CASE REPORT

Adenocarcinoma of the duodenojejunal flexure presenting as a stricturous lesion

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SUMMARY

A 50-year-old woman was referred with a colicky upper abdominal pain of 3 months duration. She experienced an increase in pain 2 weeks prior to presentation. This was associated with bilious vomiting about 5–6 times/day with no change in bowel habits. She had no history of any abdominal pathology. A review of systems showed she had a weight loss of 20 kg over a period of 4 months with recent onset of loss of appetite. Physical examination revealed a soft distended upper abdomen with non-radiating pain in the epigastrium. CT of the abdomen showed a heterogeneously enhancing stricturous growth in the proximal part of the jejunum with gross dilation of the stomach and duodenum. She underwent resection and anastomosis of the proximal jejunum. Histopathology revealed the lesion to be an adenocarcinoma.

BACKGROUND

The small intestine comprises of almost 90% of the surface area of the gastrointestinal (GI) tract but malignancies of this organ are rare. The biggest challenge for diagnosis of these tumours lies in the insidious onset and vague presenting symptoms. GI endoscopy can be useful in evaluating regions up to the second part of the duodenum. It is pertinent to be aware of malignancies beyond duodenojejunal (DJ) flexure and investigate these patients with CT and enteroscopy. Surgical resection is the only curative option for management currently, hence early detection is vital.

CASE PRESENTATION

A 50-year-old woman was referred to our emergency department with a colicky upper abdominal pain of 3 months duration. She experienced an increase in pain 2 weeks prior to presentation. This was associated with bilious vomiting about 5–6 times/day with no bowel symptoms; a nasogastric tube was placed for this. A review of systems showed she had a weight loss of 20 kg over a period of 4 months with loss of appetite. Physical examination revealed a soft distended upper abdomen with a painful epigastrium. Her bowel sounds were present and a succussion splash could not be elicited; nonetheless a preliminary diagnosis of gastric outflow obstruction was performed.

INVESTIGATIONS

Haemoglobin 11 g/L, total counts 9000/m³, platelet 149 × 10⁹/L.

Serum sodium 129 mEq/L, potassium 3.3 mEq/L —slightly decreased.

Serum biochemistry: urea 58 mg/dL, creatine 1.4 mg/dL. Liver function was also normal (total bilirubin 1.0 mg/dL, direct bilirubin 0.2 mg/dL, aspartate aminotransferase 114 U/L, alanine transaminase 104 U/L, alkaline phosphatase 160 U/L, amylase 34 U/L, lipase 15 U/L).

X-ray of the abdomen showed a dilated air-filled stomach and duodenum.

Ultrasonography showed a dilated stomach with food residue and a collapsed small bowel.

CT of the abdomen showed a heterogeneously enhancing stricturous lesion in the proximal part of the jejunum with gross dilation of the stomach and duodenum (figures 1 and 2).

Upper GI endoscopy showed a dilated stomach and duodenum. The scope could not be passed till the lesion.

Histopathology was reported as moderately differentiated adenocarcinoma with nodal involvement. Both the resected margins were free of tumour (figure 3).

DIFFERENTIAL DIAGNOSIS

- ▶ Gastric outlet obstruction secondary to malignancy/lymphoma.
- ▶ Superior mesenteric artery syndrome (Wilkes syndrome).

Figure 1 CT scan showing dilated stomach and duodenum with stricturous growth at duodenojejunal flexure.

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Figure 2 Coronal section of CT of the abdomen showing the growth.

TREATMENT

Intraoperatively a circumferential narrowing was seen at the DJ flexure with gross dilation of the stomach and duodenum with collapsed distal small bowel (figure 4), which appeared as a high proximal jejunal growth on CT. A 5 cm tumour free margin was resected on either side. Mesenteric lymph nodes (in total 7) were present in the specimen and were free of tumour. The dilated duodenum was closed with a linear stapler and a hand sewn end to side anastomosis was performed between the duodenum and jejunum. An end to end anastomosis between the dilated duodenum and a collapsed jejunum was difficult owing to the disparity of the bowel. Hence an end to side anastomosis was preferred. The option of using a linear stapler for side-to-side anastomosis was not considered as it would have added to the overall cost of the surgery.

OUTCOME AND FOLLOW-UP

The postoperative period was uneventful and the patient was discharged after suture removal. She was advised to follow in oncology department for adjuvant chemotherapy.

DISCUSSION

The small intestine comprises of almost 90% of the surface area of the GI tract but malignancies of this organ are rare, making

Figure 3 Histopathology showing a tumour composed of infiltrating nests and malignant glands lined by malignant cells with abundant vacuolated cytoplasm and hyperchromatic nuclei suggestive of moderately differentiated adenocarcinoma.

Figure 4 Intraoperatively a circumferential narrowing was seen at the duodenojejunal flexure.

up only 2% of all GI cancers.¹ Benign varieties include haemangiomas, lipomas and hamartomas (Peutz-Jeghers syndrome). Malignancies of the small intestine include adenocarcinomas, GI stromal tumours/sarcomas, carcinoid tumours and lymphomas. In India the incidences of small intestinal cancers are extremely rare and even in this entity lymphomas occur more than any other type of malignancy. The average age of presentation of small intestinal tumours is 59.5 years.² No absolute gender preference has been observed as yet; however, the Surveillance, Epidemiology and End Results (SEER) programme has reported men to be more likely to develop the malignant varieties.³

About 40% of small bowel tumours are adenocarcinomas with almost half occurring in the duodenum, 30% in the jejunum and about 10% in the ileum.¹ Risk factors for the development of these tumours include familial adenomatous polyposis (hence they share some similarities with colonic adenocarcinomas), Gardners and Turcot's syndrome, Crohn's disease, coeliac disease, Lynch syndrome, etc.⁴

The biggest challenge for diagnosis of these tumours lies in the insidious onset and vague presenting symptoms. Patients often present with vague abdominal tenderness and sometimes with obstructive symptoms. Adenocarcinomas, however, in general can cause crampy pains⁵ (similar to those our patient experienced) which can be attributed to partial obstruction. The investigation of choice when presented with any upper abdominal pathology is an upper GI endoscopy. This can be useful when evaluating regions up to the second part of the duodenum. To assess the distal parts of the small intestine an enteroscopy, enteroclysis, capsule endoscopy or the newer method of double balloon enteroscopy can be used.⁵ An abdominal CT can confirm the extent of the tumour and its suitability for resection. The American Joint Committee on Cancer has provided a useful tumour, node, metastasis staging system to classify these tumours.⁶

Surgical resection is the only curative option for management of small intestinal tumours and is decided on by the location and histology of the tumour. Recent advances have led to endoscopic resections being effective in treating benign lesions.⁷ Bleeding from such lesions can be controlled by endoscopic fibrin glue application, an innovative new technique.⁷ A laparoscopic or laparoscopic-endoscopic combined approach has also been promising so far. Ultrasonic shears, staplers and intracorporeal sutures are some of the other newer techniques being trialled.⁸

Malignant high periampullary tumours, however, still have to rely on a pancreatoduodenectomy.⁷

However, as in this case, distal duodenal and proximal jejunal tumours near or involving the angle of Treitz require DJ segmentectomy with lymph node dissection.⁴ Nodal metastasis indicates a poorer prognosis with 3-year and 5-year survival rates being 35% and 22%, respectively.⁹ Adjuvant chemotherapy has not yet been identified to play a massive role in improving the postoperative prognosis and some studies report no reduction in the rate of tumour recurrence with its use.¹⁰

Learning points

- ▶ Adenocarcinomas constitute about 40% of small bowel tumours, with almost half occurring in the duodenum, 30% in the jejunum and about 10% in the ileum.
- ▶ They often present with vague abdominal tenderness and sometimes with obstructive symptoms.
- ▶ CT of the abdomen is the investigation of choice.
- ▶ Surgical resection is the only curative option for management.

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Competing interests None.

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