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**Endoscopic intramural cystogastrostomy for treatment of peripancreatic fluid collection: A viewpoint from a surgeon**

Ker CG. Endoscopic intramural cystogastrostomy

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**Abstract**

Percutaneous or endoscopic drainage is the initial choice for the treatment of peripancreatic fluid collection in symptomatic patients. Endoscopic transgastric fenestration (ETGF) was first reported for the management of pancreatic pseudocysts of 20 patients in 2008. From a surgeon’s viewpoint, ETGF is a similar procedure to cystogastrostomy in that they both produce a wide outlet orifice for the drainage of fluid and necrotic debris. ETGF can be performed at least 4 wk after the initial onset of acute pancreatitis and it has a high priority over the surgical approach. However, the surgical approach usually has a better success rate because surgical cystogastrostomy has a wider outlet (> 6 cm *vs* 2 cm) than ETGF. However, percutaneous or endoscopic drainage, ETGF, and surgical approach offer various treatment options for peripancreatic fluid collection patients based on their conditions.

**Key Words:** Pancreatitis; Pancreatic pseudocyst; Endoscopic cystogastrostomy; Surgical cystogastrostomy; Peripancreatic fluid collection; Fenestration for pancreatic cyst

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**Core Tip:** Endoscopic transgastric fenestration (ETGF) actually shares the same indications and procedures as surgical cystogastrostomy for the management of pancreatic pseudocysts. From a surgeon’s viewpoint, both ETGF and surgical cystogastrostomy are used for producing a wide outlet orifice for the drainage. Endoscopic ultrasound-guided drainage and necrosectomy or ETGF has a high priority over the surgical approach. However, the surgical approach usually has a better success rate because surgical cystogastrostomy has a wider outlet than ETGF.

**TO THE EDITOR**

A comment was raised after reading the article titled “Endoscopic transgastric fenestration *vs* percutaneous drainage for management of (peri) pancreatic fluid collections adjacent to gastric wall (with video)” by Zhang *et al*[1]. The clinical consequences of local complications in the natural course of acute pancreatitis are acute peripancreatic fluid collection (PPFC), pancreatic pseudocyst (PPC), acute necrotic collection (ANC), and walled-off necrosis (WON)[2,3]. Acute PPFC tends to be poorly walled-off and can leak into the retroperitoneum, peritoneal cavity, or a third space. Therefore, early interventions for these local complications are not recommended according to Japanese or American guidelines[4,5]. If percutaneous or endoscopic interventions for these local complications are necessary, it is necessary to wait until well-encapsulated formation, such as PPC or WON, is achieved. This condition usually occurs more than 4 wk after the onset of interstitial edematous pancreatitis to mature[3].

Percutaneous drainage (PD) or the endoscopic approach is the initial choice for the treatment of symptomatic patients[6]. However, most cystic spaces contain solid debris, which can occlude the tube, leading to impaired drainage. Hence, percutaneous or transmural drainage alone is often inadequate, and additional endoscopic or surgical necrosectomy is frequently required[7-10]. Surgical drainage is reserved only when PD is not successful[11]. Bleeding during management with endoscopic necrosectomy for ANC or WON may occur and result in catastrophic complications. Therefore, it is better to perform this procedure at referral centers with surgical backup[5].

Zhang *et al*[1] compared endoscopic transgastric fenestration (ETGF) with PD for the management of PPFC, and Liu *et al*[12] conducted the first ETGF in 2015. Actually, Varadarajulu *et al*[7] reported endoscopic ultrasound (EUS)-guided cystogastrostomy (same procedure as ETGF) for the management of PPS of 20 patients in 2008. From a surgeon’s viewpoint, ETGF performed by an endoscopist is a similar procedure to cystogastrostomy performed by a surgeon, and both are used for producing a wide outlet orifice for the drainage of fluid and necrotic debris between the cyst and stomach. Therefore, ETGF can be performed only under the condition of stringent adhesion between the posterior gastric and cystic walls. Additionally, ETGF has the same indications as surgical cystogastrostomy. Technically, the operator should first use EUS guidance to demonstrate presumably a resection line on the gastric wall at the site of maximal prominence of the PPC into the stomach to select the thinnest wall, thus minimizing adverse events.

As a novel development, therapeutic endoscopy can extend the dissection skills to perform ETGF to drain and clean the PPFC with well encapsulation where possible. What is already known about ETGF for PPC or WON is accepted as a minimally invasive alternative to the surgical approach. EUS guidance reduces the risk of perforation and hemorrhage. The probability of post-procedure complications and outcomes differs among the various techniques (Table 1). Varadarajulu *et al*[7] conducted a retrospective study to compare patients with uncomplicated PPC managed by surgical or EUS-guided cystogastrostomy. The results showed no significant differences in treatment success rates, complications, or re-interventions. Furthermore, costs were lower, and the post-procedure length of hospital stay was shorter for EUS-guided cystogastrostomy[7].

Generally, EUS-guided drainage and necrosectomy or ETGF has a high priority over the surgical approach. However, the surgical approach usually has a better success rate because surgical cystogastrostomy has a wider outlet (> 6 cm *vs* 2 cm) than ETGF[13,14]. Either ETGF or operative cystogastrostomy is indicated in cases where: (1) The cystic wall is well matured; and (2) the cyst is large enough to have a severe adhesion area with the gastric posterior wall instead of the early phase of PPFC without being walled-off. However, PD, endoscopic drainage, ETGF, and surgical approach offer various treatment options that can be tailored to the needs of individual patients with PPFC and the facilities of institutions.

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**Footnotes**

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**Table 1 Comparison of treatment procedures for pancreatic pseudocyst and walled-off necrosis**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Procedure** | **Percutaneous cystic drainage** | **EUS-guided drainage with/without necrosectomy** | **ETGF1 with/without necrosectomy** | **Surgical cystogastrostomy2** |
| Variable |  |  |  |  |
| Technique difficulty | Less | Less | High | High |
| Risk | Less | Less | Moderate | High |
| Re-insertion | Yes | Yes | - | - |
| Complications | Less | Less | Moderate | Less |
| Healing course | Long | Long | Short | Short |
| Cost | Less | Moderate | Moderate | High |
| Ref. | Johnson *et al*[11]; Akshintala *et al*[6] | Seicean *et al*[8]; McGuire *et al*[10] | Varadarajulu *et al*[7] ; Suggs *et al*[14]; Liu *et al*[12] | Varadarajulu *et al*[7]; Suggs *et al*[14] |

1ETGF: Similar to the surgical procedure (cystogastrostomy).

2Cystogastrostomy performed using a traditional or laparoscopic approach.

ETGF: Endoscopic transgastric fenestration; EUS: Endoscopic ultrasound.