Reprinted from the Archives of Surgery
January, 1995 Volume 130

ORIGINAL ARTICLE

Incidence and Management of Pancreatic and Enteric Fistulas After Surgical Management of Severe Necrotizing Pancreatitis

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Objective: To determine the incidence, type, and outcome of complications of necrotizing pancreatitis.

Setting: Major tertiary referral center (Mayo Clinic, Rochester, Minn).

Patients: Sixty-one patients seen from 1985 to 1994 who underwent surgical management of severe necrotizing pancreatitis and who developed pancreatic or gastrointestinal fistulas.

Main Outcome Measures: Incidence, management, and outcome of pancreatic and gastrointestinal fistulas.

Results: Twenty-five patients (41%) developed pancreatic (14 patients) and/or gastrointestinal tract cutaneous (19 patients) fistulas. While three duodenal fistulas and one colonic fistula were recognized at the initial operation for pancreatic necrosectomy, the remainder developed 4 to 60 days after the initial operation. Spontaneous closure occurred in nine of 14 pancreatic, two of two gastric, two of four enteric, two of eight colonic, and four of five duodenal fistulas. Mortality of the group with fistulas was 24% (6/25) and was not different from the mortality of the patients with necrotizing pancreatitis without fistulas (28% [10/36]).

Conclusions: Pancreatic and gastrointestinal tract fistulas are common complications of surgical treatment of severe necrotizing pancreatitis. Well-controlled gastric, pancreatic, and enteric fistulas have the greatest likelihood of spontaneous closure. Duodenal and colonic fistulas may need surgical intervention for control or repair. Mortality in these patients parallels the mortality for severe necrotizing pancreatitis.

(Arch Surg. 1995;130:48-52)

IMPROVEMENTS IN the recognition and treatment of severe necrotizing pancreatitis have led to decreasing mortality.[1-4] However, the morbidity of this condition and its treatment remain considerable. In particular, many patients with necrotizing pancreatitis develop pancreatic and/or gastrointestinal tract cutaneous fistulas that significantly complicate and prolong their recovery. Little has been written about the incidence of this problem or how to manage these complicated and at times critical illnesses. This retrospective review details our experience with the incidence and management of fistulas that developed in 61 patients with severe necrotizing pancreatitis. Our current approach to the surgical treatment of severe necrotizing pancreatitis uses staged necrosectomy and debridement with delayed primary wound closure over drains.[1] In this article, we discuss our experience with this group of patients and specifically investigate the incidence of pancreatic and gastrointestinal tract fistulas and their management and outcome.

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RESULTS

From 1985 through 1994, a total of 61 patients (45 men and 16 women; mean age, 60 years) underwent surgical management for necrotizing pancreatitis. Of these 61 patients, 10 had noninfected pancreatic and/or peripancreatic necrosis, and the remainder had infected necrosis according to the recent classification of necrotizing pancreatitis.[5] Twenty-five patients (21 men and four women; mean age, 61 years) developed pancreaticocutaneous fistulas (14 patients) and/or gastrointestinal tract cutaneous fistulas (19 patients). This represented 41% of the entire group of patients with necrotizing pancreatitis treated surgically. The total number of repeated necrosectomies ranged from one to 13, with a mean of six per patient. Gas-

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