Gastrocolic Fistula: A Rare Complication of Carcinoma Stomach: A Case Report

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Received: 23 October 2012 / Accepted: 21 April 2013 / Published online: 1 May 2013
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Introduction

The development of fistula between segments of the gastrointestinal tract is a rare occurrence in malignant disease. Gastrocolic fistula can be caused by both benign and malignant conditions. Malignant gastrocolic fistula is most commonly associated with adenocarcinoma of the transverse colon [1]. It occurs when the tumour erodes into the adjacent viscera. Usually the patient presents with weight loss, faeculent vomiting and diarrhoea [1]. But in our case there is no history of *diarrhoea*. We are reporting a case of gastric carcinoma complicated by gastrocolic fistula.

Case Report

A 45 years old man was admitted to our hospital with chief complaints of epigastric pain, fecal halitosis, associated with loss of weight and appetite. He denied any past medical history related to carcinoma stomach. He appeared pale and cachectic. On physical examination mild tenderness over epigastric region, per rectal examination showed brown stained stool. On laboratory investigations, hemoglobin was 8g %, hematocrit 30 %, serum urea and creatinine is normal, rest of the blood parameters are almost within normal limits.

After two units of blood transfusion, patient had undergone Upper Gastrointestinal (GI) Endoscopy, which revealed a normal fundus with large, deep ulcerated growth over the body of stomach with a fistula through which air was coming out & faecal matter was seen within it (Fig. 1). Biopsy was taken from the lesion (it was ADENOCARCINOMA of stomach).

Colonoscopy revealed a mid transverse fistulus communication with stomach (Fig. 2a and b). The scope could be negotiated through the fistula in mid transverse colon into stomach. No lumen is seen on further advancement into stomach. Biopsy was taken from fistulus communication area (adenocarcinoma of stomach).

Computed tomography (CT) showed a diffuse enhancing thickening of both stomach and communicating colonic wall. Outline of stomach was grossly distorted which indicates carcinoma stomach. Contrast media was present in both stomach and colonic lumen through the fistula (Fig. 3a & b).

After two weeks, a barium enema was done, it revealed:

- A persistent irregular narrowing (**apple core type**) was seen at the level of splenic flexure of the large bowel.
- Evidence of contrast entering into the stomach from splenic flexure was noted. (Fig. 4)

Finally, histopathology report of the biopsy showed a poorly differentiated gastric carcinoma.

The patient was prepared for operation, but on table it was found that stomach was grossly tethered to left dome of diaphragm. In view of inoperability of the tumour a feeding jejunostomy was done. To prevent halitosis in the proximal stomach both anterior and

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Fig. 1 Upper GI endoscopy shows the presence of fecal matter upon entry into stomach, at the body of the stomach with fistula opening (arrow) at the base of the tumour

posterior stomach wall is apposed by hand sewn technique.

Discussion

The fistulous connection in a gastrocolic fistula usually arises between the greater curvature of stomach and the distal half of the transverse colon because of their close anatomical proximity separated only by the gastrocolic omentum [2]. Gastrocolic fistula can occur in a variety of benign and malignant conditions. Earlier, adenocarcinoma of the colon and stomach were reported to be the most common cause of gastrocolic fistula [3]. The wide spread use of non-steroidal anti-inflammatory drugs and aspirin accounts for benign gastric ulcer, being the most common cause of gastrocolic fistula formation in the last decade [4, 5]. A variety of other causes of gastrocolic fistula have

been reported, these include syphilis, tuberculosis, abdominal trauma, crohn's disease, cytomegalovirus gastric infection in AIDS patient and percutaneous endoscopic gastrostomy (PEG) tubes [2, 6–8]. Gastrocolic fistula secondary to gastric carcinoma is very rare possibly be due to earlier diagnosis of carcinomas.

There are two theories for the development of a fistula: the tumour may invade directly across the gastrocolic omentum from the originating organ or alternatively, a ulcer may provoke a surrounding inflammatory peritoneal reaction leading to the adherence and fistulation between the two organs. Malignant gastrocolic fistula is usually characterized by the presence of large infiltrative tumours with surrounding inflammatory reaction [1, 2]. This communication in the alimentary tract can be manifested as weight loss, anaemia, and severe diarrhoea with faeculent vomiting [9]. It is postulated that the acidic gastric content flows directly down to the colon and irritates the bowel mucosa, causing diarrhea. 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 patient [2]. There was no faeculent vomiting and diarrhea in our patient. But faecal halitosis was present.

Various methods to diagnose a gastrocolic fistula, includes CT scan, upper gastrointestinal endoscopy, contrast enema, colonoscopy. Endoscopy allows a direct visualization 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 [10]. Our patient had a CT scan that showed the loss of a plane between the stomach and the splenic flexure that could account for a tumour invasion. However, the endoscopy confirmed that the fistula is communicating into the colon.

Fig. 2 Colonoscopy shows (2a) fistula with colonic folds, (2b) stomach part (arrow) from the fistulus tract

Fig. 3 Axial CT scan abdomen with oral contrast shows, (3a) diffusely thickened wall of both stomach (W) & colon (w), (3b) fistulus tract (arrow) connecting the stomach (S) and colon (C). Liver (L), Contrast media (CM), fistula (F)

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Fig. 4 Barium enema image shows an irregular-thickened stomach (S), a gastrocolic fistula (arrow) between the stomach (S) and the splenic flexure of the colon (C). Descending colon (DC)