Gastrocolic fistula: a rare complication of gastric carcinoma

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ABSTRACT

Malignant gastrocolic fistula formation is a rare complication of gastric carcinoma. We report a cachectic 82-year-old woman who presented with upper abdominal pain, diarrhoea, loss of weight and loss of appetite. Further investigation of her symptoms revealed a gastrocolic fistula connecting the ulcerated tumour of the body of the stomach to the splenic flexure of the colon.

Keywords: gastric carcinoma, gastrocolic fistula

Singapore Med J 2009;50(8):e274-e276

INTRODUCTION

Gastrocolic fistula can be caused by both benign conditions (e.g. peptic ulcer disease, perforated diverticulum, post-gastroenterotomy, percutaneous endoscopic gastrostomy (PEG) tube insertion and Crohn's disease), and malignant conditions (e.g. malignancies of the stomach or colon). It is very rarely caused by gastric carcinoma. It occurs when the tumour erodes into the colon adjacent to it. The patient usually presents with weight loss, faeculent vomiting and diarrhoea.[1] We present a patient with gastric carcinoma complicated by gastrocolic fistula.

CASE REPORT

An 82-year-old woman, who denied any past medical history, was admitted to the hospital with a ten-day history of upper abdominal pain and change in bowel habits to watery diarrhoea, accompanied by loss of weight and appetite. She appeared pale and cachectic. Physical examination revealed vague left hypochondrium fullness with mild tenderness. Perrectal examination showed brown-stained stools. The laboratory investigations on admission showed iron deficiency anaemia with haemoglobin of 7.3 g/dL, mean corpuscular volume 63 fL, mean corpuscular haemoglobin 17.6 pg, iron < 4 µmol/L and hypoalbuminaemia with serum albumin 13 g/L. She was transfused with two units of red blood cells, which improved the haemoglobin to 11.2 g/dL. Further investigations of her symptoms were carried out.

Computed tomography (CT) showed a diffuse-enhancing thickening of the fundus and the body of the stomach, confirming linitis plastica. There was a loss of fat plane between the lesion and the splenic flexure of the colon, which could represent invasion (Figs. 1a & b). Multiple perigastric lymph nodes and mild ascites were seen. Gastroscopy revealed faecal matter upon entry into

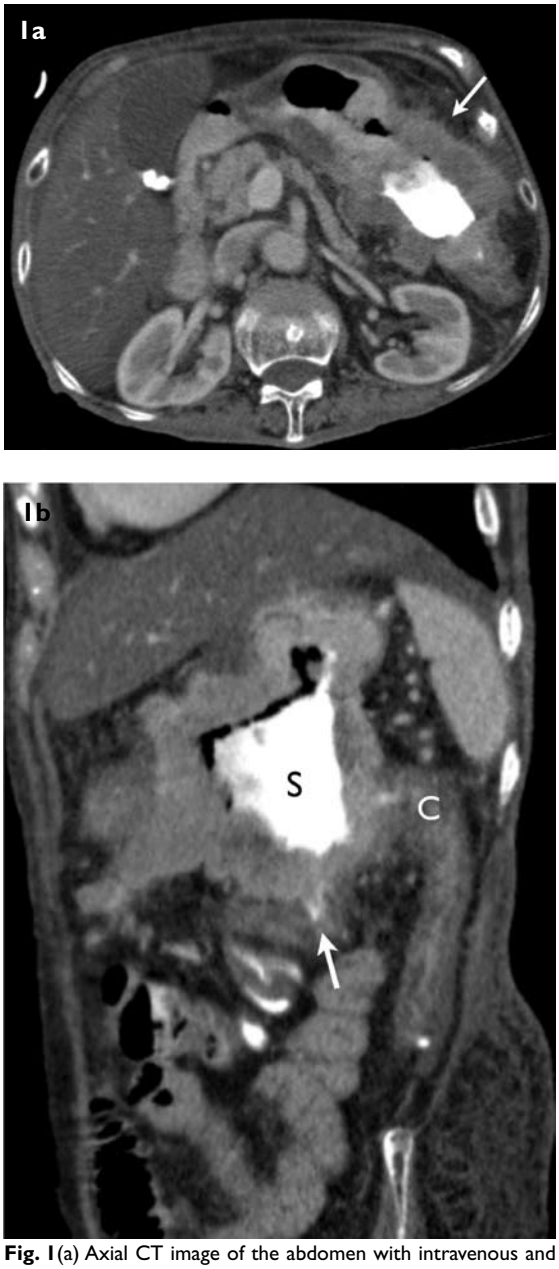

Fig. 1 (a) Axial CT image of the abdomen with intravenous and oral contrast shows linitis plastica. The stomach is diffusely thickened by an infiltrative mass (arrow). (b) Curved-planar reconstructed CT image shows the infiltrative mass in the stomach involving the splenic flexure. There is a trickle of contrast in the gastrocolic fistula (arrow) between the stomach (S) and the colon (C).

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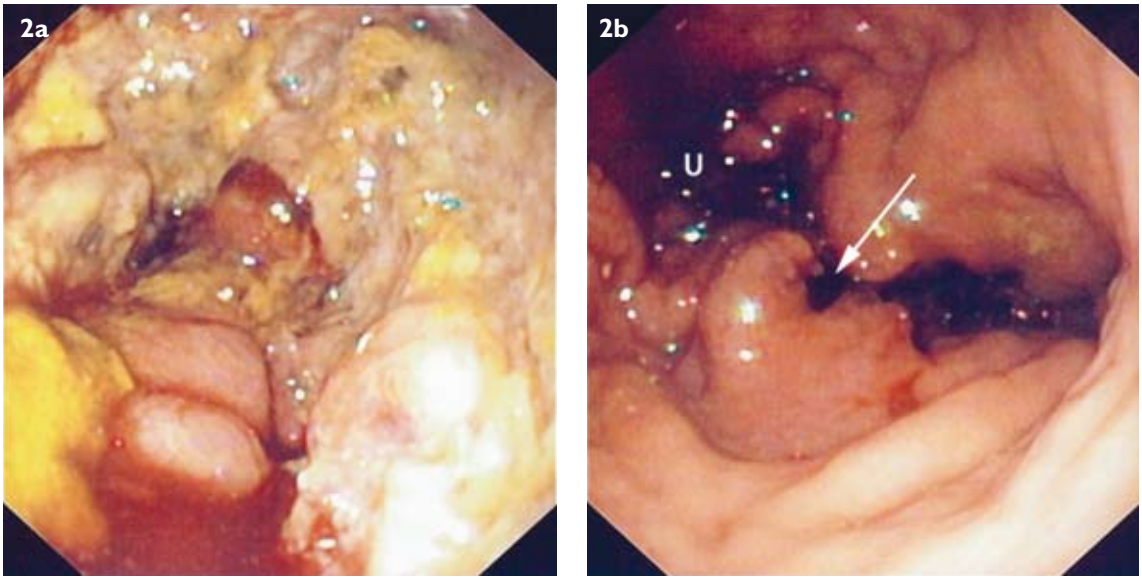

Fig. 2 Gastroscopy shows (a) the presence of faecal matter upon entry into the stomach; (b) a large ulcerated tumour (U) at the body of the stomach with the fistula opening (arrow) at the base of the tumour.

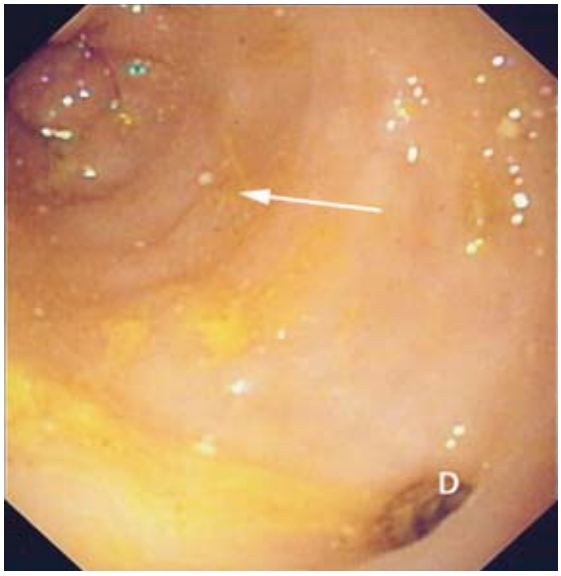

Fig. 3 Gastroscopy shows the presence of the colonic folds (arrow) and diverticula (D), confirming gastrocolic fistula leading into the colon.

the stomach. There was a large ulcerated tumour at the body of the stomach (Figs. 2a & b), extending proximally to the cardia. There was also a fistulous opening at the ulcerated tumour that led into the colon, which was confirmed with the presence of colonic folds, diverticula (Fig. 3) and faecal matter. The scope was able to pass through the tumour into the pylorus and duodenum with no difficulty. Biopsies of the ulcerated tumour were taken.

Water-soluble contrast swallow showed that the stomach is markedly thickened with extensive mucosal irregularity, in keeping with linitis plastica from carcinoma of the stomach (Fig. 4a). It also confirmed a gastrocolic fistula between the body of the stomach and the splenic flexure of the colon (Fig. 4b), with no free peritoneal spillage of contrast; however, there was still passage of contrast into the duodenum. Histopathology of the biopsy showed a poorly-differentiated gastric carcinoma. Our patient opted for conservative management after the diagnosis was revealed to her.

DISCUSSION

Gastrocolic fistula secondary to gastric carcinoma is very rare. In a review of 1,500 cases of cancer of the stomach and 3,200 cases of carcinoma in the colon, only 11 cases of gastrocolic fistula were found, of which only one case was caused by gastric carcinoma.[2] Its rarity could possibly be due to earlier diagnosis of carcinomas. The widespread use of non-steroidal anti-inflammatory drugs and aspirin accounts for benign gastric ulcer being the most common cause of gastrocolic fistula formation for the last decade.[3,4] Other causes of gastrocolic fistula have been reported. They include perforated diverticulum, perforated appendix, pancreatic abscess, inadequate gastric resection or incomplete vagotomy for peptic ulcer disease, Crohn's disease and PEG tube insertion.[5-9]

The mechanism of a gastrocolic fistula formation originating from a carcinoma is caused by the infiltration of tumour from the serosa of one viscus into the wall of another viscus, followed by the lumen to lumen necrosis.[10] This communication in the alimentary tract can become a devastating syndrome, manifested as weight loss, anaemia and severe diarrhoea with faeculent vomiting.[5] It is postulated that the acidic gastric content flows directly down to the colon and irritates the bowel mucosa,

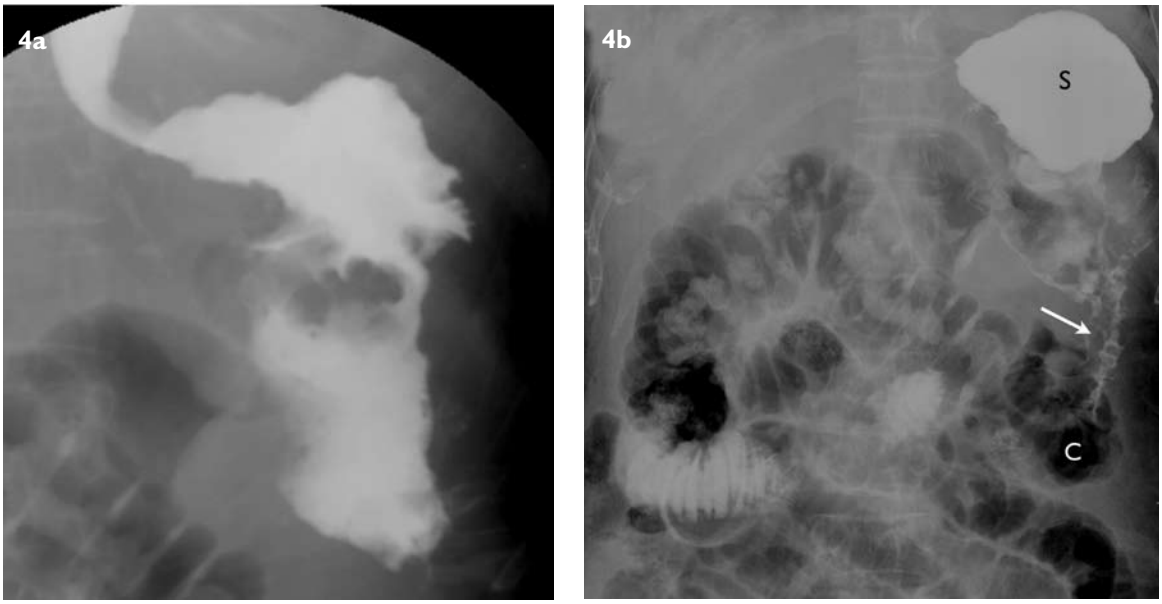

Fig. 4 (a) Supine single-contrast barium meal image shows an irregularly-thickened and rigid stomach. (b) Barium meal image shows a gastrocolic fistula (arrow) between the stomach (S) and the splenic flexure of the colon (C). There is still contrast flowing into the duodenum.

causing the diarrhoea. Faeculent vomiting develops after regurgitation of the colonic contents through the fistula into the stomach. The presence of faeculent vomiting is clinically diagnostic of gastrocolic fistula, but it occurs in only 30% of the patients.[2] There was no faeculent vomiting in our patient, but faecal matter was present upon endoscopy examination.

There are various ways to diagnose a gastrocolic fistula. They include CT, upper gastrointestinal series, contrast enema and endoscopy. Of all the methods, endoscopy allows a direct visualisation of the fistula and allows the biopsy to further clarify the nature of this communication. However, a small and narrow fistula can be missed if it is hidden between the gastric folds.[11] Our patient had a CT that showed the loss of a plane between the stomach and the splenic flexure that could account for a tumour invasion. However, the gastroscopy confirmed that the fistula led into the colon, and the water-soluble contrast swallow further demonstrated a flow of contrast from the body of the stomach into the splenic flexure of the colon.

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