GASTROJEJUNOCOLIC FISTULA IN A 49 YEAR-OLD MALE

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Gastrojejunocolic fistula is an unusual finding in patients with colon neoplasms because long evolution time is required for its appearance. The methods of diagnosis have been and continue under discussion, being the barium enema the most accepted nowadays. Gastrocolic fistula is characterized by a declining incidence due to the new methods of diagnosis. An early detection of the tumour is completely necessary to prevent complications like fistulas or malnutrition.

We present a case report of gastrojejunocolic fistula in a 49 year-old patient with colon carcinoma.

Key words: gastrojejunocolic fistula, gastrocolic fistula, colon carcinoma, colon neoplasm, fistula

A fistula between stomach, colon and jejunum is a rare and late complication in the evolution of a colon or gastric cancer. Most of these fistulas are caused by benign illnesses (e.g. Crohn’s disease, peptic ulcer disease, pancreatic abscess, percutaneous endoscopic gastrostomy, perforated diverticulum, etc.) (1, 2). Its incidence is 0.3 to 0.4 per cent (3).

The fistula arises from extension of the tumor from the colon serosa, in our case, to the gastric and jejunum serosa, followed by intratumoral necrosis that communicates lumen-to-lumen (6, 7).

Tavenor et al. (6) reviewed the classical symptoms and included diarrhoea (67%), upper abdominal pain (67%), weight loss (47%), feculent vomiting (40%) and bleeding (20%) as the most frequent (8).

The methods of diagnosis include endoscopy, barium enema and Computerized Tomography (CT), although the use of the latter is under discussion (9).

Two different options for the treatment of gastrocolic fistula caused by a malignant illness can be found in literature. Conservative treatment is a palliative solution, but only the surgical procedure is a definitive treatment (2). Even though the surgical management has changed over the years, the most widely accepted approach is nowadays one-stage en-bloc resection.

CASE REPORT

A 49-year-old male patient was admitted to the hospital with abdominal pain and diarrhoea of two months duration; he had lost 7 kilograms of weight. At admission he presented with feculent vomiting. Until then, he had been healthy and he had not been taking any regular medication. He had no history of previous surgery. Laboratory analysis revealed anaemia with haemoglobin 7.5 g/dl, hematocrit 24.8%; white cell count 15.83 × 10⁹/l and tumour markers were not elevated.

Physical examination showed moderate pain in the left lower quadrant of the abdomen with increased bowel sounds. Gastroscopy and colonoscopy revealed the presence of a gastrocolic fistula (fig. 1). CT scan showed a heterogeneous mass in the right upper abdomen with a fistula located between the stomach and the transverse colon and another possible fistula communicating with the retroperitoneum (fig. 2).
The patient underwent elective surgical treatment. At laparotomy the splenic angle of the colon was found adherent to the first part of the jejunum and the stomach, which contained the fistula. A radical en-bloc resection was performed including subtotal gastrectomy, transverse colectomy, splenectomy and partial resection of the jejunum (fig. 3). Restoration of intestinal continuity was achieved with a Roux-en-Y, circular stapler gastro-yeyunal end-to-side anastomosis, and a colo-colic end-to-end anastomosis. The postoperative course was uneventful, and the patient was discharged on postoperative day 8.

Final pathologic findings of the resected specimen demonstrated a poorly differentiated adenocarcinoma of the colon, with a fistula between the stomach, the transverse colon and the jejunum. The tumour was classified as T4 N0 M0, and the patient was diagnosed with Stage IIB cancer according to the International Union Against Cancer classification. The patient is currently receiving adjuvant chemotherapy and has no complications.

DISCUSSION

Fistula formation between stomach and colon was first described by Haller in 1755 (10) but this finding is uncommon. In a review of 3200 cases (11) of carcinoma in the colon only 10 cases of fistula were reported, as described in the present case.

Besides the classical triad of symptoms associated with a gastrocolic fistula (abdominal pain, weight loss and feculent vomiting) we also found foul eructation, fatigue, occult blood in the stools, significant gastrointestinal bleeding, etc. (12)

Gastrocolic fistulas are associated with advanced neoplasms; this could be the reason for their low incidence, considering the current availability of methods for an early tumour diagnosis, before the fistula appears (13). In the past, the most common etiology was benign peptic ulcer (8, 9). However the introduction of proton pump inhibitors in the treatment of gastric ulcers has reduced their incidence rate and, therefore, their surgical treatment and complications (3, 4). In recent years, only a series of six cases has been published, by Aydin et al (5). Gastrocolic fistula was caused by colon carcinoma in four cases. Thus, it can be said that the malignant disease is at present the most common cause of gastrocolic and gastrojejuncolic fistulas.
Some authors suggest that there are not enough radiographic criteria for the differential diagnosis of gastrocolic fistula (14), agreeing the barium enema to be the most accurate method, with a success rate of 95-100% (2, 4, 14). Thoeny et al. (13) studied the differences between barium enema and endoscopy methods to detect a fistula, obtaining significantly worse results with the latter. The study consisted of 66 patients with gastrojejunocolic or gastrocolic fistulas. The success rate of the upper gastrointestinal series was only 27%, compared with 95% with barium enema. However endoscopic methods allow the biopsy and the visualization of the fistula (as long as it is developed enough) (5, 16) and the histological confirmation through by biopsy (principal method of malignant disease diagnosis) (5, 17). Moreover, a negative result of colonoscopy should not exclude the existence of a fistula (18).

CT is under controversial in the diagnosis of gastrocolic fistula but is a good method to value the assessing local invasion of the primary tumour and metastatic spread (19). However, some authors suggested that CT with contrast could be useful because it allows the determination and delineation of the communication between stomach and colon (8, 20, 21), as seen in this patient, who was diagnosed by double contrast CT without the need of a barium enema.

When it comes to treatment, it depends on the extension of the tumour and the general and physical conditions of the patient. Tumours are usually a bulky mass that infiltrates surrounding tissues (5) and sometimes the only treatment may be conservative due to the presence of this invasion or to a metastatic spread (7). Nonetheless, usually the patients are undergoing surgical treatment and some could benefit from prior rehydration and parenteral nutrition, because common laboratory findings indicate electrolyte imbalance and severe malnutrition.

Different surgical techniques have been performed over many years, ranging from a colostomy (as a palliative method) to two or three-stage surgical procedures, consisting of colostomy followed by resection of the tumour with the fistula and closure of the colostomy at same time or in a posterior procedure (2, 9, 22). Nevertheless most authors now prefer en-bloc resection and primary anastomosis, as was performed in this patient, because it provides the best hope of cure (23).

Gastrojejunocolic and gastrocolic fistulas are a rare and late complication secondary to colon carcinoma, thus early diagnosis of gastric or colon neoplasms can prevent the appearance of fistulas. The most accepted and valid method to discover this complication is barium enema, with a success rate around 95-100%.

Nowadays, as we did with our patient, most authors agree that after rehydration and parenteral nutrition, radical en-bloc resection can be curative and is the treatment of choice.

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