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Complications of Surgical Treatment of Necrotizing Pancreatitis

Gregory G. Tsiotos, M.D., and Michael G. Sarr, M.D.*

Necrotizing pancreatitis (NP) is the most severe form of acute pancreatitis and accounts for 3–5% of all patients with acute pancreatitis managed at tertiary referral centers. Recent advances in the understanding of the pathophysiology of NP and its potential subsequent superinfection have led to improved treatment modalities and outcomes. However, NP still carries a high early mortality [because of multiple organ failure (MOF)], as well as a significant late mortality (because of sepsis) and a high disease-related morbidity. This inordinate morbidity is multifactorial and can result from biologically active products of inflammation entering the circulation and producing generalized manifestations [systemic inflammatory response syndrome (SIRS)], from the destruction of the pancreatic parenchyma with resultant locoregional injury of adjacent tissues and short- and long-term systemic consequences (endocrine and exocrine pancreatic insufficiency), and from the surgical treatment modalities themselves. The latter deserves further discussion, not only because techniques of surgical management may vary from center to center, but also because the techniques that have been evolving over the past two decades may be intimately associated with the type and incidence of postoperative complications of NP.

Recognition that necrosis of the pancreatic parenchyma and peripancreatic tissues occurs early in the course of the disease has led most pancreatic surgeons to advocate an extensive, complete necrosectomy complimented by various techniques to allow for adequate drainage not only of the ongoing residual infection and resolving suppuration but also of pancreatic exocrine extravasation from injured pancreatic parenchyma. Open marsupialization of the lesser sac (1), continuous postoperative peripancreatic lavage (2), wide peripancreatic drainage (3), and, more recently, planned, repeated operative debridements with delayed primary wound closure over drains (4) are well-accepted techniques that were developed and designed specifically to provide a controlled route of egress for ongoing evacuation of retroperitoneal debris produced by the necrotizing process and the extravasated pancreatic secretions.

In this chapter we discuss the operative complications of the surgical treatment of NP related to the destruction of the pancreatic parenchyma, the extravasation of enzyme-rich fluid in the region, the long-term complications related to the amount and condition of the pancreatic tissue remaining after resolution of the necrotizing process and the reoperative debridements, and the consequences that NP bears upon the overall health status of the patients. Concomitant systemic complications of NP, such as SIRS and sepsis with MOF, are mostly related to the nature of this extensive and aggressive inflammatory process and not to the surgical treatment, and for this reason they will not be discussed further in this chapter.

From the Department of Surgery, Mayo Graduate School of Medicine, and *Division of Gastroenterologic and General Surgery, Department of Surgery, Mayo Clinic and Mayo Foundation, Rochester, Minnesota, U.S.A.

Address correspondence to Michael G. Sarr, M.D., Gastroenterology Research Unit, Mayo Clinic, 200 First Street S.W., Rochester, MN 55905, U.S.A.

LOCOREGIONAL COMPLICATIONS

Recurrent intraabdominal abscess

The initial pancreatic debridement/necrosectomy is universally followed by some form