Case Report

Aggressive Treatment of Malignant Duodenocolic Fistula : A Case Report

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Abstract : **Malignant duodenocolic fistula is a rare complication of gastrointestinal malignancy for which carcinoma of the ascending colon is the most common cause. A case of 39-year-old female with duodenocolic fistula caused by adenocarcinoma of the hepatic flexure was reported. Successful surgical treatment was achieved by right hemicolectomy en bloc with proximal pancreatoduodenectomy. The patient received a full course of adjuvant chemotherapy and she is now completely free of symptom and without any evidence of recurrent disease, 2 years after the resection.**

เรื่องย่อ : การรักษาภาวะแผลชอนทะลุระหว่างดูโอดีนัมและลำไส้ใหญ่ที่เกิดจากมะเร็ง : รายงานผู้ป่วย 1 ราย
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ภาวะแผลชอนทะลุระหว่างดูโอดีนัมและลำไส้ใหญ่ที่เกิดจากมะเร็ง เป็นผลแทรกซ้อนที่พบได้ไม่บ่อยของมะเร็งในระบบทางเดินอาหาร มะเร็งของลำไส้ใหญ่ส่วนต้นเป็นสาเหตุที่พบบ่อยที่สุด. รายงานนี้นำเสนอผู้ป่วยหญิงไทยอายุ 39 ปี ที่มีภาวะแผลชอนทะลุระหว่างดูโอดีนัมและลำไส้ใหญ่ที่เกิดจากมะเร็งของลำไส้ใหญ่ส่วนโค้งเฮปาติก. ผู้ป่วยได้รับเคมีบำบัดภายหลังการทำผ่าตัด ขณะนี้ผู้ป่วยแข็งแรงไม่มีอาการผิดปกติใด นับเป็นระยะเวลา 2 ปีหลังจากการทำผ่าตัด

INTRODUCTION

Colorectal carcinoma is the seventh common malignancy among the Thai females and it ranks the fourth common cause of cancer death in Thailand.[1] Owing to its anatomical proximity to the duodenum, carcinoma of the right-sided colon may invade the duodenum resulting in a duodenocolic fistula. Though this condition is rare in the present day because most colon cancers are diagnosed and

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treated early, carcinoma of the colon is still the second most common cause of internal fistula.[2] We reported a young female patient presented with chronic diarrhea and was found to have such fistula. She underwent a successful surgical treatment and followed by a full course of adjuvant chemotherapy.

CASE REPORT

A 39-year-old woman presented with a 3-week history of weight loss, abdominal pain and watery diarrhea. Physical examination revealed an ill-defined mass at the right upper abdomen and she was anemic. Barium enema showed partial obstruction at the hepatic flexure of the colon with irregular mucosal lesion and also a fistula from the lesion into the duodenum (Figure 1). Serum carcinoembryonic antigen (CEA) was in normal limit. On endoscopic examination, an ulcerative lesion was seen at the second part of the duodenum. Both chest film and abdominal ultrasonography revealed no evidence of metastatic disease.

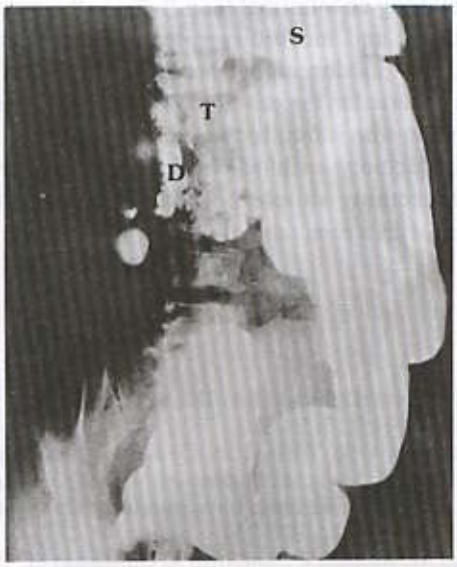

Figure 1. Barium enema (oblique view) showed a filling defect at the hepatic flexure of the colon highly suggestive of colonic carcinoma (T). The barium went through the fistula into the duodenum (D) and refluxed into the stomach (S).

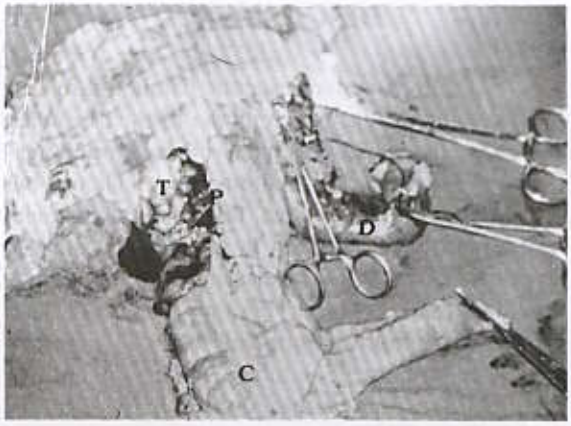

Figure 2. Resected specimen of right hemicolectomy with proximal pancreatoduodenectomy showed the normal caecum (C), the hepatic flexure was opened to identify the tumor (T). A probe (P) was introduced into the fistula.

At laparotomy, a tumor mass was found at the hepatic flexure of the colon invading the second part of the duodenum. Neither the liver nor regional lymph node showed evidence of metastasis. The common bile duct was 0.6 cm in diameter and the gallbladder appeared normal. A right hemicolectomy *en bloc* with modified proximal pancreatoduodenectomy (preserving the gallbladder and anastomosing it to the jejunum, 5 cm distal to the choledochojejunostomy) was done (Figure 2). Histological examination revealed a mucinous adenocarcinoma of the colon with transmural involvement and pericolic fat invasion. The tumor invaded the duodenum causing a fistula between the two organs. No metastatic tumor was found in all lymph nodes removed. Therefore, the pathological staging was T4, N0, M0[3] or B2 according to Astler and Coller's modified Dukes' classification.[4]

Her postoperative course was complicated by a pancreatic fistula which was treated successfully by a one-week subcutaneous injections of octreotide. She was discharged from the hospital 12 days after surgery and received a full course of 6-month adjuvant chemotherapy (5-FU plus levamisole). She has been scheduled to attend the follow-up clinic at a three-month interval. She is currently well, gaining of 6 kilograms of body weight and without any evidence of recurrence, 2 years after the resection.

DISCUSSION

Malignant duodenocolic fistula is rare. The most common cause is carcinoma of the ascending or hepatic flexure of the colon with a reported incidence of 1 in 900 cases of colon cancer.[5] Though our reported patient is a woman, this condition is generally found more common in male with a male to female ratio of 3.8 : 1. The classic symptoms include severe diarrhea, feculent vomiting and weight loss, and these symptoms may be caused by : 1) regurgitation of colon contents into the duodenum, altering intestinal flora and resulting in a bacterial enteritis; 2) shunting of the small intestinal contents into the colon, shortening the transit time and therefore a reduction in absorption capacity; 3) irritation of the colonic mucosa by unconjugated bile acids and hydrochloric acid. The severity of diarrhea may relate to the size of the fistula,[6] and the weight loss may result from the combination of advanced cancer and diarrhea. Diagnosis of duodenocolic fistula can usually be confirmed by a barium enema[2] whereas endoscopy can sometimes demonstrate the fistula orifice.[7] We investigated our patient initially by a barium enema because of her presentations of right upper quadrant abdominal mass, anemia and diarrhea, and the provisional diagnosis was carcinoma of the hepatic flexure.

Resection of colon cancer and its regional lymph nodes provides the only hope for cure. There are variations in the operative procedures for duodenocolic fistula caused by a right-sided colon carcinoma because of the complex anatomical association of the duodenum with the pancreas and the common bile duct. At the aggressive end, a right hemicolectomy with pancreatoduodenectomy is performed and this procedure has been reported to yield the highest 1-year survival rate. According to the English and Japanese literature, this procedure has been done in 25 patients, 15 of whom survived for more than 1 year.[8] The underlining reason may be due to the en bloc resection of the tumor and the fistula as well as sufficient dissection of regional lymph nodes. The reason why we modified the technique for proximal pancreatoduodenectomy by preserving the gallbladder and performing a cholecystoenterostomy in addition to a choledochojejunostomy is because of the awareness of possible stricture of the bile duct- enteric anastomosis owing to its small caliber (0.6 cm). The cholecystoenterostomy will certainly provide another route for biliary drainage if such long-term complication should occur. At the conservative end, ileotransverse colostomy with gastrojejunostomy has been reported.[9] Several procedures between the two ends have also been reported e.g. a right hemicolectomy with partial duodenectomy and primary closure of the duodenal wall defect,[10] a right colectomy with partial duodenectomy and closure of the duodenal wall defect using an intestinal loop.[11] Since the operative mortality and morbidity rates after a proximal pancreato-duodenectomy are now much less than those reported in the pass if it has been performed by a surgeon who is familiar with the procedure, a right hemicolectomy en bloc with proximal pancreatoduodenectomy should be done in physically-fit patient with a resectable tumor.

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