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Successful Open and Endoscopic Transgastric Necrosectomy for Huge Infected Walled-Off Pancreatic Necrosis

A Case Report

To the Editor:

Severe acute pancreatitis is associated with high mortality.[1] Surgery for severe acute pancreatitis is a morbid procedure associated with complications in 69% of patients and mortality in 19%.[2] Necrotizing pancreatitis is an uncommon yet serious complication of acute pancreatitis with mortality rates up to 15%, reaching 30% in cases complicated by infection.[3] Walled-off pancreatic necrosis (WOPN) consists of necrotic tissue contained within an enhancing wall of reactive tissue. It is a mature, encapsulated collection of pancreatic and/or peripancreatic necrosis and has a well-defined inflammatory wall; usually, this maturation occurs 4 weeks or more after the onset of necrotizing pancreatitis.[1] Recently, many approaches have been applied in the treatment of necrotizing pancreatitis. We report a case of successful endoscopic and open transgastric necrosectomy for huge infected WOPN and review the literature on the topic.

CASE REPORT

A 65-year-old man with severe acute gallstone pancreatitis was admitted to our hospital. After endoscopic retrograde biliary drainage, he was treated for 3 weeks in the intensive care unit, with clinical improvement. On the fifth day of hospitalization, abdominal contrast-enhanced computed tomography (CECT) showed a low-density area around the entire pancreas. After 4 weeks hospitalization, he developed a spiking fever, and CECT revealed a huge (25 cm) infected WOPN lying cranial to the pancreatic tail, surrounding the pancreatic body and caudal to the pancreatic head/uncus.

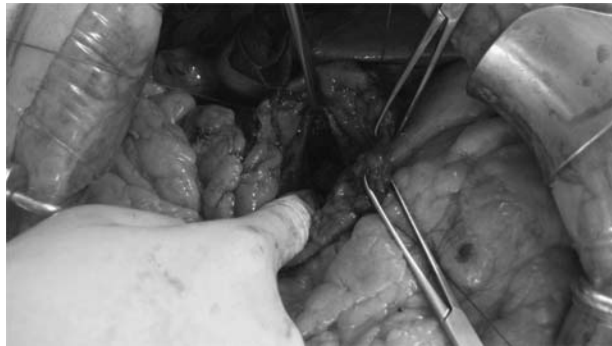

FIGURE 1. The necrosectomy was performed with a digital finger gently through an anterior and posterior gastrostomy.

We attempted endoscopic ultrasound–guided transgastric catheter drainages, but this was ineffective because the most of necrotic tissue was solid. We then decided to perform an open transgastric necrosectomy. The necrosectomy was performed with a digital finger gently through an anterior and posterior gastrostomy (Fig. 1). We placed a drainage tube in the WOPN through the posterior gastrostomy. The patient failed to show significant clinical improvement, and postoperative CECT demonstrated residual infected WOPN. We then performed endoscopic necrosectomy through the posterior gastrostomy.

After the necrosectomy, the patient did not require any further debridement; he underwent transcatheter arterial embolization for pancreatic pseudoaneurysm rupture and open choledocholithotomy. The patient was discharged 4 months after the initial laparotomy and was doing well at 6-month follow-up.

DISCUSSION

Recently, many approaches have been applied in the treatment of necrotizing pancreatitis. There are increasing reports of minimally invasive management, called the step-up approach, with reduced mortality as compared with open necrosectomy[2]; current techniques include percutaneous drainage, endoscopic transgastric drainage, and video-assisted retroperitoneal debridement.[1,3]

However, some cases require open surgery even when the step-up approach is attempted.[2] Bakker et al[4] reported a patient with a central collection and inferior extension to the mesenteric root requiring open surgery. Zyromski et al[5] also reported such a case and noted that the best approach might be open transgastric pancreatic necrosectomy when applied to patients with solid necrosis localized to the lesser sac, including those with a disconnected pancreatic tail. In our opinion, a transgastric approach has the advantage of avoiding the creation of a pancreatic fistula compared with the lesser sac approach, and even a trainee doctor can perform this open procedure safely and effectively. In addition, there are many reports on the clinical benefit of postponing debridement for approximately 4 weeks after admission or the onset of necrotizing pancreatitis.[3,5,6]

In our case, the infected solid WOPN localized mainly around the pancreatic body with inferior extension to the mesenteric root; it showed insufficient improvement with catheter drainage, leading us to use the surgical transgastric procedure.

CONCLUSIONS

We report a case of successful treatment of huge infected WOPN. In cases with central solid necrosis and inferior extension to the mesenteric root, open transgastric pancreatic necrosectomy can be one of the most useful, safe, and effective treatments.

The authors have no conflict of interest to declare.

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