibitors. Eleven months later, he was referred to a gastroenterologist again with persistent symptoms. He was seen several times in the next 9 months, and was then admitted to a general surgical service of a metropolitan hospital with abdominal pain. A provisional diagnosis of small bowel obstruction was made, and the patient was discharged the following day once his pain had settled. Twice during the next 5 months, he presented to the emergency department with abdominal pain, nausea and vomiting. His symptoms settled with analgesia and fluids. Persistent retrosternal pain had not been helped by a variety of H₂ antagonists, proton pump inhibitors or prokinetic agents. He was admitted to our surgical service after presenting on two successive days with severe epigastric pain.

Upper gastrointestinal endoscopy showed severe reflux oesophagitis. The first and second parts of the duodenum were normal. Abdominal CT showed a circumferential mass in the proximal jejunum with dilatation of proximal bowel (B). Small bowel follow-through then showed an annular, stenosing lesion in the region of the duodenojejunal flexure.

At laparotomy, a localised adenocarcinoma was resected (C). The patient had adjuvant chemotherapy and 12 months after surgery was asymptomatic, taking no medication, and had no evidence of recurrence.

Small bowel carcinoma is rare compared with gastric and colorectal cancer. Fifty-eight cases were reported in Victoria in 2001. Although the small bowel comprises 75% of the gastrointestinal tract length, less than 2% of gastrointestinal malignancies arise there. Adenocarcinoma accounts for 40% of small bowel malignancies; others include carcinoids, lymphomas and gastrointestinal stromal tumours, as well as metastases from melanoma, breast, lung and renal cancer.
Lessons from practice

- Small bowel malignancy should be considered in cases of unexplained gastrointestinal bleeding, anaemia or obscure abdominal symptoms.
- Abdominal computed tomography scan and small bowel barium studies are minimum requirements for investigation, but have limited sensitivity.
- Capsule enteroscopy appears to be more accurate than barium studies and may have an increasing role in these cases as it becomes available.

...available, and further trials are required before its role is defined. It is contraindicated when small bowel strictures are suspected, so should be preceded by small bowel follow-through in these cases. Early studies show that it is more accurate than small bowel follow-through, so, when there is a strong clinical suspicion of small bowel pathology, patients should be referred to a specialist centre. Occasionally, exploratory surgery is appropriate, particularly when anaemia and abdominal pain coexist and the results of all other investigations have been negative.

Conclusion

This report highlights the difficulties in diagnosing small bowel tumours. The diagnosis requires a high index of suspicion and early investigation. Iron deficiency anaemia in an older patient with normal results of endoscopic studies is not an uncommon clinical scenario. Small bowel malignancy should be considered when more common causes have been excluded, especially if there are general features suggestive of malignancy, such as anorexia, abdominal pain or weight loss. Abdominal CT scan coupled with small bowel follow-through is the minimum requirement. If this is negative, further investigation in a specialist centre should be considered.