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Operative Management of Necrotizing Pancreatitis by Repeated Planned Necrosectomy and Delayed Primary Closure of the Abdominal Wall

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Recent advances in critical care and pancreatic imaging have allowed surgeons to reevaluate the role and techniques of operative management of acute necrotizing pancreatitis. Specifically, the widespread use of contrast-enhanced computed tomography (CT) has made it possible to distinguish between peripancreatic or pancreatic parenchymal necrosis, and CT-guided percutaneous aspiration has proven an accurate means for the diagnosis of infection, thus allowing discrimination between operative and nonoperative patients.

Based on the literature and our experience as a referral center for patients with acute necrotizing pancreatitis, our treatment approach has evolved over the past two decades along more aggressive lines and has taken into consideration the pitfalls and complications of prevailing dogma. Initially, we treated acute necrotizing pancreatitis with celiotomy and peripancreatic drainage but became impressed with the results of necrosectomy (1) as an alternative approach. Using a controlled, open lesser sac drainage technique (2), at the time of repeated dressing changes, we invariably noted areas of recurrent (or persistent?) necrosis that required further operative debridement. We postulated that repeated operative necrosectomy on a planned every-other-day basis would reduce the morbidity and mortality rates from necrotizing pancreatitis by minimizing the amount of residual, intraabdominal necrotic tissue that harbors infection (3).

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INDICATIONS FOR NECROSECTOMY

Evidence of infected necrosis or peripancreatic abscess on CT (extraluminal gas) or by percutaneous needle aspiration (positive Gram stain and/or microbial culture—both bacterial or fungal) is an absolute indication for necrosectomy. Whether the necrosectomy should be undertaken on a semi-emergent basis remains unanswered (4), but operative necrosectomy is imperative. In addition, sterile necrotizing pancreatitis refractory to maximal supportive therapy may be considered a relative indication for operative management. However, necrosectomy for noninfected necrosis is controversial. One group (5) has suggested that operative management speeds recovery; however, the potential morbidity of operative intervention is introduced and should be seriously considered. Contraindications to immediate necrosectomy include patients who are anticoagulated for comorbid conditions, such as prosthetic heart valves or pulmonary embolism, or patients who are not candidates for operative treatment based on general debilitation or acute cardiopulmonary events. These patients represent difficult management problems, and necrosectomy is indicated after optimization of comorbidity because a nonoperative approach is doomed to failure if absolute indications for necrosectomy are present.