Primary Carcinoma of the Duodenum Producing a Malignant Duodenocolic Fistula*

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Duodenocolic fistulas, whether resulting from a benign or malignant condition, are relatively unusual. The greater number of reported cases have been malignant, usually after erosion by adjacent primary colonic cancers. Occasionally, benign duodenocolic fistulas secondary to inflammatory conditions involving the duodenum, colon, lymph nodes, or adjacent organs have been reported.

Primary carcinomas of the duodenum, exclusive of those arising from the ampulla of Vater, remain extremely rare. Invasion of the colon by a primary carcinoma of the duodenum with formation of a malignant duodenocolic fistula, to our knowledge, has not been previously documented. The present report illustrates a unique presentation of this rare entity and its surgical management.

Report of a Case

A 50-year-old black man was admitted to the Kings County Hospital Center on February 25, 1976, with a history of nausea, vomiting, epigastric discomfort, weakness and a 57-pound weight loss in 12 months. He had been in good health until a year prior to the present admission, when he had noticed epigastric discomfort and anorexia. He had been treated with antacids, multivitamins and ferrous sulfate capsules at another hospital for "peptic ulcer with anemia." Examination revealed that the patient was thin and markedly malnourished. He weighed 105 pounds. He was afebrile. Blood pressure was 90/70 mm/Hg and pulse was regular at a rate of 120/min. The abdomen was scaphoid, soft, and nontender, and there was no palpable mass. Other findings on physical examination were normal except for diminished turgor of the skin. Pertinent laboratory findings showed a microcytic hypochromic anemia with hematocrit 22 per cent, hemoglobin 7.6 g/100 ml, and guaiac-positive stools. Leukocyte count and serum levels of electrolytes, total bilirubin, amylase, alkaline phosphatase, and creatinine were all normal. The nasogastric aspirate was coffee-ground, foul-smelling, and guaiac-positive.

An upper gastrointestinal series demonstrated a large irregular filling defect within the first and second portions of the duodenum, with a fistulous connection to the hepatic flexure of the colon (Fig. 1). Subsequent barium-enema examination confirmed the presence of the fistula and showed no evidence of mucosal disease in the colon. Intravenous pyelography and liver scan were normal.

Pathologic Examination

The duodenal mucosa was replaced by a fungating polypoid tumor mass measuring 7 x 5 cm with a 5 x 2.5 cm central ulceration. The proximal extent of the tumor was 0.5 cm from the pylorus, and its distal edge was located 4 cm proximal to the ampulla of Vater (Fig. 5). The central ulcer had perforated, leading to the development of a fistulous tract that opened into the colonic lumen at the hepatic flexure. The fistula was 1.5 cm wide and 4.5 cm long (Fig. 4). The colonic mucosa surrounding the fistulous opening was entirely normal (Fig. 5). Histologic sections from the ampulla of Vater and from the distal segment of the common bile duct were unremarkable. Microscopically, the tumor represented a typical well-differentiated adenocarcinoma that infiltrated the full thickness of the duodenal wall (Fig. 6). The entire fistula was lined by malignant glands and the attached colonic wall at the hepatic flexure was also microscopically invaded by the carcinoma. Only one small lymph node, out of 36 sectioned, showed histologic metastatic adenocarcinoma.

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Comments

Primary carcinomas are uncommon in the small bowel and even rarer in their occurrence in the duodenum\textsuperscript{2,10}. Cancers arising from the duodenal mucosa should be differentiated from those arising from the ampulla of Vater, since the latter may arise from the common bile duct or the pancreas. In a