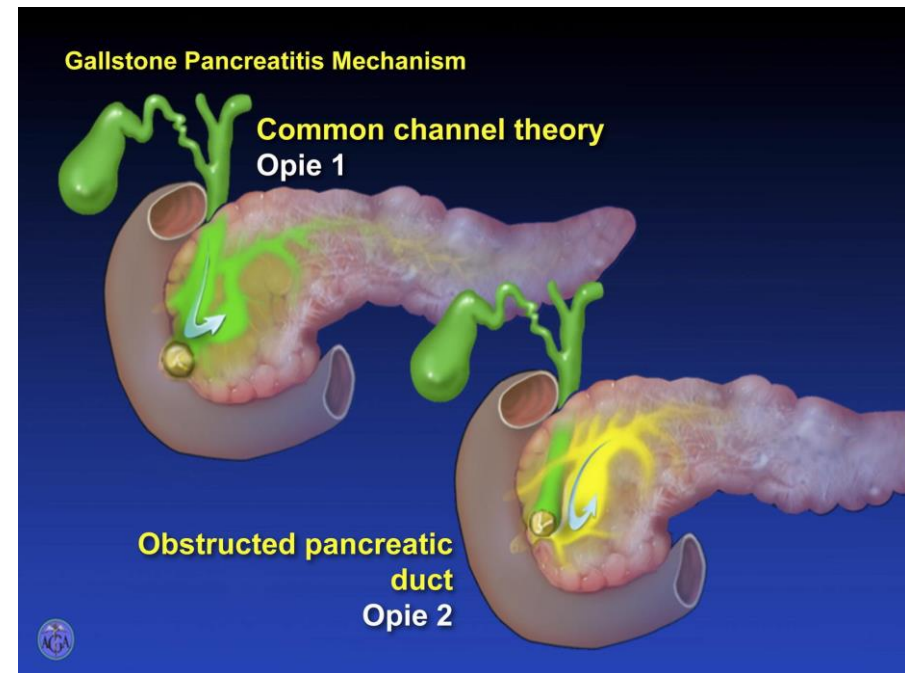
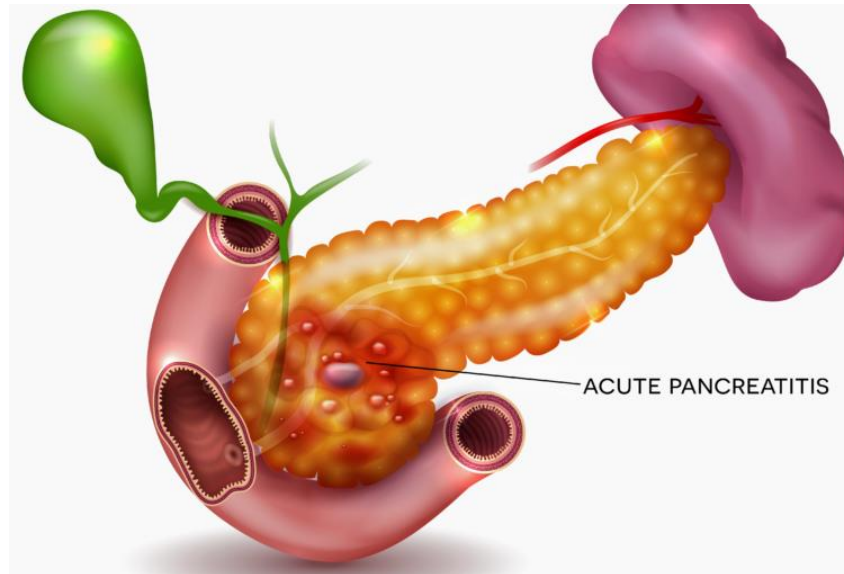


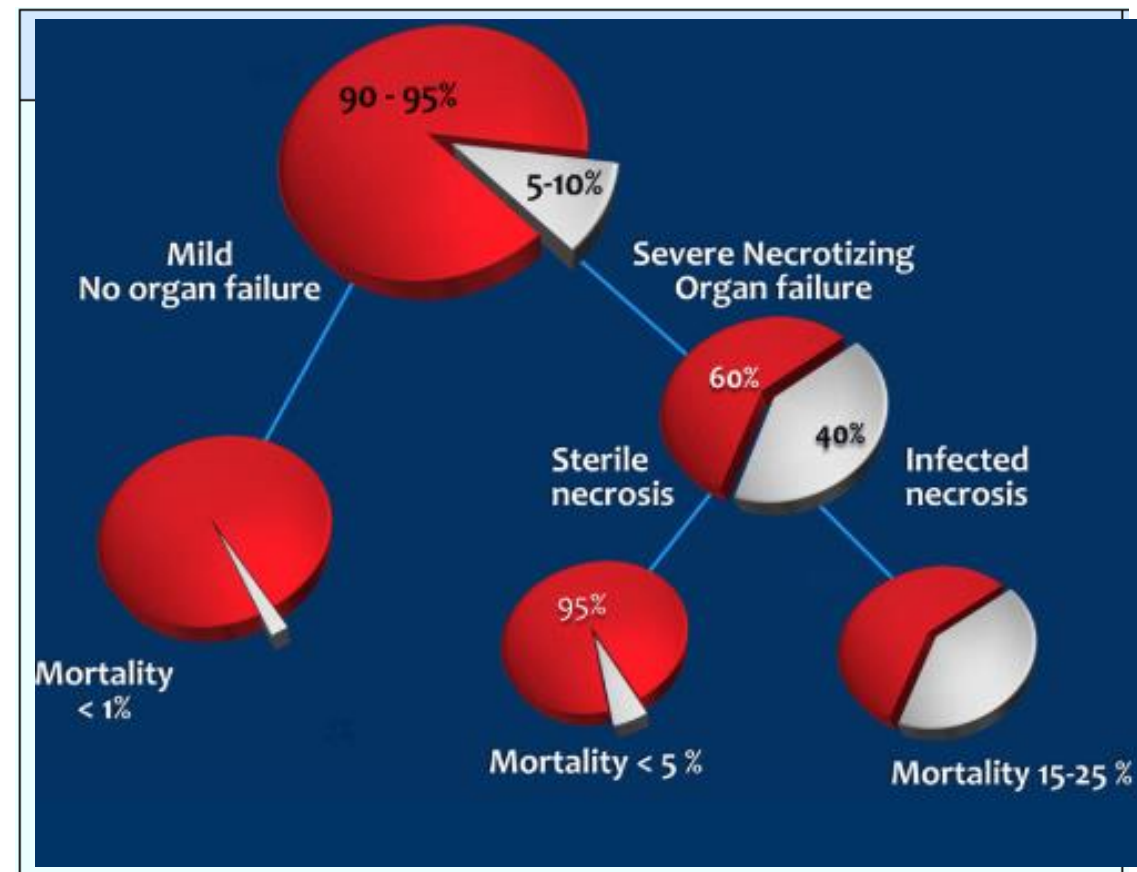
TIẾP CẬN TRƯỜNG HỢP NGHI NGỜ VIÊM TỤY CẤP THEO PHÂN LOẠI ATLANTA 2012



PGS TS NGUYỄN VĂN HẢI
Bộ môn Ngoại, ĐHYD TP.HCM

MỞ ĐẦU

- VTC là cấp cứu nội-ngoại khoa thường gặp
- Phân loại hiệu chỉnh Atlanta 2012 (Revision of the Atlanta Classification, **RAC**) chia làm: nhẹ, vừa, nặng
- Diễn tiến khó đoán, phân loại thụ động
- Chuẩn hóa danh pháp và cụ thể hóa tiêu chí phân độ giúp dễ ứng dụng vào lâm sàng và nghiên cứu
- Tiếp cận BN nghi VTC theo Atlanta 2012 có cơ sở và hướng đi rõ ràng hơn



MỘT SỐ THUẬT NGỮ

Table 1. Glossary of Terminology

Term	Definition
Mild Acute Pancreatitis (MAP)	Pancreatitis without evidence of organ failure or complications
Moderately Severe Acute Pancreatitis (MSAP)	Pancreatitis with a local complication such as APFC, PP, ANC, or WON (defined below) or with organ failure (defined below) lasting less than 48 hours
Severe Acute Pancreatitis (SAP)	Pancreatitis with a local complication such as APFC, PP, ANC, or WON (defined below) or with organ failure (defined below) lasting more than 48 hours
Interstitial Edematous Pancreatitis (IEP)	Pancreatitis which lacks pancreatic or peripancreatic necrosis on imaging
Necrotizing Pancreatitis (NP)	Pancreatitis with parenchymal, peripancreatic, or combined necrosis, identified by contrast-enhanced imaging
Acute Peripancreatic Fluid Collection (APFC)	Peripancreatic fluid collection which occurs within the first 4 weeks of pancreatitis in the setting of IEP, without a well-defined wall
Pancreatic Pseudocyst (PP)	APFC that has persisted more than 4 weeks and now has evidence of well-defined wall
Acute Necrotic Collection (ANC)	Collection of both fluid and necrotic solid material, in NP, within the first 4 weeks, without a well-defined wall
Walled-Off Necrosis (WON)	ANC that has persisted more than 4 weeks and has developed a well-defined wall
Organ failure	A score of 2 or more for any organ system in the Marshall scoring system (see text)

See text for further explanation.

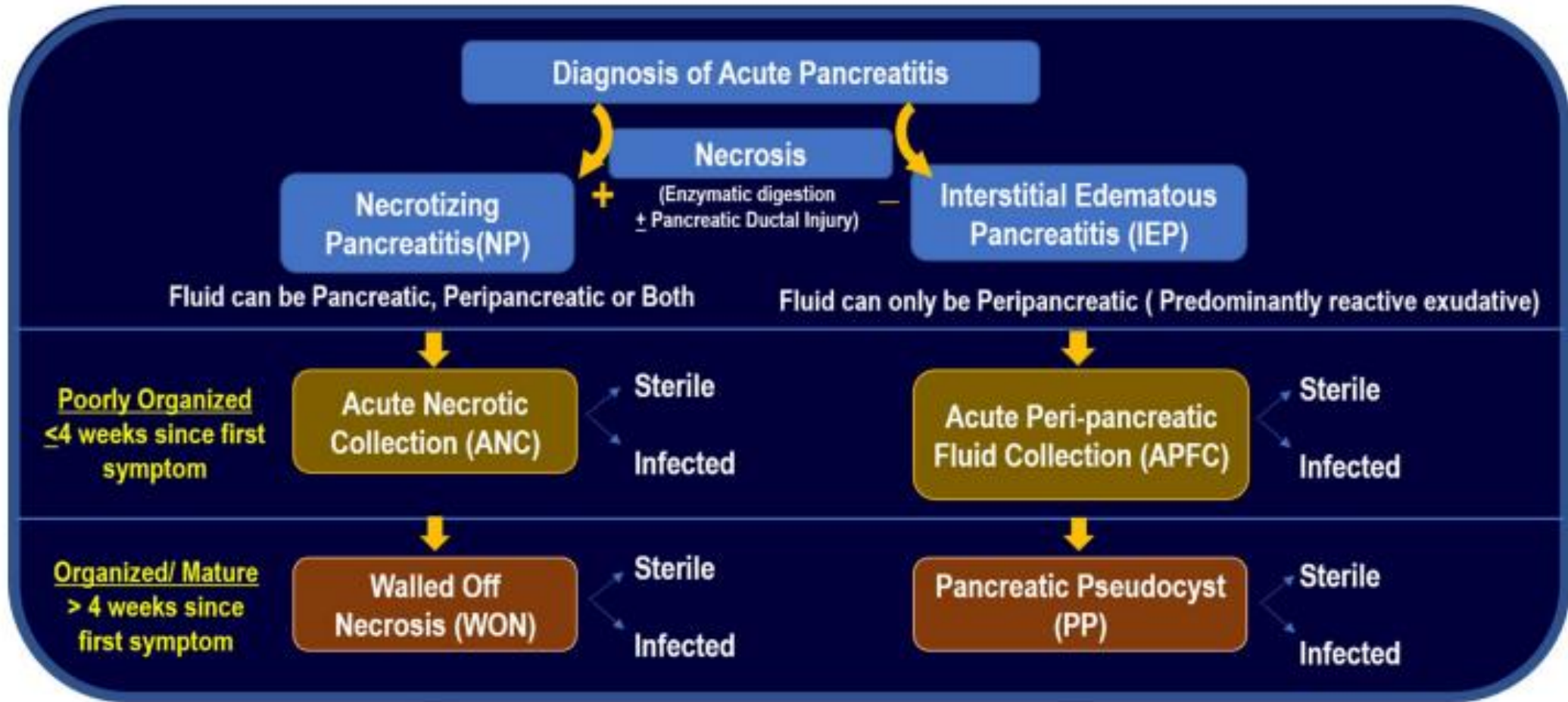


Fig. 1 Revised Atlanta diagnostic algorithm. Illustration outlining the classification and essential terminology based on the presence of necrosis and timeline from onset

APFC: Tụ dịch quanh tụy cấp; **PP:** Nang giả tụy

ANC: Tụ chất hoại tử cấp; **WON:** Hoại tử đã thành hóa

CHẨN ĐOÁN

- Dựa vào:

- Đau bụng
 - Tăng Amylase/Lipase $> 3 \times$ bt
 - Có dấu hiệu VTC trên hình ảnh

Although most studies show a diagnostic efficacy of greater than 3–5 times the upper limit of normal, clinicians must consider the clinical condition of the patient when evaluating amylase and lipase elevations. When doubt about the diagnosis of AP exists, abdominal imaging may assist. Once the diagnosis of AP is

Key concepts

1. We suggest that early/at admission routine computed tomography (CT) not be performed for the purpose of determining severity in AP and should be reserved for patients in whom the diagnosis is unclear or who fail to improve clinically within the first 48–72 hours after hospital admission and intravenous hydration.

An early CT may be misleading regarding the morphologic severity of the pancreatitis, because it may underestimate the presence and amount of necrosis.



ĐỘ NẶNG TRÊN CT (CTSI)

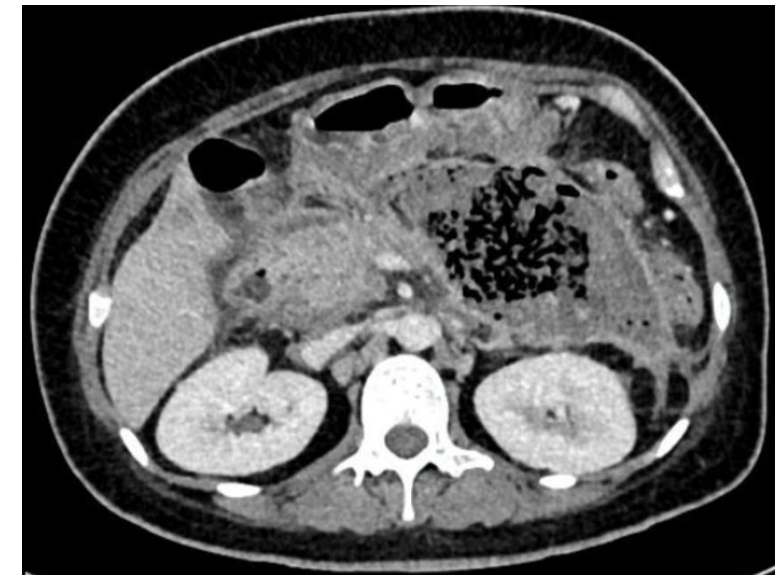
10 CT severity index

CT grade		Score
A	Normal pancreas	0 points
B	Oedematous pancreas	1 point
C	B plus mild extrapancreatic changes	2 points
D	Severe extrapancreatic changes plus one fluid collection	3 points
E	Multiple or extensive fluid collections	4 points

Necrosis

A	None	0 points
B	Less than one-third	2 points
C	Greater than one-third but less than half	4 points
D	More than half	6 points

CT = computed tomography. Scoring: CT grade + necrosis score.
Score > 5 predicts severe disease. Adapted from Balthazar, 1990.³¹



INITIAL ASSESSMENT AND RISK STRATIFICATION

Key concepts

- 5. Hemodynamic status and risk assessment should be performed to stratify patients into higher-risk and lower-risk categories to assist consideration of admission to a nonmonitored bed or monitored bed setting, including the intensive care setting.
- 6. Patients with organ failure and/or the systemic inflammatory response syndrome (SIRS) should preferably be admitted to a monitored bed setting.
- 7. Scoring systems and imaging alone are not accurate in determining which patients with AP will develop moderately severe or severe AP.
- 8. In patients with mild disease, clinicians should remain vigilant for the development of severe disease and organ failure during the initial 48 hours from admission.
- 9. Risk factors of the development of severe disease (Table 4) include elevated blood urea nitrogen (BUN), hematocrit (HCT), the presence of obesity, comorbidities, and the presence of the SIRS.

Table 4

Risk factors of adverse prognosis in acute pancreatitis.

Parameters associated with increased risk of a severe disease course	
SIRS (≥2 criteria)	<ul style="list-style-type: none">- Temperature <36 °C or >38 °C- HR >90/min- RR >20/min (or PaCO2 <32 mmHg)- White blood count >12 G/L or <4 G/L (or >10% immature leukocytes)
Laboratory values	<ul style="list-style-type: none">- Hematocrit ≥40% (women) / ≥44% (men) (or rising hematocrit)- Calcium <1,97 mmol/l on admission or within 48 h- Glucose >200 mg/dL- CRP >15 mg/dL within 48–72 h- BUN ≥20 mg/dL / Urea ≥42.8 mg/dL (or rising BUN)- Creatinine >ULN- LDH >350 U/L
Scoring systems	<ul style="list-style-type: none">- BISAP ≥3 points- SOFA elevation ≥2 points- APACHE-II ≥8 points on admission or within first 72 h
Patient characteristics	<ul style="list-style-type: none">- Age >55–60 years- BMI ≥25–30 kg/m²- Alcohol misuse- Altered mental status- Comorbid disease
Radiology findings	<ul style="list-style-type: none">- Pleural effusions- Pulmonary infiltrates- Multiple or extensive peripancreatic fluid collections

Acute Pancreatitis - Fluid Collections

Interstitial Pancreatitis

< 4 weeks

Acute
Peripancreatic
Collection

> 4 weeks

Pseudocyst

Necrotizing Pancreatitis

< 4 weeks

Acute
Necrotic
Collection

> 4 weeks

Walled off
Necrosis

Acute Peripancreatic Collection

- < 4 weeks
- In interstitial pancreatitis
- Homogeneous - fluid density
- No fully definable wall
- Adjacent to pancreas
- Confined by normal fascial planes

Acute Necrotic Collection

- < 4 weeks
- In necrotizing pancreatitis
- Heterogeneous collection
- No fully definable wall
- Intra- or extrapancreatic

Pseudocyst

- > 4 weeks
- In interstitial pancreatitis
- Homogeneous - fluid density
- Well defined wall
- Adjacent to pancreas
- No non-liquid component

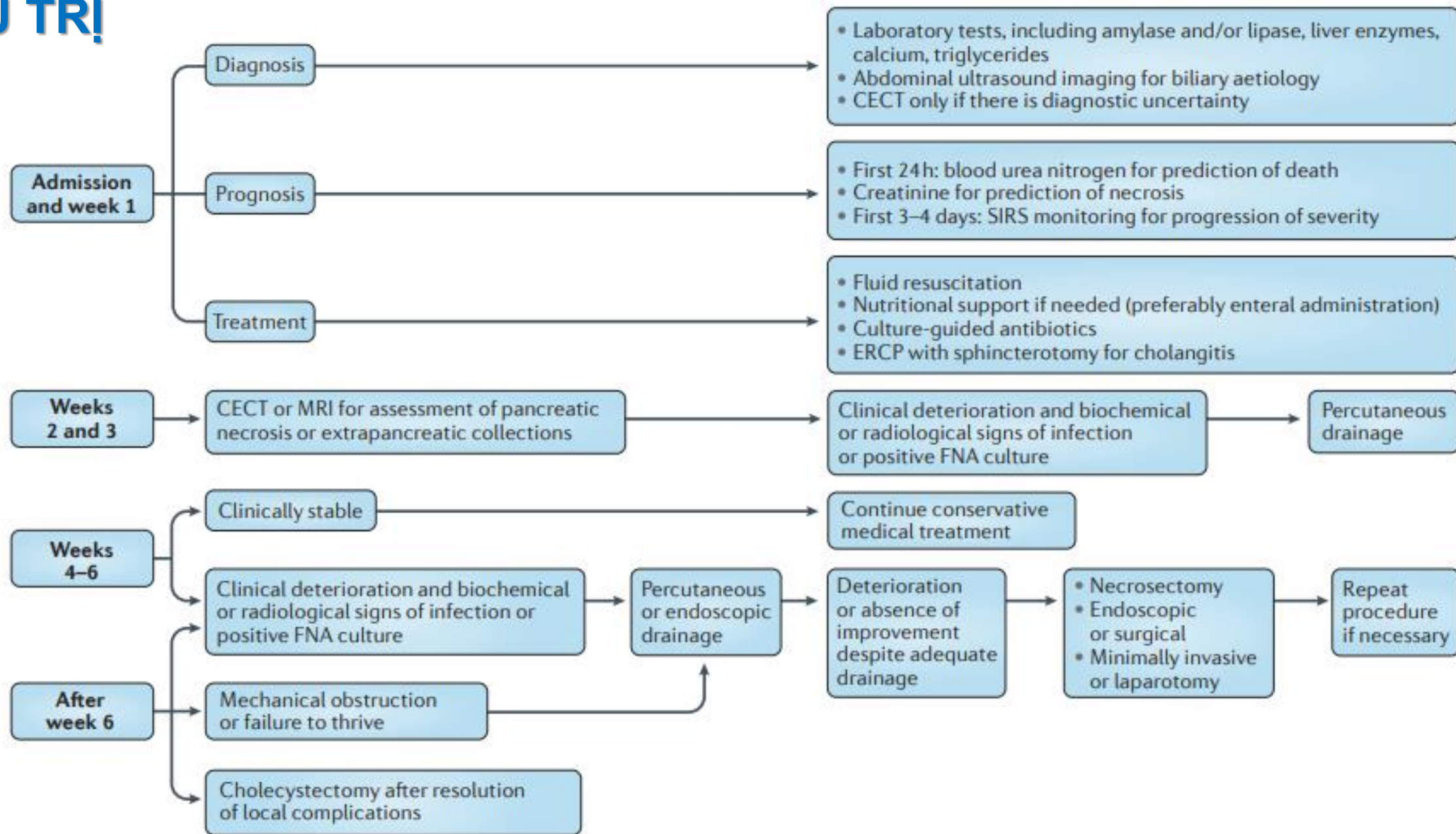
Walled-off Necrosis

- > 4 weeks
- In necrotizing pancreatitis
- Heterogeneous collection
- Well-defined wall
- Intra- or extrapancreatic

Common complications after severe acute pancreatitis and their typical onset, diagnostic approach and interventional management.

Complication		Onset	Diagnostic approach	Interventional management
Local	Acute peripancreatic fluid collections (APFC)	Early (typically 1–2 wk)	US > CT (alt.: MRI)	<ul style="list-style-type: none">- Usually self-limiting.- When complicated, discuss EUS-guided vs. percutaneous drainage.
	Acute necrotic collections (ANC)	Early (typically after day 7–10)	CT (alt.: MRI) > US	<ul style="list-style-type: none">- Empiric AIT with pancreatic penetration- Discuss no intervention vs. early or late intervention (prefer waiting in clinical stability)- Discuss mode of intervention (EUS > percutaneous > surgical)
	Pancreatic pseudocyst (PP)	Later (>3–4 wk)	CT (alt.: MRI) > US (discuss MRCP for interventional planning or primary EUS for ICU patients difficult to transport)	<ul style="list-style-type: none">- Drain if symptomatic or causing complications.- Mode of intervention: Endoscopy (EUS, alternatively ERCP) > percutaneous > surgical- Non-endoscopic approach reserved for PP not amenable to endoscopy.
	Walled-off necrosis (WON)	Later (>3–4 wk)	CT (alt.: MRI) > US (discuss MRCP for interventional planning or primary EUS for ICU patients difficult to transport)	<ul style="list-style-type: none">- Discuss indication of drainage (typically infected necrosis).- Mode of intervention: EUS > percutaneous > surgical.- Evaluate need of consecutive on-demand necrosectomy (alternatively: upfront necrosectomy).- In large necroses, discuss combined necrosectomy using luminal and percutaneous (VARD) approach.- Non-endoscopic approach reserved for PP not amenable to endoscopy (extrapancreatic necrosis)
Vascular	Splanchnic vein thrombosis	Early (<4 wk)	CT or MRI > US	<ul style="list-style-type: none">- Discuss anticoagulation (stronger indication with more extensive thrombosis).- Discuss angiography in case of severe complications.
	Pseudoaneurysm Abdominal compartment syndrome	Early and late Early (<4 wk)	CT or MRI IAP measurement (typically indirectly via urinary bladder catheter)	<ul style="list-style-type: none">- Angiographic coiling.- Conservative measures of reducing IAP and according adaptation of MAP and PEEP.- Discuss decompressive laparotomy early.

ĐIỀU TRỊ



CHỈ ĐỊNH NGOẠI KHOA

13. In patients with AP complicated by cholangitis, early ERCP within the first 24 hours has been shown to decrease morbidity and mortality.

Early ERCP/EST is recommended for gallstone-induced acute pancreatitis in the patients with cholangitis or bile stasis (jaundice or bile duct dilatation) and in those with stones or bile debris in the common bile duct on imaging studies (strong recommendation, evidence quality: high).

21. Patients with mild acute biliary pancreatitis should undergo cholecystectomy early, preferably before discharge.
22. Minimally invasive methods are preferred to open surgery for debridement and necrosectomy in stable patients with symptomatic pancreatic necrosis.
23. We suggest delaying any intervention (surgical, radiological, and/or endoscopic) in stable patients with pancreatic necrosis, preferably 4 weeks, to allow for the wall of collection to mature.

The American Journal of GASTROENTEROLOGY, 2024

J Hepatobiliary Pancreat Sci. 2022;29:1057–1083

Q28. What are the indications for intervention in necrotizing pancreatitis?

Common indications for intervention (either radiological, endoscopical or surgical) in necrotizing pancreatitis are:

- Clinical suspicion of, or documented, infected necrotizing pancreatitis with clinical deterioration, preferably when the necrosis has become walled-off.
- In the absence of documented infected necrotizing pancreatitis, ongoing organ failure for several weeks after the onset of acute pancreatitis, preferably when the necrosis has become walled-off.

Less common indications for intervention are:

- Abdominal compartment syndrome
- Ongoing acute bleeding
- Bowel ischemia
- Ongoing gastric outlet, intestinal, or biliary obstruction due to mass effect from large walled-off necrosis (arbitrarily >4–8 weeks after onset of pancreatitis)

(GRADE 1C, strong agreement).

Pancreatology 13 (2013) e1–e15

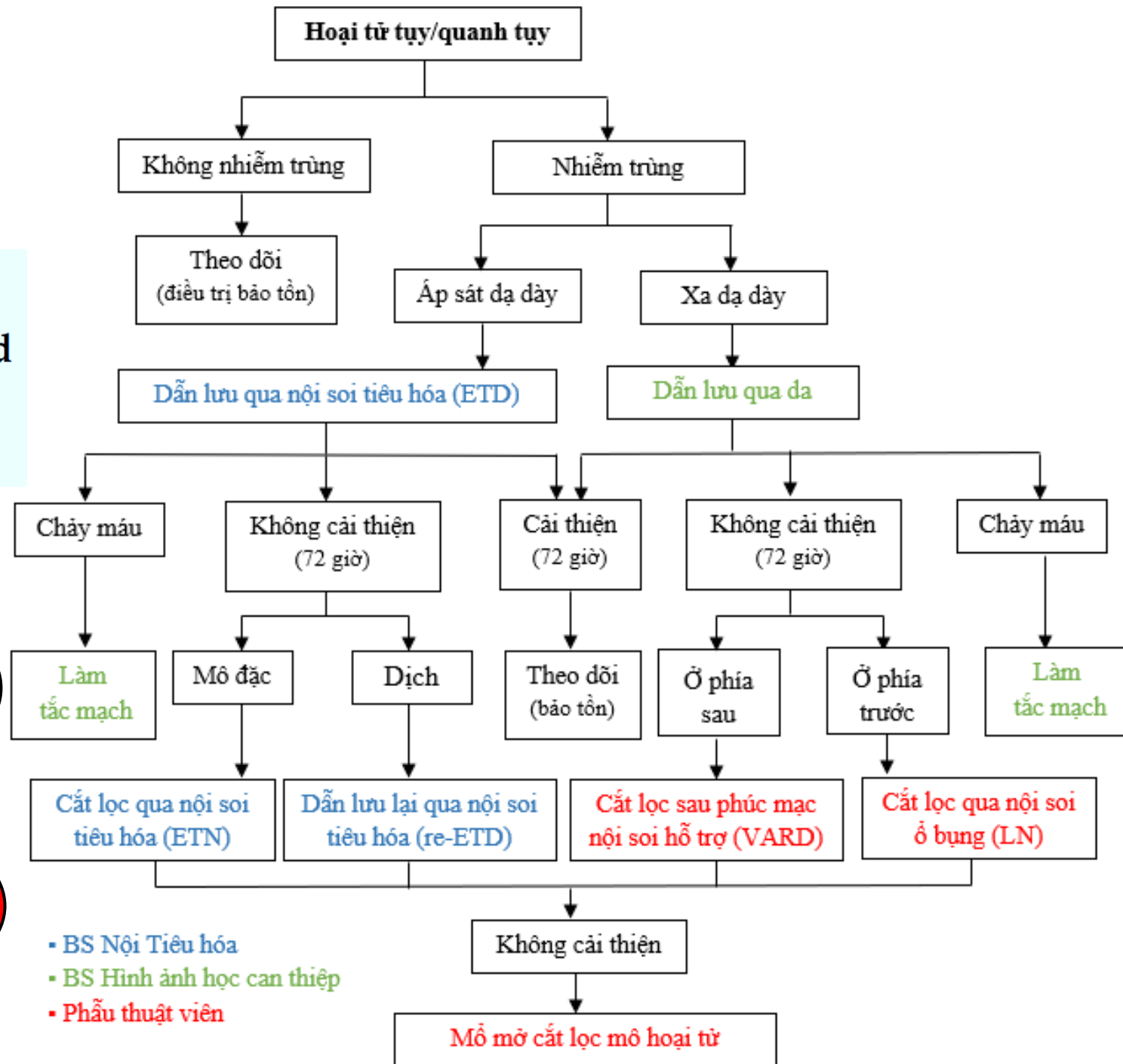
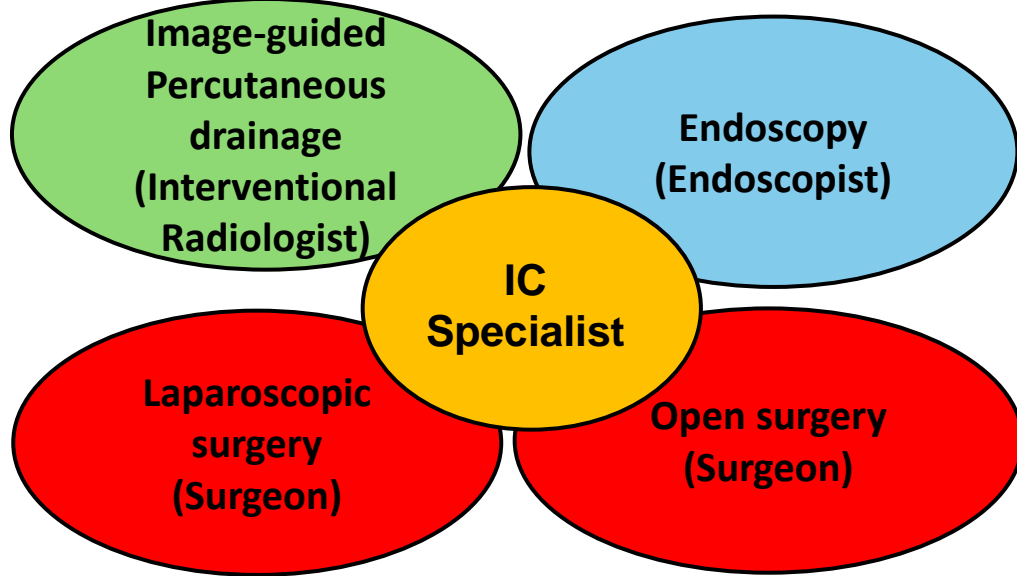
TIẾP CẬN TỪNG BƯỚC CHO VIÊM TỤY HOẠI TỬ

Review

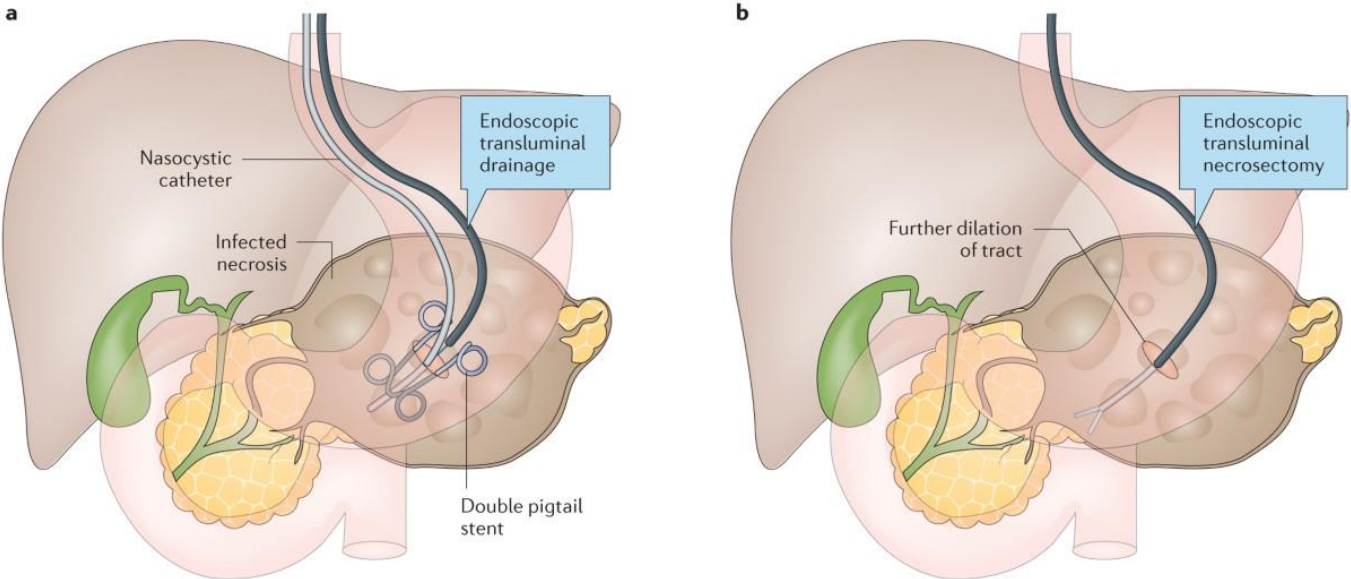
Together We Stand, Divided We Fall: A Multidisciplinary Approach in Complicated Acute Pancreatitis

Jorge Paulino ^{1,*}, Gonçalo Ramos ² and Filipe Veloso Gomes ³

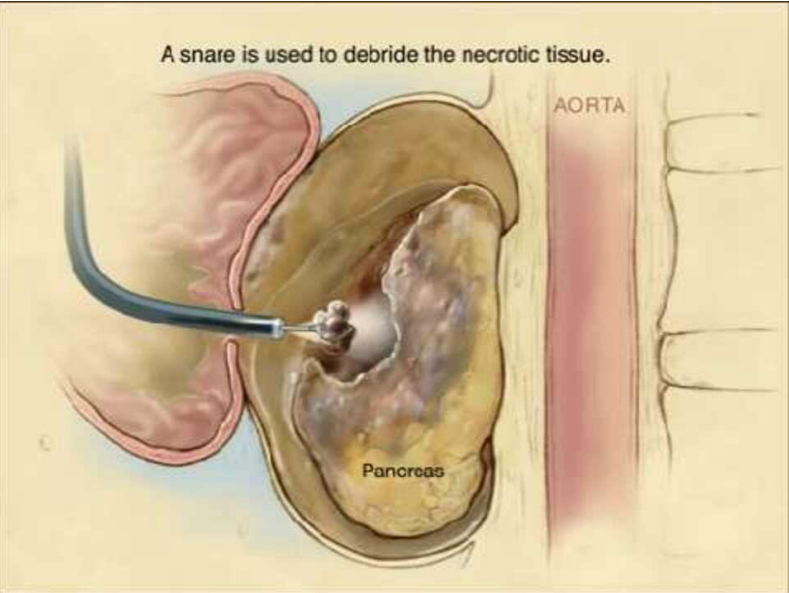
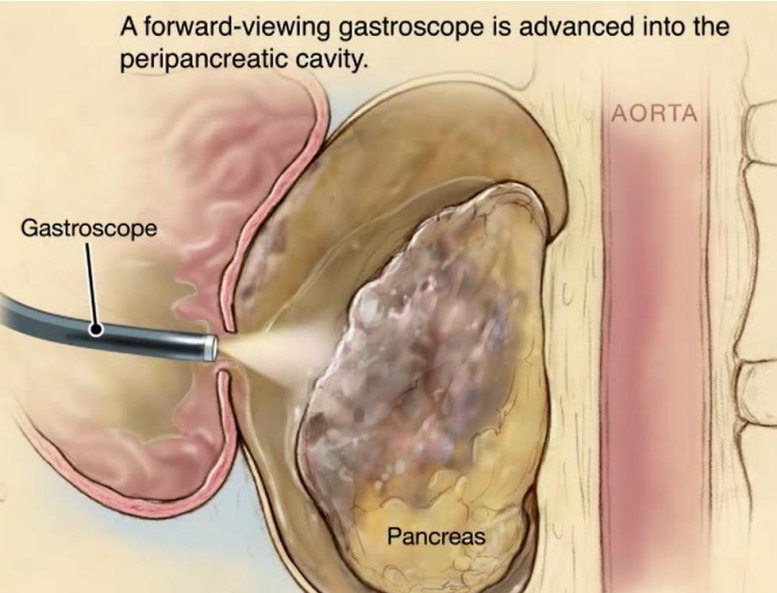
J. Clin. Med. 2019, 8, 1607.



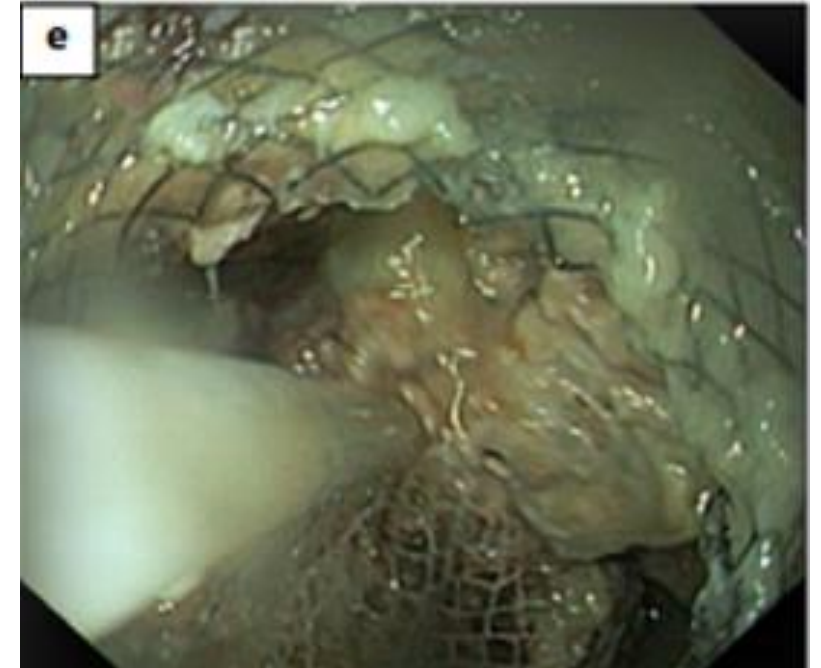
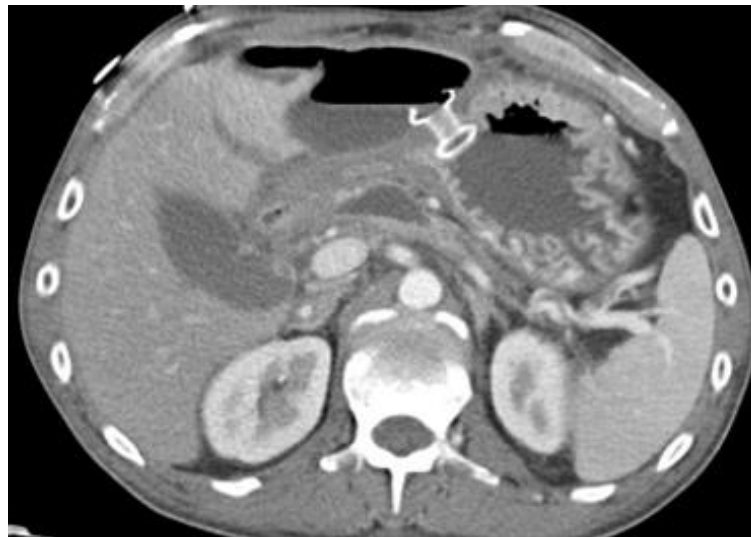
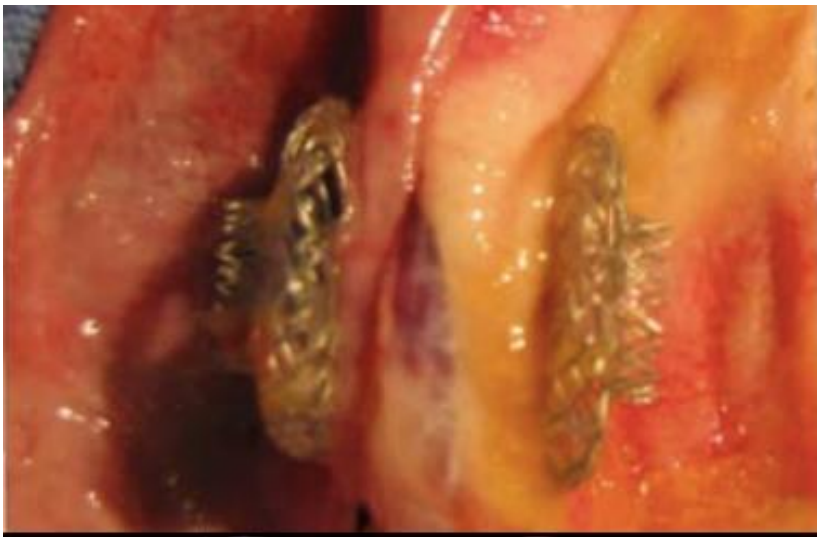
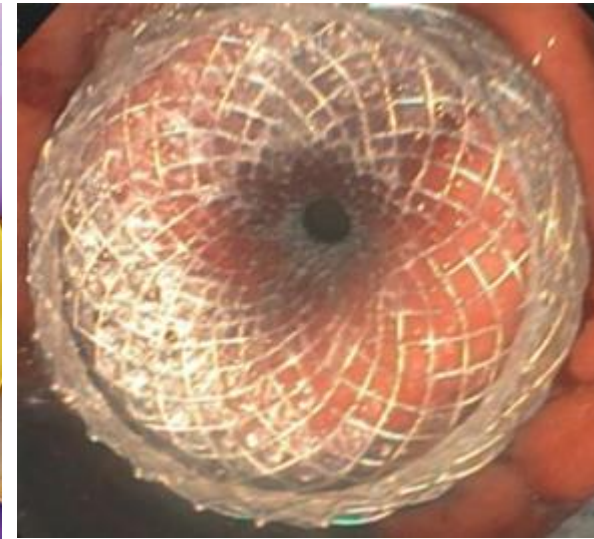
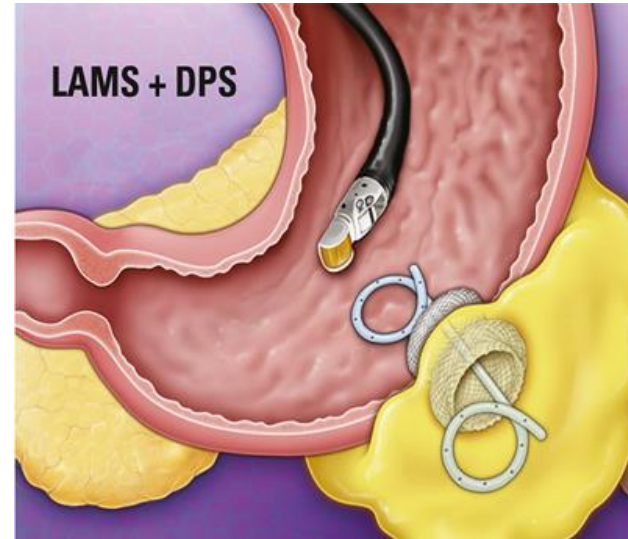
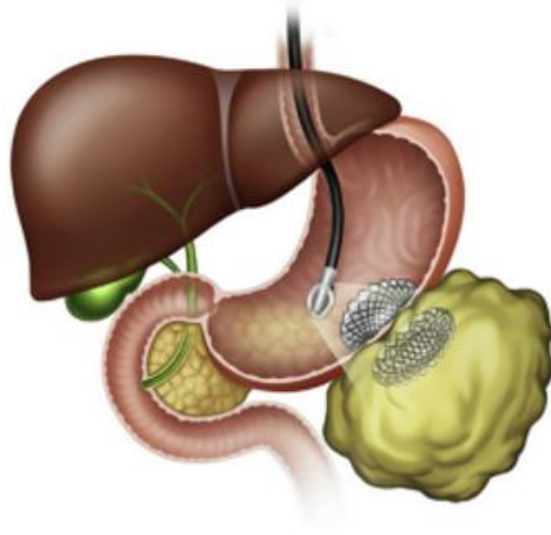
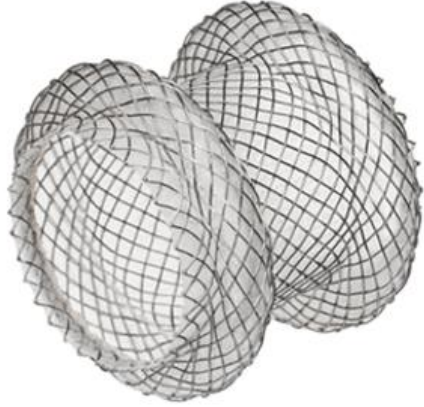
Endoscopic Transgastric Drainage/ Necrosectomy



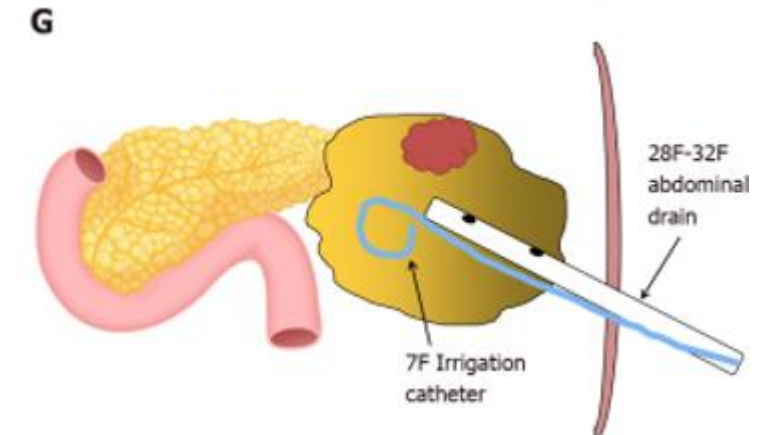
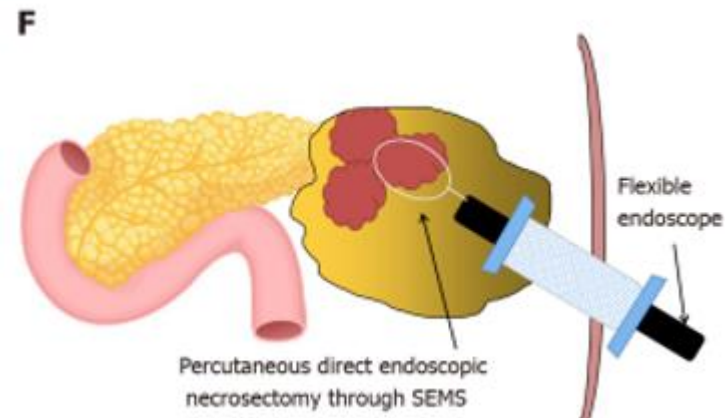
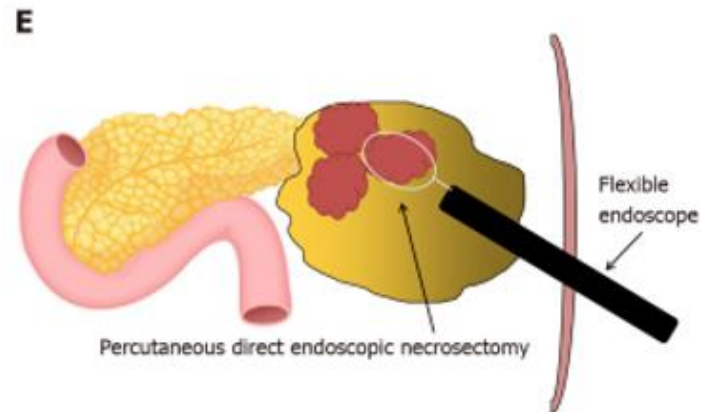
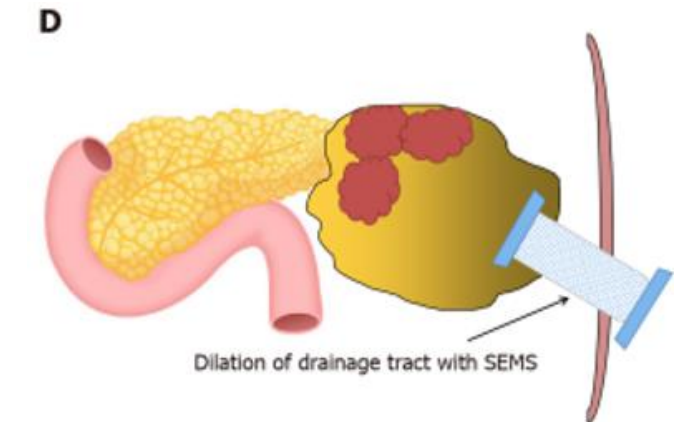
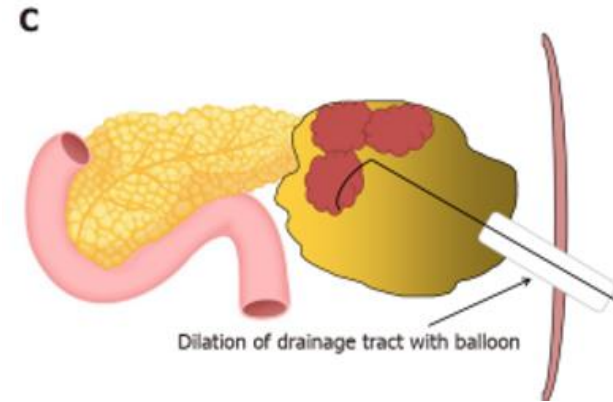
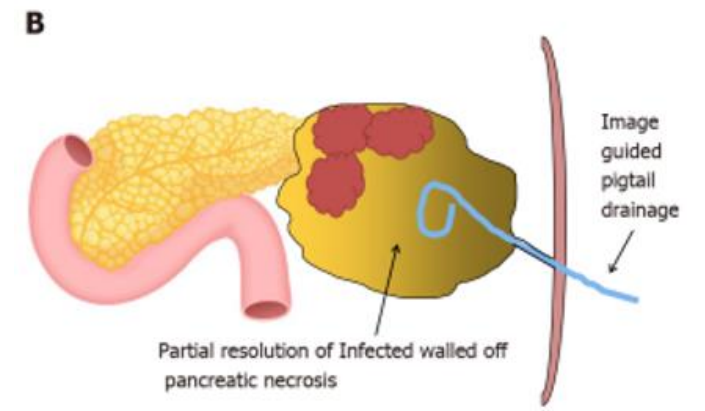
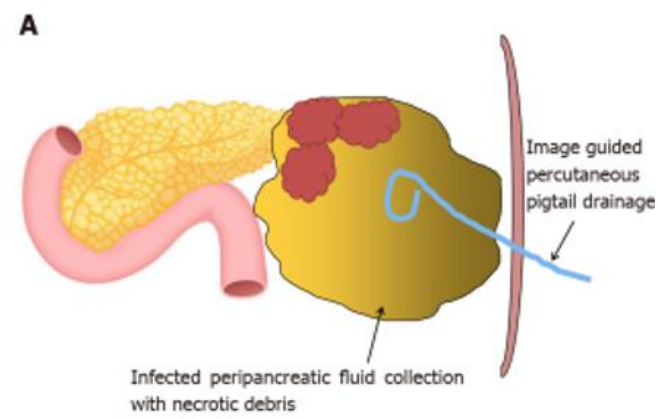
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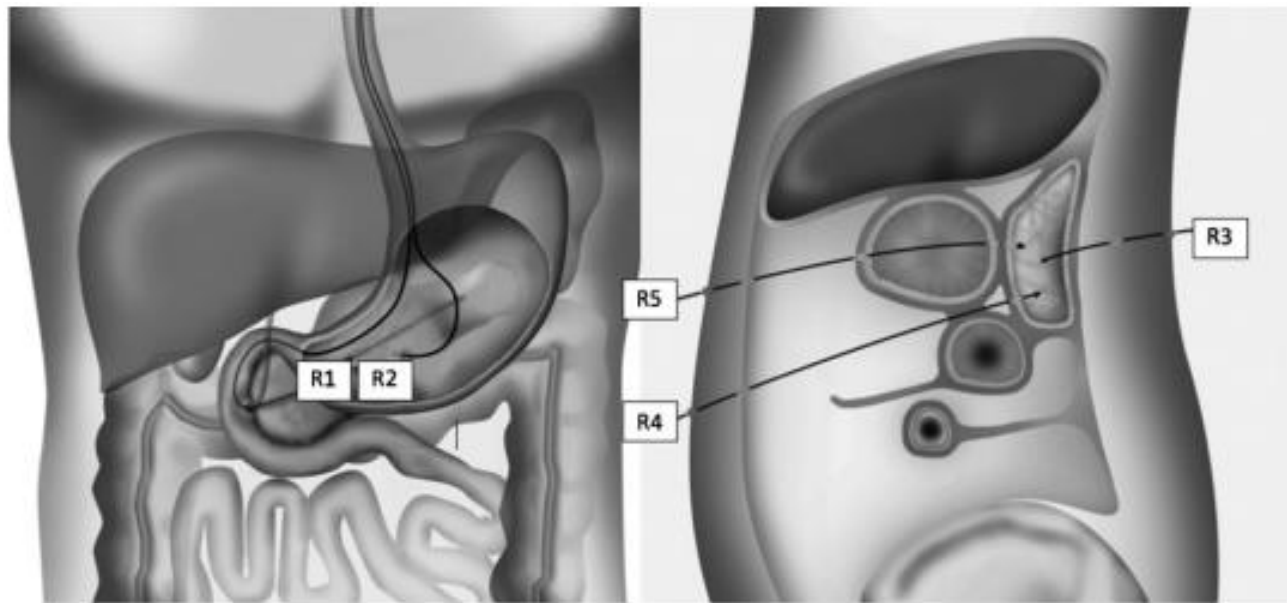
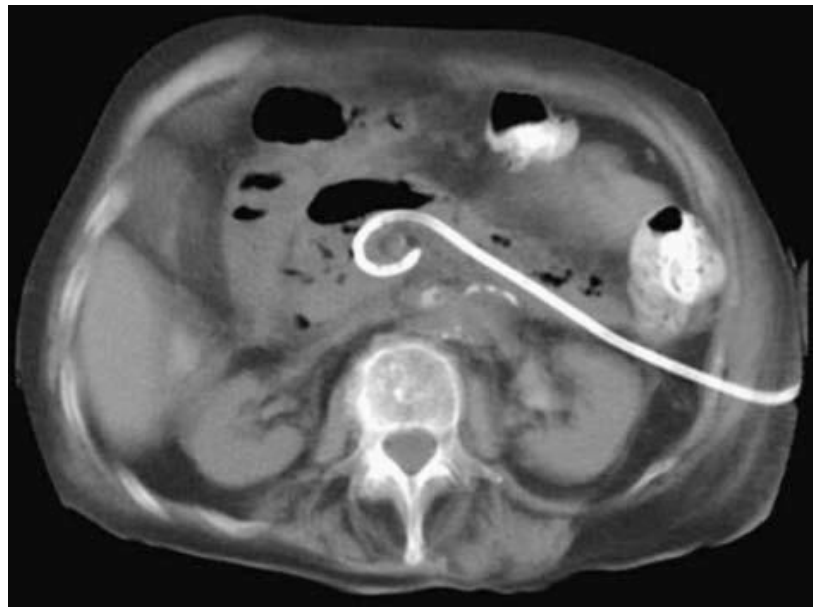
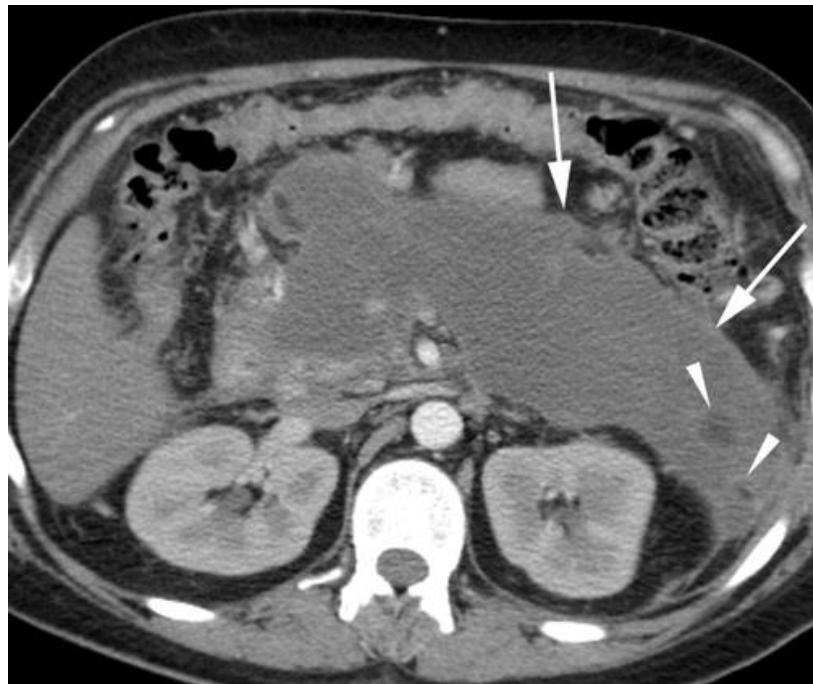


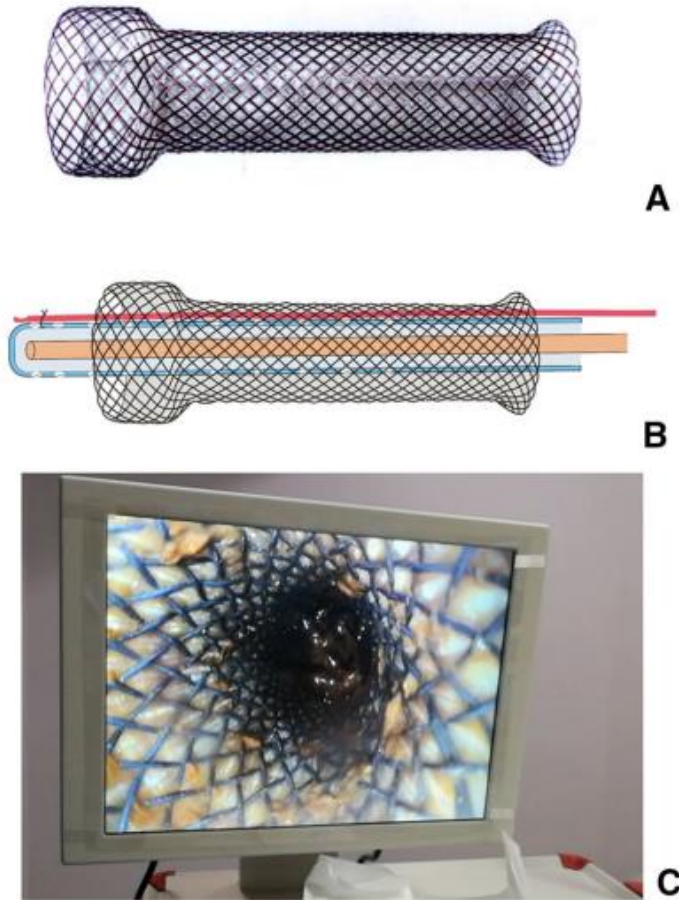
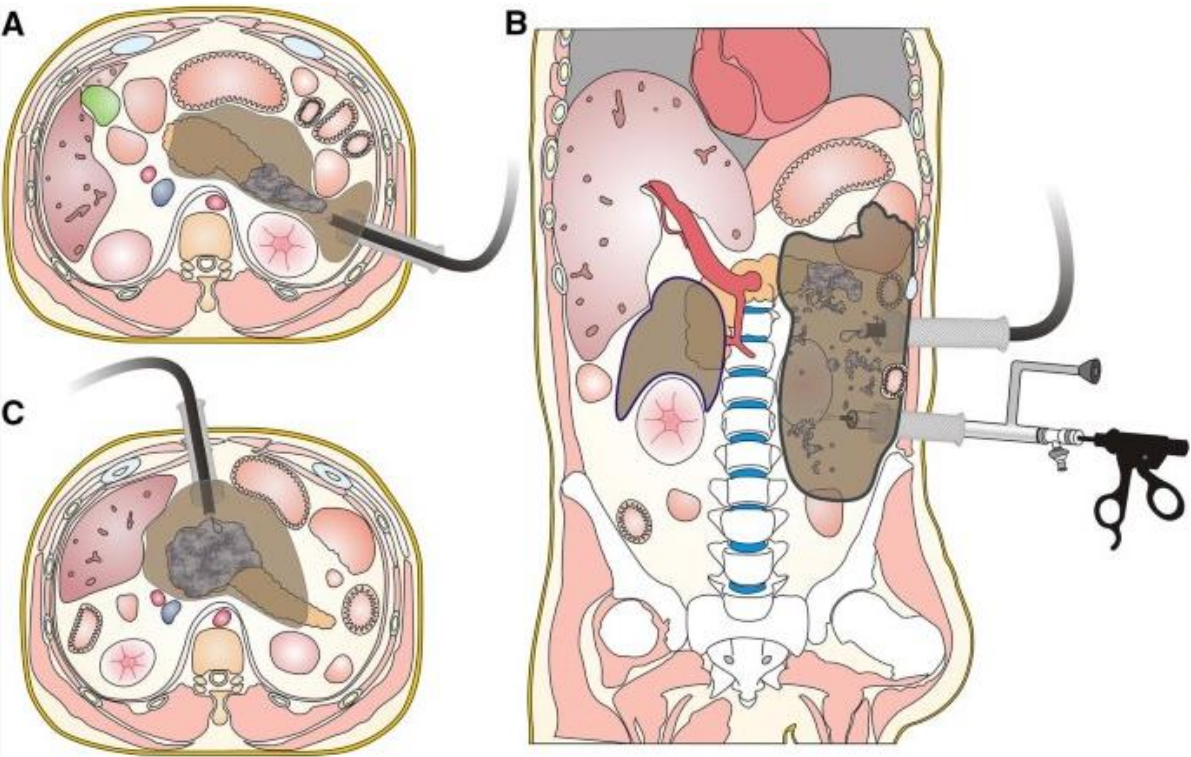
Lumen-Apposing Metal Stent (LAMS)



Video-Assisted Retroperitoneal Debridement (VARD)







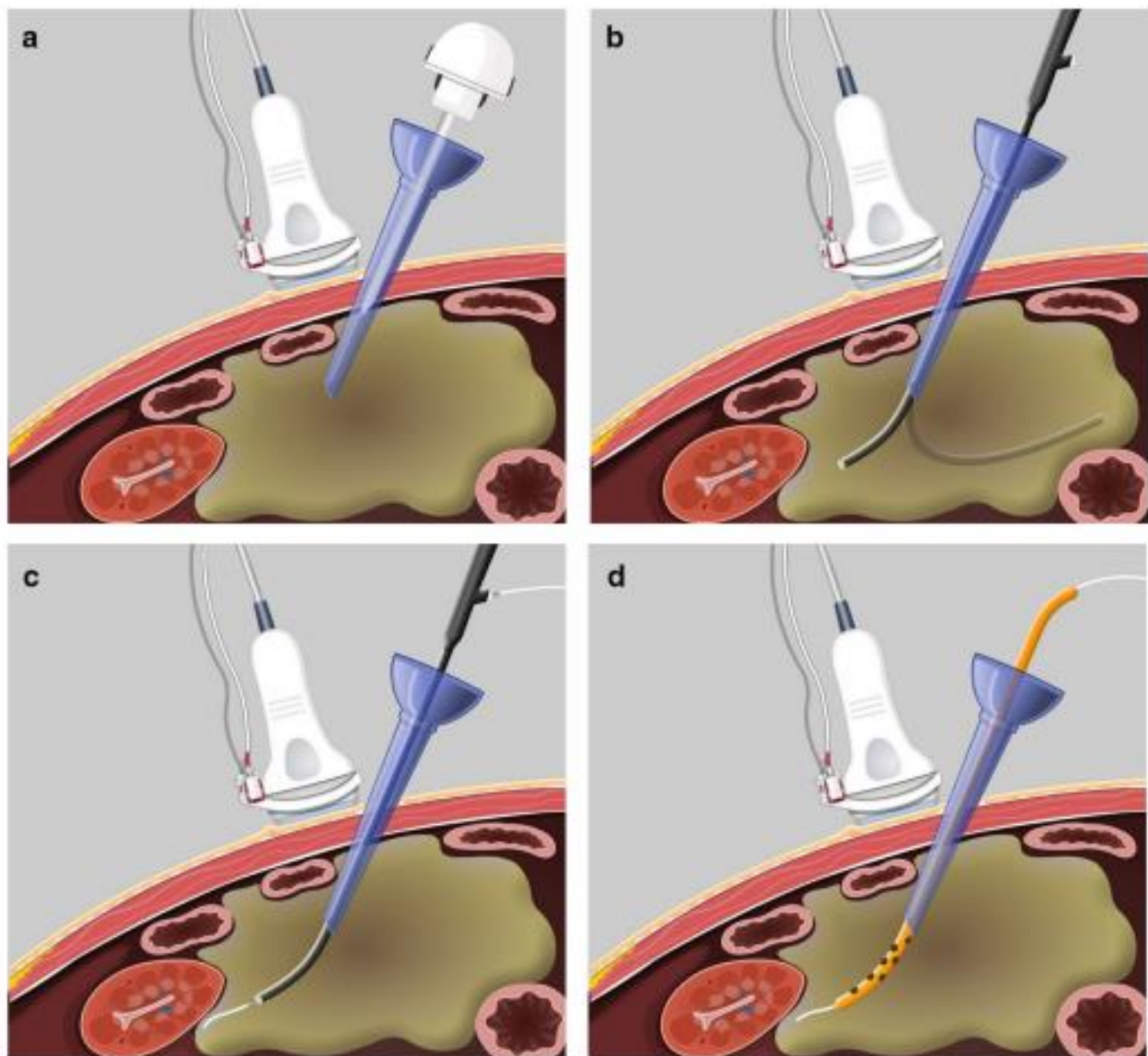
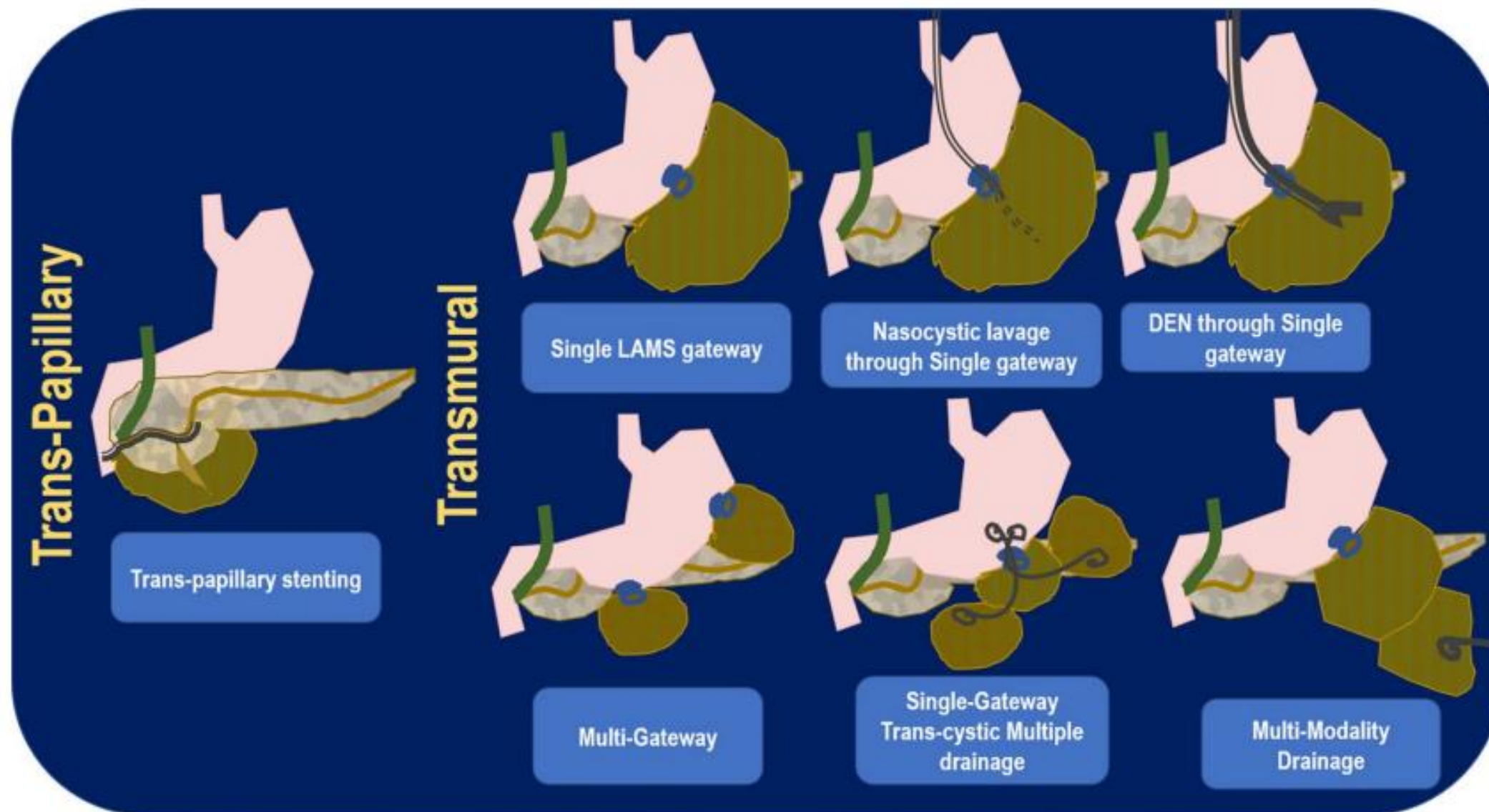
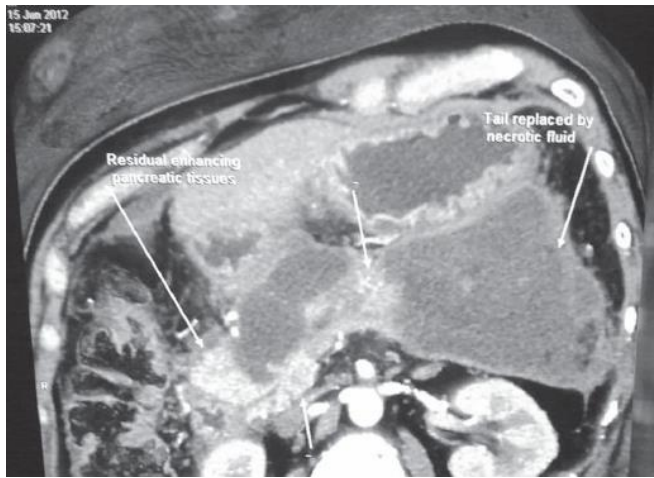


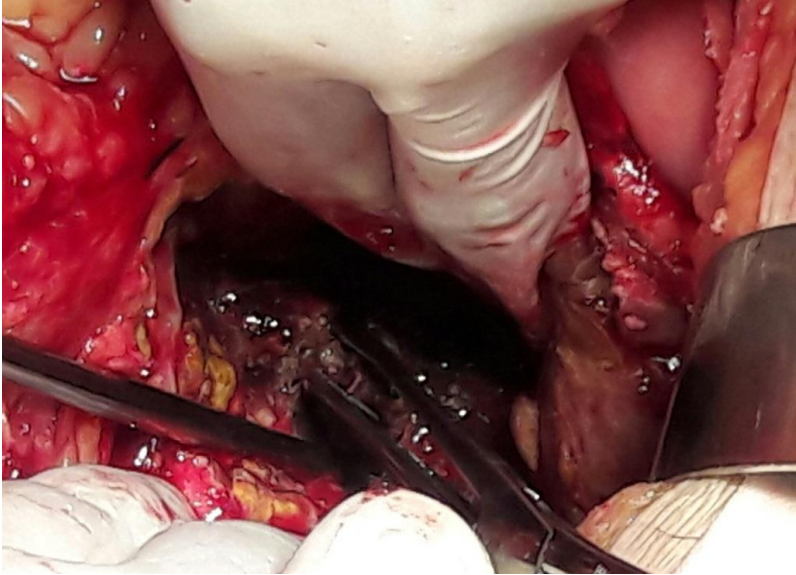
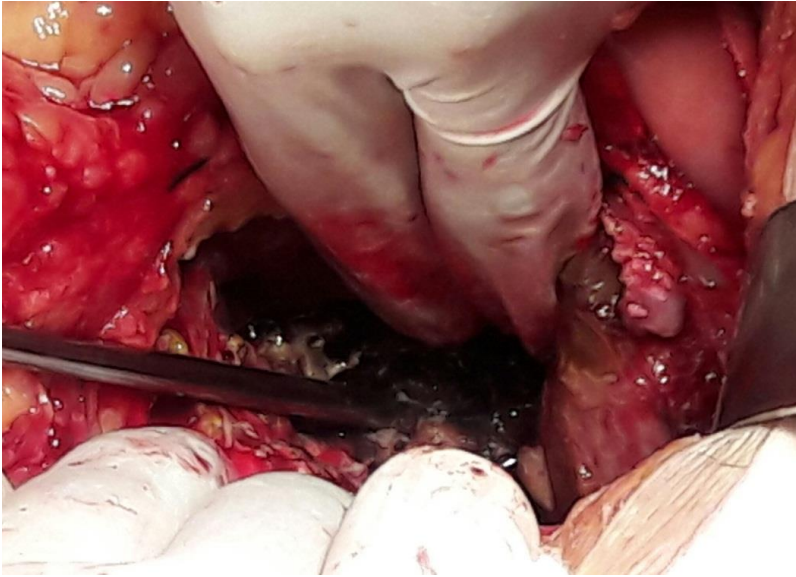
Fig. 1 Schematic of the modified percutaneous catheter drainage procedure under the triple guidance of choledochoscopy, ultrasonography (US), and computed tomography (CT). **a** A laparoscopic trocar is inserted into the necrotic cavity under the guidance of an US/CT imaging system. **b** After the withdrawal of the core, a choledochoscope is inserted through the trocar to detect the necrotic cavity and to debride the necrosis if needed. **c** Under the triple-guidance system, the guidewire is placed at the sloping position of the walled-off necrosis (WON), penetrating the necrotic cavity. **d** A multi-side-hole catheter is then inserted along the guidewire to drain the WON.

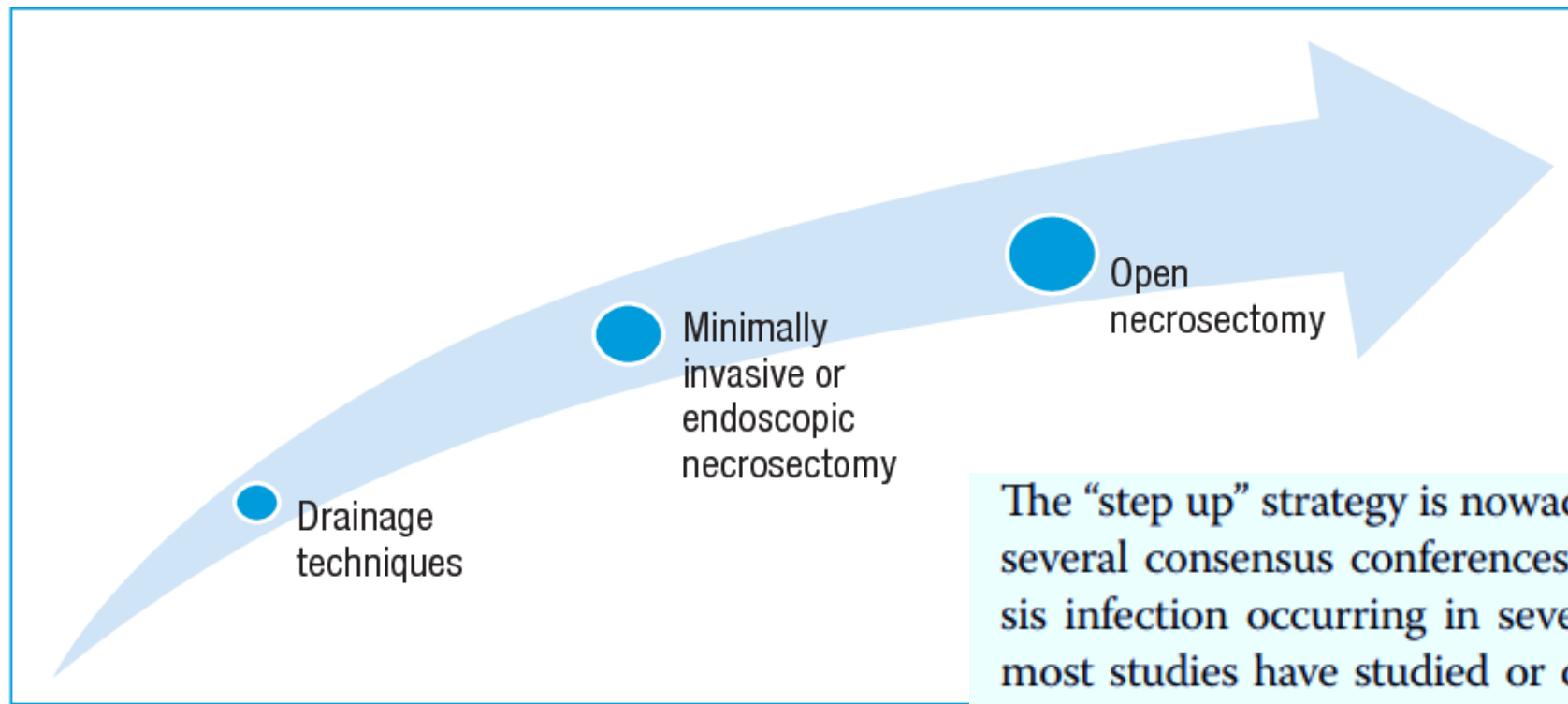


LẤY BỎ MÔ HOẠI TỬ VÀ DẪN LƯU QUA NỘI SOI Ổ BỤNG (LAPAROSCOPIC NECROSECTOMY)



LẤY BỎ MÔ HOẠI TỬ QUA MỒ MỎ (OPEN NECROSECTOMY)





The “step up” strategy is nowadays the strategy validated by several consensus conferences for the treatment of necrosis infection occurring in severe acute pancreatitis. While most studies have studied or compared the different techniques, the present work is original because it evaluates the “step up” approach as a whole and in the real life. Our observational study conducted in a tertiary centre allows us to conclude that the multidisciplinary “step up” approach is feasible with a clinico-biological efficacy on infection in 80% of cases and with an acceptable morbidity, mortality and long-term sequelae. Nevertheless, some points of the

KẾT LUẬN

- Phân loại hiệu chỉnh + tiến bộ về hình ảnh và can thiệp đã góp phần cho những thay đổi cách tiếp cận chẩn đoán, điều trị VTC

Things to avoid	Comments
Do not make a diagnosis of AP unless you have 2 of 3: Amylase or lipase > 3 X ULN Characteristic pain Imaging confirmation (CT or MRI)	Low level elevations of amylase or lipase are common, and insufficient for reaching a confident diagnosis
Do not use overly complicated systems to estimate prognosis	Simple laboratory tests (hematocrit, blood urea nitrogen, and creatinine), the presence of SIRS, and careful clinical monitoring work just as well
Do not intervene early on infected pancreatic necrosis	Wait for the collection to become walled-off and encapsulated, and for the necrotic tissue to demarcate from the surrounding viable tissue (usually 4 weeks or so) If needed due to sepsis despite targeted antibiotics, can temporize with a percutaneous drain Minimally invasive endoscopic interventions work best depending on availability