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Surgical cystogastrostomy: Is it still worthwhile?

Kin Pan Au, Kenneth Siu Ho Chok

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Abstract

The article by Ker *et al* explores the treatment of peripancreatic fluid collection (PFC). The use of percutaneous drainage, endoscopy, and surgery for managing PFC are discussed. Percutaneous drainage is noted for its low risk profile, while endoscopic cystogastrostomy is more effective due to the wider orifice of the metallic stent. Surgical cystogastrostomy is a definitive treatment with a reduced need for reintervention, especially for cases with extensive collections and significant necrosis. The choice of treatment modality should be tailored to individual patient characteristics and disease factors, considering the expertise available.

Key Words: Endoscopic cystogastrostomy; Surgical cystogastrostomy; Pancreatitis; Pancreatic necrosis; Peripancreatic collection

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Core Tip: Treatment options of peripancreatic fluid collection (PFC) include percutaneous drainage, endoscopy, and surgery. Percutaneous drainage is noted for its low risk profile, while endoscopic cystogastrostomy is more effective due to the wider orifice of the metallic stent. Surgical cystogastrostomy is a definitive treatment with a reduced need for reintervention, especially for cases with extensive collections and significant necrosis. The choice of treatment modality should be tailored to individual patient characteristics and disease factors, considering the expertise available.

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INTRODUCTION

Ker *et al*[1] provides valuable insights into the treatment of peripancreatic fluid collection (PFC). The author suggested that percutaneous, endoscopic and surgical drainage offer various treatment options for patients with PFC based on their conditions. We appreciate the author for initiating this important discussion. In our practice, we utilize percutaneous drainage, endoscopy, and surgery for the management of PFC, which relies on our experience in patient selection for these procedures.

When deciding between different procedures for the treatment of PFC, it is crucial to understand the unique characteristics of each approach. Percutaneous drainage is considered to have the lowest risk profile and can be performed under local anaesthesia. However, the external catheter used for percutaneous drainage has the narrowest drainage bore of these drainage techniques. Drain tract dilation and repeated retroperitoneal endoscopic necrosectomy are often required as a result of the small bore. Additionally, percutaneous drainage leads to the formation of a pancreatic fistula, resulting in the need for prolonged catheter drainage. On the other hand, endoscopic cystogastrostomy confers greater risk due to gastric puncture. There is a potential for intraperitoneal leakage and peritonitis, although this risk is reduced after allowing for the encapsulation to develop for more than 4 wk. Despite these risks, endoscopic cystogastrostomy is generally more effective than percutaneous drainage, given the wider orifice of the self-expanding metallic stent (SEMS) (2 cm). This procedure can typically be performed under sedation, avoiding the need for general anaesthesia. However, in cases where the collection contains a significant amount of solid debris, further endoscopic necrosectomy procedures may be required to prevent stent blockage and ensure effective drainage. Finally, surgical cystogastrostomy has the largest orifice, and allows a complete necrosectomy to be performed in the same procedure. This approach offers a more definitive treatment option with a reduced likelihood of reintervention. While laparoscopic techniques have been described, they are primarily utilized for pseudocysts rather than for wall-off necrosis (WON)[2]. Surgery requires general anaesthesia and represents the highest level of invasiveness among the discussed procedures.

The Atlanta classification divided PFCs into 4 categories (Table 1)[3]. It is first divided into acute (< 4 wk) or chronic (≥ 4 wk) collection. Acute collection is subdivided into acute PFC (APFC) if it contains mainly fluid, and acute necrotic collection (ANC) if it is predominantly necrotic. APFC usually requires no drainage. Treatment for infected ANC patients has evolved, emphasizing a shift towards minimally invasive interventions following the landmark study by van Santvoort *et al*[4] advocating for a step-up approach. Percutaneous drainage is preferred over endoscopic drainage because encapsulation may not be well formed and there is a risk of leakage[5].

Chronic collections are classified as pseudocysts, which contain mainly pancreatic juice, or WON if there is large amount of solid debris. Nevertheless, pseudocysts may become infected and contain thick pus and debris, and there is always a clinical spectrum between the two. Endoscopic ultrasound (EUS) often reveals many solid contents in pseudocysts diagnosed *via* computed tomography. For these collections, there is also a growing inclination towards minimally invasive treatments, particularly with the expanding use of EUS. The patients with chronic collection are usually less ill than those with infected ANC with systemic inflammatory response syndrome and organ dysfunction, which potentially make them better candidates for general anesthesia and surgical intervention. From our perspective, the ideal candidate for endoscopic drainage is a pure pseudocyst with minimal solid content. This approach minimizes the risk of pancreatic fistula and is associated with a reduced hospital stay[6]. The lumen created by a SEMS is sufficient for effective fluid drainage and has a low chance of requiring reintervention.

For patients with WON, percutaneous drainage may require repeated interventions, such as dilatation and retroperitoneal endoscopic necrosectomy. EUS-guided cystogastrostomy may be performed but may not be effective when there is considerable necrotic debris, which can lead to stent blockage and persistent infection. Multicentre trials have shown that endoscopic necrosectomy for WON is associated with high morbidity (25%-30%) and mortality (5%-10%)[7,8]. A WON case requires a median number of 3 procedures to be sufficiently treated. A meta-analysis comparing endoscopic and surgical drainage for pseudocysts and wall off necrosis demonstrated that the surgical approach had higher clinical success rates and lower re-intervention rates[9]. The difference is more pronounced in patients with significant parenchymal necrosis[10]. Therefore, it is essential to carefully consider the extent of pancreatic parenchymal necrosis when choosing the drainage method. Failed endoscopic therapy can increase the complexity and risks associated with subsequent surgical treatments[11], highlighting the importance of selecting the most appropriate initial approach based on the individual patient's condition.

Ultimately, while EUS-guided cystogastrostomy may be effective for pseudocysts with minimal necrotic debris, infected pseudocysts and wall off necrosis with significant solid components may be better suited for direct surgical intervention, especially in patients who are deemed fit for surgery and have extensive collections. Additionally, the availability of expertise in radiology, endoscopy, and surgery will influence the choice of treatment modality.

Table 1 Type of peripancreatic fluid collection by Atlanta classification

Type of Collection	Time (weeks)	Necrosis
APFC	< 4	No
ANC	< 4	Yes
Pseudocyst	> 4	No
WON	> 4	Yes

APFC: Acute peripancreatic fluid collection; ANC: Acute necrotic collection; WON: Wall-off necrosis.

CONCLUSION

In conclusion, the management of PFC should be tailored to specific patient and disease characteristics, taking into account factors such as the timing of intervention, the degree of pancreatic necrosis, and the expertise available in different modalities.

FOOTNOTES

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