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Fistulization in the GI tract in acute pancreatitis

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Severe acute pancreatitis is known to be complicated by fistulization into the neighboring organs, but reports of such patients are scarce. Pancreatocolonic fistulae are the most common, whereas pancreatogastric fistulae are the rarest.[1-3] The majority of these fistulae are found after necrosectomy, and the diagnosis is rarely made preoperatively.[2] The aim of this study was to retrospectively analyze the clinical presentation, profile, course, and outcome of patients with acute pancreatitis with GI fistulae presenting at our institution.

MATERIALS AND METHODS

A retrospective analysis was performed of all patients with acute pancreatitis admitted to our unit during the years 2006 to 2009 for fistulization into GI tract. Records of all such patients were retrieved and analyzed for demographic characteristics, clinical presentation, etiology of pancreatitis, interval between onset of pancreatitis and fistulization, diagnostic studies, treatment (including surgery), and outcome. Endoscopic recordings were retrieved and analyzed. CT records were retrieved to determine the degree and extent of necrosis and evidence of bowel fistulization. Treatment details including endoscopic procedures, radiological interventions, and surgery were reviewed. The study was approved by the Institute Ethics Committee.

RESULTS

Of the 289 patients with acute pancreatitis admitted during the study period, 12 (4.15%) (all males, age 28-55 years) had pancreatoenteric fistulae. These included 1 patient with a pancreatogastric fistula who was previously reported.[1] The demographic profile of these patients, including the reason for presentation, interval from onset of pancreatitis to diagnosis of fistulization, method of diagnosis, endoscopic findings, and clinical outcome is given in Table 1. The interval between onset of pancreatitis and detection of fistulization was 12 to 38 days. There was a total of 13 fistulous sites in 12 patients. The site of fistulization was the stomach (Fig. 1) in 3 patients, the duodenum (Fig. 2) in 6, and the colon (Fig. 3) in 4. One of the patients with a colonic fistula also had associated second and third part duodenal fistulae (patient 10).

None of the patients had undergone any endoscopic, radiological, or surgical intervention before fistulization was detected. In 8 patients, fistulization was diagnosed at the time of initial studies at admission, whereas in 4 patients, fistulization occurred during the course of their hospitalization. The diagnosis of fistulization was made at

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TABLE 1. Clinical and investigational details of 12 patients with pancreatoenteric fistulae

Patient	Age, y/sex	Interval between onset of pancreatitis and diagnosis of fistulization, d	Presenting feature of fistulization	Salient features on CT
1	35/M	14	Hematemesis	Indistinct gastric wall, pancreatic necrosis, and inflammation
2	41/M	21	Recent-onset vomiting of purulent material	Peripancreatic fluid collection with pancreatic necrosis
3	49/M	15	Fever, recent-onset vomiting	Pancreatic abscess
4	55/M	19	Hematemesis, melena	Pancreatic necrosis with air specks
5	47/M	28	Fever, recent-onset vomiting	Pancreatic necrosis
6	39/M	38	Hematemesis, melena	Air-fluid level in pancreatic necrosis
7	41/M	21	Hematemesis	Pancreatic necrosis with fluid collection and gastroduodenal artery pseudoaneurysm
8	47/M	16	Fever, recent onset of vomiting	Pancreatic necrosis with air specks and indistinct duodenal wall
9	49/M	22	Hematochezia, diarrhea, and fever	CT not done
10	54/M	12	Hematochezia	Pancreatic necrosis with air in pancreatic bed
11	58/M	27	Constipation, fever	Pancreatic necrosis and inflammation, dilated ascending colon
12	47/M	23	Hematochezia	Pancreatic inflammation and necrosis

M, Male.

gastroduodenoscopy in 7 patients, at colonoscopy in 3, and at laparotomy in 1 and on contrast-enhanced CT in 1 patient. Review of CT films showed that 5 patients had evidence of fistulization with indistinct bowel wall and/or air in the pancreatic bed or necrosis. Three patients were managed conservatively, and 5 underwent surgery (including all 4 with colonic fistulae). Two patients with infected fluid collection/pancreatic necrosis underwent radiologically guided percutaneous catheter drainage, and 2 underwent endoscopic intervention (1 transduodenal stent placement and 1 nasocystic catheter drainage). Two of the 12 patients (16.7%) died. Both had undergone surgery (1 with a gastric fistula and 1 with colonic and duodenal fistulae).

DISCUSSION

We report here 12 patients with spontaneous pancreatoenteric fistulization. Most pancreatic fistulae are external and occur after surgery or radiological intervention.[2] Pancreatoenteric fistulae, on the other hand, can occur spontaneously as well as after an intervention. In a study from the Mayo Clinic,[2] fistulization was reported in 41% of the 61 patients operated on for severe acute pancreatitis; 19 of them had enteric fistulae, with the colon being the most common site. Only 4 of 25 patients had fistulization at the time of initial surgery; it developed in all others postoperatively. Of the 13 fistulous bowel segments in our 12 patients, 3 involved the stomach, 6 the duodenum, and 4 the colon.

GI bleeding is a common presentation in pancreatoenteric fistulae, with 60% of patients presenting with it.[4] It results from erosion of vessels in the bowel wall after spread of pancreatic necrosis and inflammation.[2] Seven of our 12 patients had GI bleeding (2 hemetemesis, 2 hemetemsis and melena, and 3 hematochezia). Sudden-onset vomiting, especially of necrotic/purulent material, or diarrhea may signal bowel fistulization in