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Case Report

Malignant duodeno-colic fistula

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Abstract

Colo-duodenal fistula is a rare complication of gastro-intestinal malignancy and inflammatory bowel disease. The fistula often results in diarrhea and vomiting with dramatic weight loss. Vomiting may be feculent or truly fecal associated with foul smelling eructation. We present an unusual case of colonic carcinoma, where a 61-year-old female patient presented with pain abdomen and vomiting secondary to a malignant colo-duodenal fistula near the hepatic flexure. Ultrasonography showed a mass in the hepatic flexure area, and invasive adenocarcinoma was confirmed on histology from biopsy obtained during colonoscopy. Coloduodenal fistulae from colonic primaries are rare, but early diagnosis may allow curative surgery.

Key words

Adenocarcinoma colon, coloduodenal fistula, gastrointestinal fistula

Introduction

Patients with colorectal cancer usually present in the sixth to eight decade with symptoms such as change of bowel habit, bleeding per annum, passage of mucus and abdominal discomfort. Anorexia and weight loss may occur if the tumor mass is large or if it becomes disseminated.[1] We present an unusual case of colorectal carcinoma, where the patient presented with pain abdomen and vomiting secondary to a malignant colo-duodenal fistula near the hepatic flexure.

Case Report

A 61-year-old female presented to the hospital with 10 days history of pain in peri umbilical area that aggravated postprandially and was associated with vomiting. Vomiting consisted of partially digested food but occasionally it was feculent and associated with foul smelling eructations. There was no diarrhea or symptoms and signs of gastrointestinal blood loss. She also complained of anorexia. She was pale with a hemoglobin level of 6.0 g%. Her upper gastrointestinal endoscopy showed a deformed pyloroduodenal complex with a fistulous opening seen in the posterior wall of 1st part of the duodenum. Biopsy was taken from the lesion. Ultrasonography revealed a hypoechoic mass of diameter 5.5 cm in the hepatic flexure and proximal transverse colon region. There was no enlarged abdominal node or hepatic metastasis. Colonoscopy showed a concentric friable nodular growth around the hepatic flexure with considerable narrowing of lumen. Histopathology of endoscopic biopsy revealed moderately differentiated invasive adenocarcinoma of the colon. She was thereafter referred for surgery. However the patient was reluctant for surgery and lost to follow-up.

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Discussion

Despite the anatomic proximity of the duodenum and colon, fistula formation is quite rare. One of the first reports of a duodenocolic fistula was by Haldane in 1862.[2] In a report of 1,400 cases of right colon cancer way back in 1947 there were only two cases of malignant duodenocolic fistulae.[3] Benign lesions causing fistula are even more rarely found. The first fully documented case of benign duodenocolic fistula was reported by Sanderson in I863 that was due to ruptured duodenal diverticulum.[4] Benign causes reported include benign duodenal ulceration,[5] Crohn's disease,[6] gallstones,[7] a pancreatic pseudocyst rupture[8] and stent migration.[9] Other causes are tuberculous disease, typhoid ulceration

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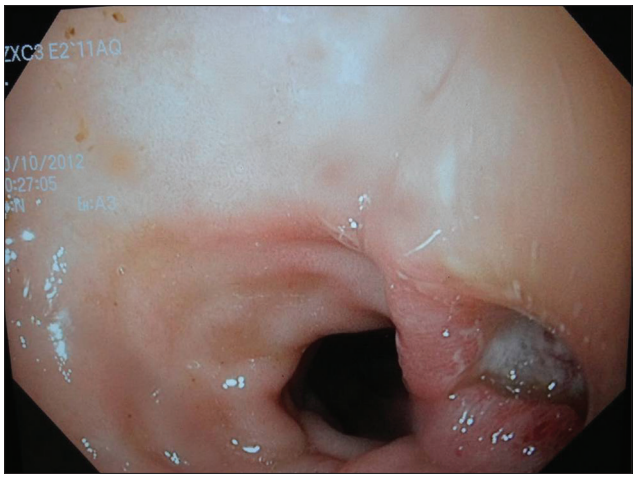

Figure 1: Endoscopic picture of duodenocolic fistula

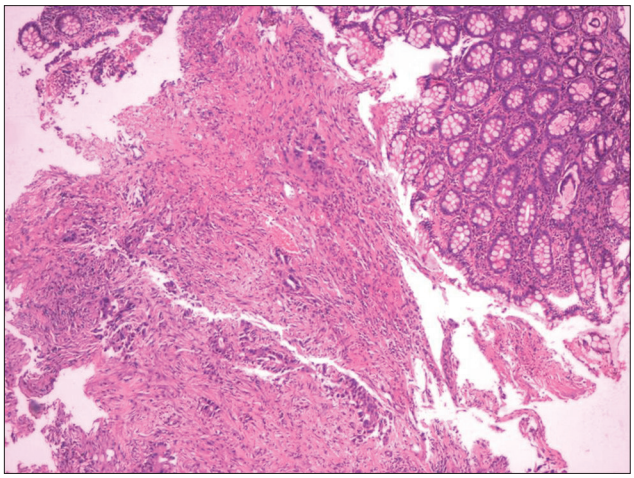

Figure 2: Low power histopathology slide of colonic adenocarcinoma

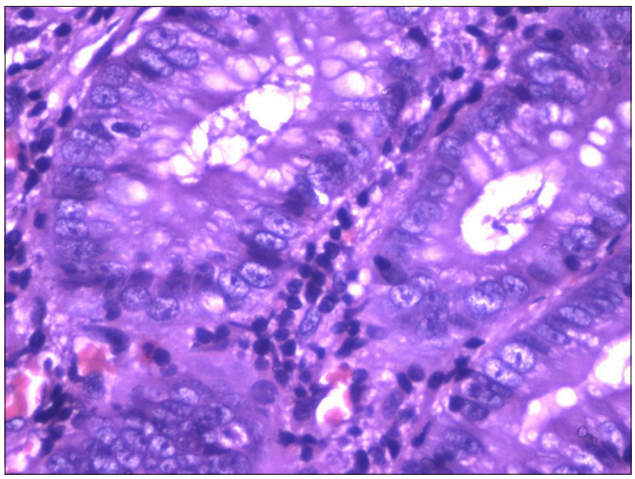

Figure 3: High power view of colonic adenocarcinoma(HP slide)

and nonspecific inflammatory lesions. Spontaneous colo-duodenal fistulae have also been reported.[10]

Malignant causes other than colonic carcinoma, include carcinoma of the gall bladder,[11] duodenum[12] and even of the esophagus.[13] In most instances of duodeno-colic fistula, the second part of the duodenum is involved.[13] The regions just proximal and distal to the hepatic flexure are the usual sites of large bowel fistula.

Patients with malignant duodenal fistulae can present with symptoms due to the primary lesion or the fistula or from metastatic disease. The fistula often results in diarrhea and vomiting with dramatic weight loss. Upper abdominal pain is usually present. The diarrhea relates to colonic bacterial contamination of the upper intestines[14] and to the irritating effects on the colonic mucosa by duodenal bile salts,[15] rarely it can be due to mechanical short bowel. Vomiting may be feculent or truly fecal and eructation foul smelling.

Radiology is useful to delineate the fistula. Most reports suggest barium enema is more likely to delineate the fistula than a barium meal study.[16] Computed tomography scan is of great value in assessing metastatic spread as well as the extent of local invasion by the primary neoplasm. Treatment consists of resection of the tumor and the fistula en bloc. Earlier the two-stage procedure consisting of defunctionalization of the fistula by gastrojejunostomy and ileotransverse colostomy as the first stage, followed by tumor resection and pancreaticoduodenectomy was done.[17] Now-a-days, the one-stage procedure of right hemicolectomy with partial duodenectomy and primary closure of the duodenal wall defect is more commonly adopted, because of advances in perioperative intensive care and availability of total parenteral nutrition.[18] Results comparing between one-stage and two-stage procedure were similar.[19,20] In the review of Izumi *et al.*, the highest 1-year survival was achieved by colectomy with the pancreatoduodenectomy (Whipple procedure) due to as adequate regional lymph node dissection.[21] The survival of patients with malignant colo-duodenal fistula is usually <12 months when treated with palliative operations such as ileotransverse colostomy with gastrojejunostomy [Figures 1-3].[3,22]

Conclusion

Colo-duodenal fistulae from primary colonic neoplasms are rare, but it is important to identify these preoperatively as en bloc resection with curative intent may well necessitate a pancreaticoduodenectomy.

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