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Contents

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EDITORIAL

- 516 Diagnostic tools for fecal incontinence: Scoring systems are the crucial first step
Liptak P, Duricek M, Banovcin P
- 523 Unmet needs in biomarkers for autoimmune pancreatitis diagnosis
Wang BC, Fan JG

REVIEW

- 527 Emerging role of exosomes in ulcerative colitis: Targeting NOD-like receptor family pyrin domain containing 3 inflammasome
Li X, Ji LJ, Feng KD, Huang H, Liang MR, Cheng SJ, Meng XD

ORIGINAL ARTICLE

Retrospective Study

- 542 Preoperative prediction of lymphovascular and perineural invasion in gastric cancer using spectral computed tomography imaging and machine learning
Ge HT, Chen JW, Wang LL, Zou TX, Zheng B, Liu YF, Xue YJ, Lin WW

Clinical Trials Study

- 556 Optimized sequential therapy *vs* 10- and 14-d concomitant therapy for eradicating *Helicobacter pylori*: A randomized clinical trial
Seddik H, Benass J, Berrag S, Sair A, Berraida R, Boutallaka H

Basic Study

- 565 Role of deubiquitinase JOSD2 in the pathogenesis of esophageal squamous cell carcinoma
Wang WP, Shi D, Yun D, Hu J, Wang JF, Liu J, Yang YP, Li MR, Wang JF, Kong DL

META-ANALYSIS

- 579 Urea breath test for *Helicobacter pylori* infection in adult dyspeptic patients: A meta-analysis of diagnostic test accuracy
Lemos FFB, Castro CT, Silva Luz M, Rocha GR, Correa Santos GL, de Oliveira Silva LG, Calmon MS, Souza CL, Zarpelon-Schutz AC, Teixeira KN, Queiroz DMM, Freire de Melo F

CASE REPORT

- 599 Y-Z deformable magnetic ring for the treatment of rectal stricture: A case report and review of literature
Zhang MM, Sha HC, Qin YF, Lyu Y, Yan XP

LETTER TO THE EDITOR

- 607** Angiotensin-converting enzyme 2 alleviates liver fibrosis through the renin-angiotensin system
Zhao BW, Chen YJ, Zhang RP, Chen YM, Huang BW
- 610** Endoscopic intramural cystogastrostomy for treatment of peripancreatic fluid collection: A viewpoint from a surgeon
Ker CG

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

Chen-Guo Ker

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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.

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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].

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

Procedure	Percutaneous cystic drainage	EUS-guided drainage with/without necrosectomy	ETGF ¹ with/without necrosectomy	Surgical cystogastrostomy ²
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 <i>et al</i> [11]; Akshintala <i>et al</i> [6]	Seicean <i>et al</i> [8]; McGuire <i>et al</i> [10]	Varadarajulu <i>et al</i> , 2008[7]; Suggs <i>et al</i> [14]; Liu <i>et al</i> [12]	Varadarajulu <i>et al</i> [7]; Suggs <i>et al</i> [14]

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

²Cystogastrostomy performed using a traditional or laparoscopic approach.
ETGF: Endoscopic transgastric fenestration; EUS: Endoscopic ultrasound.

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.

FOOTNOTES

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