EUS/Endo Thérapeutique

Anand Sahai, MD, MSc (EPID), FRCPC

Centre Hospitalier de l'Université de Montréal

AGEQ POST-DDW 2026

Compétences CanMEDS

X	**Expert médical** (En tant qu'experts médicaux, les médecins assument tous les rôles CanMEDS et s'appuient sur leur savoir médical, leurs compétences cliniques et leurs attitudes professionnelles pour dispenser des soins de grande qualité et sécuritaires centrés sur les besoins du patient. Pivot du référentiel CanMEDS, le rôle d'expert médical définit le champ de pratique clinique des médecins .)
	Communicateur (En tant que communicateurs, les médecins développent des relations professionnelles avec le patient et ses proches ce qui permet l'échange d'informations essentielles à la prestation de soins de qualité.)
	Collaborateur (En tant que collaborateurs, les médecins travaillent efficacement avec d'autres professionnels de la santé pour prodiguer des soins sécuritaires et de grande qualité centrés sur les besoins du patient.)
	Leader (En tant que leaders, les médecins veillent à assurer l'excellence des soins, à titre de cliniciens, d'administrateurs, d'érudits ou d'enseignants et contribuent ainsi, avec d'autres intervenants, à l'évolution d'un système de santé de grande qualité.)
	Promoteur de santé (En tant que promoteurs de la santé, les médecins mettent à profit leur expertise et leur influence en oeuvrant avec des collectivités ou des populations de patients en vue d'améliorer la santé. Ils collaborent avec ceux qu'ils servent afin d'établir et de comprendre leurs besoins, d'être si nécessaire leur porte-parole, et de soutenir l'allocation des ressources permettant de procéder à un changement.)
X	**Érudit** (En tant qu'érudits, les médecins font preuve d'un engagement constant envers l'excellence dans la pratique médicale par un processus de formation continue, en enseignant à des tiers, en évaluant les données probantes et en contribuant à l'avancement de la science.)
X	**Professionnel** (En tant que professionnels, les médecins ont le devoir de promouvoir et de protéger la santé et le bien-être d'autrui, tant sur le plan individuel que collectif. Ils doivent exercer leur profession selon les normes médicales actuelles, en respectant les codes de conduite quant aux comportements qui sont exigés d'eux, tout en étant responsables envers la profession et la société. De plus, les médecins contribuent à l'autoréglementation de la profession et voient au maintien de leur santé.)

© Le Collège royal des médecins et chirurgiens du Canada, 2014.

Conflits d’intérêts potentiels

Nature des relations	Nom de l’organisation à but lucratif ou sans but lucratif
Les paiements directs incluant les honoraires	**Boston Scientific** **Pentax** **ALPFA**
La participation à des comités consultatifs ou des bureaux de conférenciers	**Boston Scientific** **Pentax**
Le financement de subventions ou d’essais cliniques	**Taeong** **ALPFA** **Alpha Tau**
Les brevets sur un médicament, un produit ou un appareil	Nil
Tout autre investissement ou toute autre relation qu’un participant raisonnable et bien informé pourrait considérer comme un facteur d’influence sur le contenu de l’activité éducative	Nil

DDW2026 Digestive Disease Week®
MAY 2–5, 2026 | CHICAGO, IL
EXHIBIT DATES: MAY 3–5, 2026

(F)UTILITY OF ANTIBIOTIC ADMINISTRATION DURING EUS-FNA OF PANCREAS CYSTS: A REAL-WORLD ANALYSIS

Xiang Yu Gao BS[1,2], Nishant Puri MD[1,2], Wichit Srikureja MD[1,2], Shih-Ting Chiu PhD[3], Jack Brandabur MD[4], Divyanshoo R Kohli MD[1,2]
1. Pancreas and Liver Clinic, Providence Sacred Heart Medical Center, Spokane WA
2. Elson S. Floyd College of Medicine, Washington State University, Spokane WA
3. Providence Saint Vincent Medical Center, Portland, OR
4. Prosser Memorial Health, Prosser, WA

WASHINGTON STATE UNIVERSITY Elson S. Floyd College of Medicine

Providence

INTRODUCTION

Current guidelines recommend antibiotics administration during endoscopic ultrasound (EUS)-guided fine needle aspiration (FNA) of pancreatic cysts to minimize infections, although the evidence is uncertain.

We report the real-world impact of antibiotic administration on adverse outcomes with EUS-FNA of pancreas cysts.

AIM

- Primary aim: incidence of infectious adverse events after endosonographic fine needle aspiration of pancreas cyst.
- Secondary aims: Incidence of readmissions and abdominal pain.

METHOD

- In this single center retrospective study, patients who underwent EUS-FNA of pancreas cyst from 2017 to 2025 were identified using relevant Current Procedural Terminology and International Classification of Diseases-10 codes.
- Patients undergoing cyst-gastrostomy, with pancreas mass, and those with duplicate or incomplete records were excluded.
- Protocol for antibiotics was per the discretion of the endoscopist.
- Patients were categorized into 3 groups based on antibiotic administration: no antibiotics, antibiotics only during EUS, and antibiotics during and after EUS.
- Cyst characteristics, diagnoses, and adverse events were compared across groups.

RESULTS

- Of the 710 patients initially identified, 429 met selection criteria and were grouped into no antibiotics (N=96), Antibiotics during EUS (N=124), and antibiotics during and after EUS (N=209; Figure 1).
- The 3 groups had similar demographics and cyst characteristics (Table 1).
- Penicillin and fluoroquinolones were the most common intra-procedural antibiotics; ciprofloxacin was the main outpatient choice, usually given for 5 days.
- Incidence of adverse events such as infection (N=13; 3.03%) and bleeding (N=4; 0.9%), were low and not significantly different across groups on univariate and multivariate analysis.
- The most frequent infectious adverse events were urinary tract infections (N=4), and pneumonia (N=2).

Figure 1. Flowchart of patients undergoing EUS-FNA of pancreatic cyst.

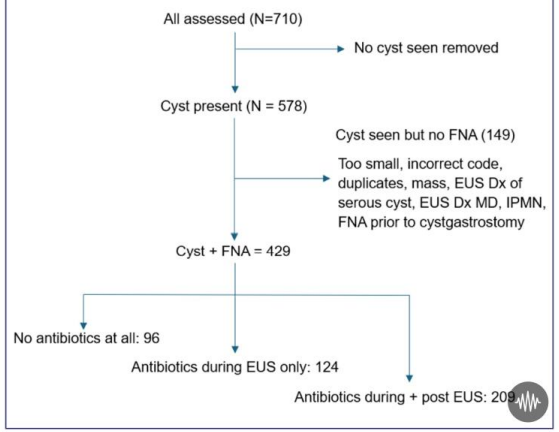


Table 1. Demographics, pancreas cyst features, and patient outcomes.

	No antibiotics N=96	Antibiotics only during EUS N=124	Antibiotic during and after EUS N=209	P-value
Demographics				
Age	67.7±12.9	68.9±14.3	69.2±13.4	0.67
Men	45 (47%)	67 (54%	110 (53%)	0.5
Body mass index	27.4±5.7	28.7±6.4	27.8±6.9	0.29
Race: White	88 (92%)	111 (91%)	183 (89%)	0.7
Cyst				
Location				
Head	30 (31%)	39 (31%)	73 (35%)	0.7
Neck	15 (16%)	17 (14%)	27 (13%)	0.8
Body	30 (31%)	42 (34%)	53 (25%)	0.2
Tail	24 (25%)	22 (18%)	40 (19%)	0.4
Uncinate	9 (9.4%)	18 (15%)	33 (16%)	0.3
Size				
Dimension 1	26.3±6.9	28.7±14.1	31.8±14.4	0.49
Dimension 2	25.2±17.9	26.3±13.5	25.0±17.1	0.29
Analysis				
Carcinoembryonic antigen (CEA)	108 (10; 434)	191 (21; 1,491)	183 (12; 737)	0.4
Amylase	2,547 (96; 17,010)	1,482 (63; 19,160)	4,593 (173; 34930)	0.09
Glucose	105 (91; 177)	88 (4; 123)	90 (4; 109)	0.02
Diagnosis				
IPMN	17 (17.7%)	25 (20.2%)	32 (15.3%)	<0.001
Dysplasia/ Cancer	11 (11.4%)	9 (7.2%)	11 (5.3%)	
Benign/ serous	23 (23.9%)	36 (29%)	45 (21.5%)	
Pseudocyst / Inflammatory	32 (33.3%)	37 (29.8%)	92 (44%)	
MCN	3 (3.1%)	4 (3.2%)	8 (3.8%)	
Miscellaneous	10 (10.4%)	13 (10.5%)	21 (10%)	
Antibiotic				
Ampicillin	-	52 (43%)	64 (31%)	<0.001
Cefazolin	-	10 (8.3%)	96 (46%)	
Ciprofloxacin	-	39 (32%)	28 (13%)	
Levofloxacin	-	9 (7.4%)	5 (2.4%)	
Ampicillin-Sulbactam	-	11 (9.1%)	15 (7.2%)	
Duration of outpatient antibiotics (days)	-	-	5	-
Adverse events within 30 days				
Bleeding	2 (2.1%)	2 (1.6%)	0	0.4
Infection	2 (2%)	5 (4%)	6 (2.9%)	0.4
Readmission/ ER visit	13 (14%)	15 (12%)	23 (11%)	0.8
Perforation	0	0	1	>0.9

CONCLUSIONS

Infectious complications after EUS-FNA are rare and unaffected by antibiotic use or duration.

Routine / universal antibiotics may be unnecessary based on these real-world findings.

Ponction échoendoscopique des kystes pancréatiques : Faut-il prescrire des antibiotiques ?

Données probantes
Risque d'infection post-procédure **très faible (<1 %)**
Plusieurs études et méta-analyses n'ont démontré **aucun bénéfice** des antibiotiques prophylactiques
Les rares infections rapportées surviennent surtout après des procédures de drainage plutôt qu'après une simple ponction diagnostique

Situations nécessitant une approche individualisée
Immunosuppression sévère
Collection infectée ou nécrose encapsulée infectée
Procédure thérapeutique de drainage (et non simple FNA/FNB)
Circonstances cliniques particulières

Message clé

La ponction diagnostique échoendoscopique des kystes pancréatiques peut être réalisée de façon sécuritaire sans antibioprophylaxie systématique.

Références

•ASGE. *Antibiotic prophylaxis for GI endoscopy*, 2022.
•ESGE Guideline on Pancreatic Cystic Neoplasms, 2024.
•Facciorusso A et al. *Gastrointest Endosc*. 2020.
•Colán-Hernández J et al. *Endoscopy International Open*. 2022.

ASGE (2022)	Pas d'antibioprophylaxie systématique
ESGE (2024)	Pas d'antibiotiques pour le prélèvement des kystes pancréatiques

AN FDA-APPROVED INNOVATION DESIGNED TO IMPROVE EUS FNA/B RESULTS

Jesse Lachter[1,2], JOSE CELSO ARDENGH[3], Rafael Kemp[3], Jose Sebastiao Sebastião Dos Santos[3]*
[1]Meuhedet Health Services, Northern Region, Haifa, Israel; [2]OnePass Medical, Katzrin, North District, Israel; [3]Universidade de Ribeirao Preto, Ribeirao Preto, SP, Brazil

Introduction:

EUS FNA/B utilizes single-needle assemblies that require multiple passes for optimal diagnostic results.

Real-world data indicate that, not rarely, even multiple passes can yield indeterminate diagnostic results.

Inconclusive results are deeply disappointing and lead to diagnostic delays, resulting in significant health and financial costs.

Sampling error or insufficiency may result due to the tract effect, in which subsequent multiple passes tend to follow the tract of the first pass. Areas of lesions that are predominantly desmoplastic, necrotic, or cystic may not exhibit tumor cells.

Novel diagnostic and therapeutic devices for **EUS** are needed.

The Onepass Medical company has developed, produced, and patented a novel five-needle assembly that enables echo-endoscopists to obtain five different specimens from suspected tumors in a single pass. A **central 22g FNB needle and four 25g FNA needles** can be placed within a lesion at predetermined distances from each other. In 2025, the Instafan device was approved by the FDA for use. By simultaneously placing five needles within a lesion, more representative and thus diagnostic results may be achieved more often/reliably, and expeditiously.

Methods and Results: Approval for use by Anvisa, the Brazilian equivalent of the US FDA, was obtained based on animal studies conducted in Minnesota, Ohio, and Israel. The Instafan was used in **27 patients**, comprising 17 males and 10 females, with ages ranging from 18 to 77 years (median, 62 years). The patients had a variety of suspected malignancies, based on clinical features, CT, and/or MRI imaging, of whom 23 had pancreatic involvement. The first six were all in situations after community-based **EUS** FNA/B had resulted in indefinite diagnoses. 5 of these six lesions had definitive results from the Instafan. Overall, using the Instafan, a definitive pathologic diagnosis was established in 25 of the 27 patients. Robust specimens for liquid and tissue pathology were of high quality. Of the two indefinite diagnosis cases, both were attempts at biopsies of suspicious small nodules. One node disappeared at a 3-month follow-up exam; another continues to be monitored. No serious adverse events occurred.

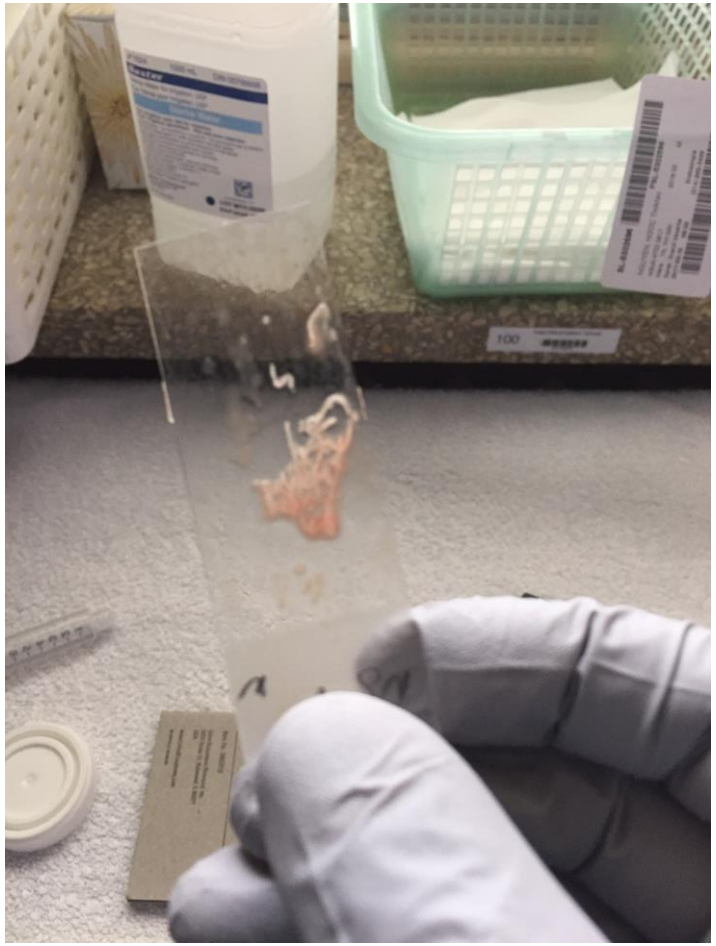
Discussion, Limitations, and Conclusions:

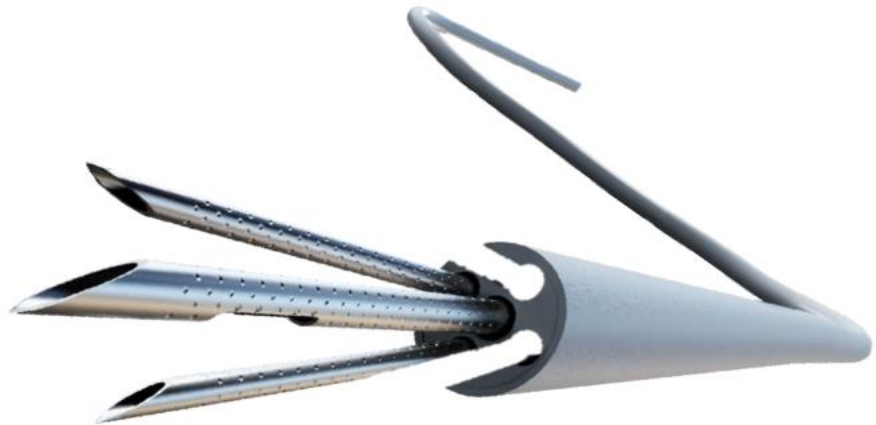
The Instafan is a breakthrough device that safely delivered diagnoses **more reliably** than FNA/B with standard, latest-model single-FNB needles. We herein report on a single-center, small-scale, and thus preliminary efficacy assessment. Based on these encouraging results, which were obtained after several animal model studies, Instafan was approved for use in the USA by the FDA. A large-scale multicenter evaluation in humans in the USA is planned.

CUTTING NEEDLES

Images Owned by Boston Scientific

CUTTING NEEDLE





AN FDA-APPROVED INNOVATION DESIGNED TO IMPROVE EUS FNA/B RESULTS

Jesse Lachter[1,2], JOSE CELSO ARDENGH[3], Rafael Kemp[3], Jose Sebastiao Sebastião Dos Santos[3]*
[1]Meuhedet Health Services, Northern Region, Haifa, Israel; [2]OnePass Medical, Katzrin, North District, Israel; [3]Universidade de Ribeirao Preto, Ribeirao Preto, SP, Brazil

Introduction:

EUS FNA/B utilizes single-needle assemblies that require multiple passes for optimal diagnostic results. FAUX

Real-world data indicate that, not rarely, even multiple passes can yield indeterminate diagnostic results. FAUX

Inconclusive results are deeply disappointing and lead to diagnostic delays, resulting in significant health and financial costs. FAUX

Sampling error or insufficiency may result due to the tract effect, in which subsequent multiple passes tend to follow the tract of the first pass. Areas of lesions that are predominantly desmoplastic, necrotic, or cystic may not exhibit tumor cells. FAUX

Novel diagnostic and therapeutic devices for EUS are needed. FAUX!

The Onepass Medical company has developed, produced, and patented a novel five-needle assembly that enables echo-endoscopists to obtain five different specimens from suspected tumors in a single pass. A **central 22g FNB needle and four 25g FNA needles** can be placed within a lesion at predetermined distances from each other. In 2025, the Instafan device was approved by the FDA for use. By simultaneously placing five needles within a lesion, more representative and thus diagnostic results may be achieved more often/reliably, and expeditiously.

Methods and Results: Approval for use by Anvisa, the Brazilian equivalent of the US FDA, was obtained based on animal studies conducted in Minnesota, Ohio, and Israel. The Instafan was used in **27 patients**, comprising 17 males and 10 females, with ages ranging from 18 to 77 years (median, 62 years). The patients had a variety of suspected malignancies, based on clinical features, CT, and/or MRI imaging, of whom 23 had pancreatic involvement. The first six were all in situations after community-based EUS FNA/B had resulted in indefinite diagnoses. 5 of these six lesions had definitive results from the Instafan. Overall, using the Instafan, a definitive pathologic diagnosis was established in 25 of the 27 patients. Robust specimens for liquid and tissue pathology were of high quality. Of the two indefinite diagnosis cases, both were attempts at biopsies of suspicious small nodules. One node disappeared at a 3-month follow-up exam; another continues to be monitored. No serious adverse events occurred.

Discussion, Limitations, and Conclusions:

The Instafan is a breakthrough device that safely delivered diagnoses **more reliably** than FNA/B with standard, latest-model single-FNB needles. We herein report on a single-center, small-scale, and thus preliminary efficacy assessment. Based on these encouraging results, which were obtained after several animal model studies, Instafan was approved for use in the USA by the FDA. A large-scale multicenter evaluation in humans in the USA is planned.

COMPARATIVE EFFECTIVENESS OF EUS-GUIDED RADIOFREQUENCY ABLATION COMBINED WITH CHEMOTHERAPY VERSUS CHEMOTHERAPY ALONE IN PANCREATIC ADENOCARCINOMA: A PROPENSITY SCORE–MATCHED ANALYSIS

Meng-Ying Lin[*1,2], Chien-Jui Huang[1,2], Yan-Shen Shan[1,2]*

[1]National Cheng Kung University College of Medicine, Tainan City, Tainan City, Taiwan; [2]National Cheng Kung University Hospital, Tainan City, Tainan City, Taiwan

Background and Aims

Pancreatic ductal adenocarcinoma (PDAC) remains one of the most lethal malignancies with a dismal prognosis. Endoscopic ultrasound-guided radiofrequency ablation (EUS-RFA) may provide better local disease control and survival outcomes. However, its optimal indication remains unclear. We aimed to identify which patients could benefit from EUS-RFA.

Methods

This retrospective case-control study included patients with PDAC who received EUS-RFA combined with chemotherapy between November 2023 and April 2025. Propensity score matching based on age, sex, resectability status, tumor size, ECOG performance status, and treatment regimen was done with Matched patients who received chemotherapy alone served as controls. Tumor response, survival outcomes, and post-chemotherapy surgical results were compared.

Results

Thirty-three patients were enrolled (8 EUS-RFA and 25 controls).

All patients in the EUS-RFA group achieved partial regression according to RECIST 1.1 criteria, with only **28% in the control group** ($p = 0.002$).

Tumor shrinkage percentage was also greater in the EUS-RFA group ($34.1 \pm 8.1\%$ vs. $18.4 \pm 14.9\%$, $p = 0.009$).

However, **overall survival was not significantly different** (14.5 ± 3.0 months vs. 23.3 ± 2.3 months, $p = 0.079$ by log-rank test).

Surgical resection after chemotherapy was performed in 4 of 8 EUS-RFA patients and 15 of 25 controls, resulting in R0 resection rates of 25% (1/4) and 80% (12/15), respectively ($p = 0.071$).

Conclusion

EUS-RFA combined with chemotherapy **improved tumor response and resulted in greater tumor shrinkage** compared with chemotherapy alone. However, the **relatively lower R0 resection rate raises concern regarding its use in potentially resectable patients.**

UPDATED RESULTS OF FEASIBILITY, SAFETY, AND TUMOR CONTROL IN TWO FIRST-IN-HUMAN TRIALS OF A NOVEL ALPHA-EMITTING RADIONUCLIDE FOR PANCREATIC ADENOCARCINOMA

Harold Jacob[1], Philip Blumenfeld[2], Julia Epshtein[1], Naama Lev-Cohain[1], Ayala Hubert[2], Zachary Daitch[1], Sergei Vosko[1], Eitan Zlotnik[1], Ariel Benson[1], Aron Popovitzer[1]*

Background:

This study aims to report the initial feasibility, safety, and tumor response of delivering Diffusing Alpha-Emitter Radiation Therapy (Alpha DaRT) to the pancreas. This innovative approach involves the interstitial implantation of a novel alpha-emitting radiation source via endoscopic ultrasound (EUS) for the treatment of pancreatic adenocarcinoma.

Methods:

The study enrolled patients treated with Alpha DaRT to the pancreas across two distinct protocols (PANC and ALL). The primary objective for both protocols was to assess the safety of Alpha DaRT delivery to the target lesion via EUS, while the secondary objective was to evaluate initial tumor response using the Response Evaluation Criteria in Solid Tumors (RECIST) at 1 and 3 months post-Alpha DaRT source insertion. The PANC protocol included patients with biopsy-proven adenocarcinoma, either unresectable, recurrent, or metastatic, who were unfit for standard treatment. The ALL protocol allowed for any malignancy with a targetable lesion and permitted concurrent systemic therapy. For this analysis, from the ALL protocol only patients with biopsy-proven adenocarcinoma treated to the primary pancreatic lesion were included. Toxicity was evaluated according to the CTCAE version 5, and tumor response was assessed at 30-45 days and 90 days using RECIST version 1.1. Overall survival was evaluated using Kaplan-Meier estimates. The median follow-up time was 91 days.

Results:

A total of **26 patients** (18 male, 8 female) median age 72 (range: 54-90) were enrolled (14 in PANC, 12 in ALL). Ten patients had localized, unresectable disease and sixteen had metastatic disease. Twelve patients had a history of prior radiotherapy. Successful placement of Alpha DaRT sources into the targetable pancreatic lesions was achieved in all cases (100%), as confirmed by post-treatment imaging. Across all treated patients, only 8 device-associated toxicities were reported, all acute. Three of these toxicities were grade 3, with the remainder grade 1-2. Toxicities included fever/chills in 3 of 26 patients (11.5%) and abdominal pain in 2 of 26 patients (7.7%). Three patients were hospitalized. No long-term toxicities (> 3 months) have been seen to date. Tumor response data were available for 19 of the 26 patients. Local control was 100% for all evaluable patients. Of these, **15 (79%) exhibited stable disease, while 4 (21%) showed a partial response (> 30% tumor reduction).**

Conclusions:

Alpha DaRT delivered via EUS is feasible with a favorable safety profile and demonstrates promising tumor responses. Ongoing longer follow-up and larger studies are required to validate these findings.

POST-SURGICAL OUTCOMES FOR EUS-LAMS PRIOR TO DEFINITIVE WHIPPLE FOR HEPATOPANCREATOBILIARY MALIGNANCIES: A CASE SERIES

Jennifer Koh[*1], Brett C. Sheppard[1], Jessica X. Yu[1], Kaveh Sharzehi[1], Saad Jazrawi[1], Siddharth Javia[1], Gregory A. Cote[1], Emily Rebecca Jonica[1]*
[1]Oregon Health & Science University, Portland, Oregon, United States

Background:
Endoscopic ultrasound (EUS)-guided lumen-apposing metal stent (LAMS) interventions for malignant gastrointestinal obstructions have expanded over the past decade, with clinical efficacy and excellent safety profile. Historically, most of these interventions (EUS-gastroenterostomy [EUS-GE], EUS-gallbladder drainage (EUS-GBD], EUS-choledochoduodenostomy [EUS-CDS]) were limited to nonsurgical candidates. There still remains hesitancy from a surgical perspective due to perceived risks of increased surgical complexity. This case series describes the clinical outcomes of EUS-LAMS for malignant palliation prior to Whipple surgery.

Methods:
This study is an IRB-approved retrospective case series of adult patients who underwent EUS-LAMS procedures (EUS-GE, EUS-CDS, EUS-GBD) prior to definitive pancreaticoduodenectomy from 1/1/23-9/30/25. The primary aim was to describe the clinical outcomes and post-surgical complications (during hospital admission or up to 30 days after surgery).

Results:
We identified 5 patients (2 female, 3 male) who underwent EUS-LAMS prior to Whipple - **3 EUS-GE, 1 EUS-CDS, and 1 EUS-GBD**. Patients ranged from 50 to 88 years old, with a median age of 76 years (Table 1). 60% received neoadjuvant chemotherapy and the median time between **EUS**-LAMS to Whipple surgery was 126 days. Intraoperative adhesiolysis or scar tissue was noted in four patients. One patient required extensive multiorgan resection for sarcomatoid renal cell carcinoma and one required vascular reconstruction (Table 2A). Median operative duration was 429 minutes with 80% R0 resection rate, and four patients had a Clavien-Dindo score > 3 (Table 2B). One patient died two weeks after discharge from pancreatic anastomotic leak and abdominal infection, and another was readmitted for pneumonia.

To provide comparison, we randomly selected five Whipple patients without preceding EUS-LAMS (Table 2 B). The **Whipple only patients had a longer median length of surgery** (513 versus 429 minutes) compared to EUS-LAMS patients but had the **same readmission and R0 resection rate**. Whipple only patients had a shorter length of hospitalization (8 days versus 15 days) (Table 2B).

Conclusion:
Our study shows that EUS-LAMS prior to Whipple is technically feasible. The **main complication was scarring and adhesions**, though this did not appear to be directly related to LAMS. Patients with EUS-LAMS can still undergo surgery with oncologic curative-intent (80% R0 resection rate in both groups), without significant disruption of anatomic planes that would preclude successful surgery. EUS-LAMS is a viable alternative for a select cohort of patients to allow for additional time for neoadjuvant chemotherapy and nutritional prehabilitation with EUS-GE. It also provides a drain-free option for those who would have required percutaneous biliary drainage or percutaneous gastrostomy.

L'échoendoscopie avec cholédocoduodénostomie (EUS-CDS) nuit-elle à une chirurgie de Whipple ultérieure?
Réponse courte : Probablement non

Les données actuellement disponibles suggèrent que la **cholédocoduodénostomie guidée par échoendoscopie (EUS-CDS)** ne compromet pas la réalisation ultérieure d'une **pancréatoduodénectomie céphalique (procédure de Whipple)** chez les patients atteints d'une tumeur pancréatique ou périampullaire potentiellement résécable. Toutefois, certaines considérations doivent être prises en compte.

Préoccupations théoriques

- **Inflammation et fibrose locales** : la mise en place d'une prothèse crée une fistule entre le duodénum et le cholédoque, ce qui pourrait théoriquement entraîner des adhérences ou compliquer la dissection chirurgicale.
- **Complications préopératoires** : une cholangite, une fuite biliaire ou un dysfonctionnement de la prothèse pourraient retarder la chirurgie.
- **Localisation de la prothèse** : lors d'une EUS-CDS transduodénale, la prothèse est habituellement située dans la pièce opératoire retirée lors du Whipple, ce qui facilite sa prise en charge chirurgicale.

Données disponibles

Plusieurs séries rétrospectives provenant de centres experts ont montré :

des taux de résection R0 comparables à ceux observés après drainage transpapillaire par ERCP;

aucune augmentation significative :

- du temps opératoire;
- des pertes sanguines;
- du taux d'irrésécabilité peropératoire;
- des complications postopératoires.

Message clé

La cholédocoduodénostomie guidée par échoendoscopie ne semble pas compromettre la réalisation ultérieure d'une chirurgie de Whipple et ne constitue pas une contre-indication à la pancréatoduodénectomie.

Cependant, en raison du caractère principalement rétrospectif des données disponibles, **l'ERCP demeure la première option lorsque celle-ci est réalisable chez un patient clairement résécable**, alors que **l'EUS-CDS constitue une excellente solution de rechange après un échec d'ERCP.**

Référence principale

Darnis B et al. Annals of Surgery. 2022.

Pancreaticoduodenectomy following endoscopic ultrasound-guided choledochoduodenostomy versus transpapillary stenting: a propensity score analysis.

Cette étude n'a démontré **aucune augmentation de la morbidité ou de la mortalité postopératoires**, avec des résultats oncologiques comparables après chirurgie de Whipple.

EUS-GUIDED GALLBLADDER DRAINAGE *VERSUS* ENDOSCOPIC TRANSPAPILLARY DRAINAGE *VERSUS* PERCUTANEOUS DRAINAGE IN HIGH-RISK SURGICAL PATIENTS WITH ACUTE CHOLECYSTITIS: AN UPDATED SYSTEMATIC REVIEW AND BAYESIAN NETWORK META-ANALYSIS

Marcelo Cristalli Pacheco Da Costa[*1], Andre Orsini Ardengh[2], Luiza Fenelon[3], Otavio Cosendey Martins[4], Stefano Baraldo[7], Vanio do Livramento Antunes[5], Diogo Bergesch Diedrich[5], Murilo Cavalcante Netto do Carmo[5], Marcelo Morganti Ferreira Dias[6], Beanie Conceição Medeiros Nunes[2], Matheus Cavalcante Franco[8], Joao Ricardo Duda[10], José Celso Ardengh[9,11,12]*

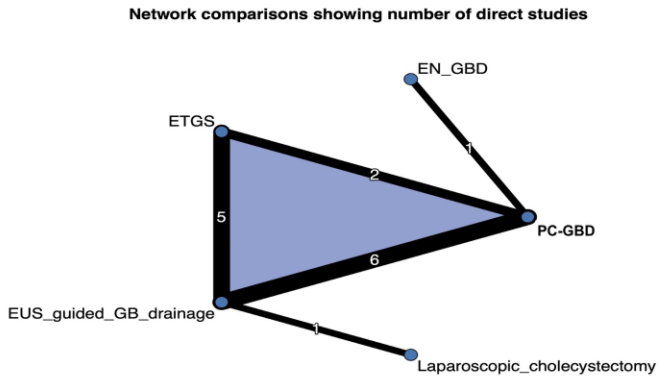
BACKGROUND: Cholecystectomy remains the definitive treatment for acute cholecystitis; however, in patients deemed high-risk or unsuitable for surgery, gallbladder drainage procedures constitute essential alternative therapeutic options. A prior meta-analysis published in 2021 compared available drainage modalities, but several relevant studies have since emerged. This updated systematic review and network meta-analysis compares EUS-guided gallbladder drainage (**EUS**-GBD), endoscopic transpapillary drainage (ET-GBD), and percutaneous drainage (PC-GBD) as alternative methods of gallbladder decompression in high-risk surgical patients.

METHODS: We systematically searched PubMed, Embase, and the Cochrane Library for studies evaluating at least two gallbladder drainage techniques in patients with acute cholecystitis who were poor surgical candidates or unfit for surgery. A Bayesian network meta-analysis was performed using Monte Carlo simulation with 100,000 iterations. Risk ratios (RR) and corresponding Credible Intervals (CrI) were calculated, with statistical significance determined by exclusion of the null value from the CrI. League tables summarized all pairwise comparisons, and SUCRA values were used to establish treatment rankings. Analyses were conducted in R version 4.5.2 using the “gemtc” and “rjags” packages.

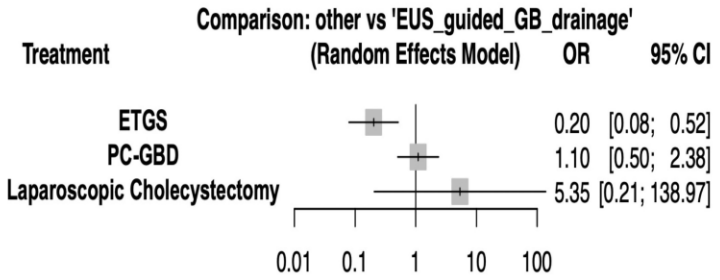
RESULTS: Eighteen studies (2 randomized trials and 16 retrospective cohorts) including 2265 patients were analyzed. The median age was 72.5 years, and 52.6% were male. **PC-GBD achieved significantly higher technical success** than both **EUS**-GBD (RR 1.04; 95% CrI 1.01–1.11) and ET-GBD (RR 1.22; 95% CrI 1.16–1.34), and **EUS**-GBD outperformed ET-GBD **(RR 1.17; 95% CrI 1.11–1.25). No significant differences were observed among techniques for clinical success. For adverse events, EUS-GBD had significantly fewer complications than PC-GBD** (RR 0.48; 95% CrI 0.34–0.74), with no other significant comparisons. SUCRA rankings indicated that **PC-GBD had the highest probability of being the most effective for technical success (99.9%),** followed by EUS-GBD (50.1%). **For clinical success, EUS-GBD ranked highest (96.7%),** with **PC-GBD (38.0%)** and **ET-GBD (15.3%)** following. For safety, EUS-GBD showed the most favorable profile (98.3%), followed by ET-GBD (41.3%) and PC-GBD (10.4%).

CONSLUSIONS: EUS-GBD demonstrated the most favorable balance of clinical success and safety among high-risk surgical patients with acute cholecystitis. PC-GBD offered the highest technical success but had the greatest risk of adverse events. ET-GBD consistently ranked lowest across outcomes. Overall, **EUS-GBD appears to be the most effective and safest alternative** for gallbladder drainage in this population.

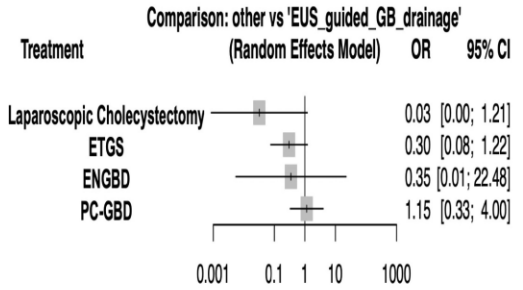
GB drainage



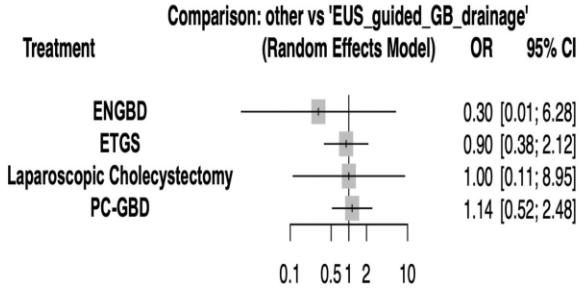
A. Network comparisons showing number of direct studies on each treatment pair.



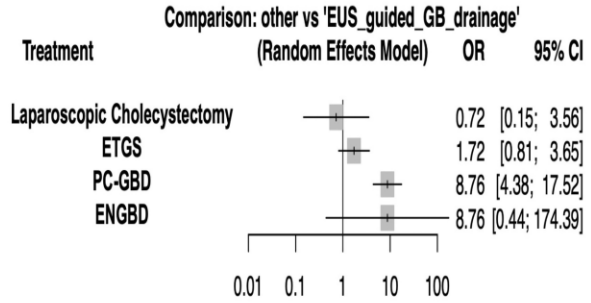
B. Network of clinical success comparisons across all techniques



C. Network of technical success comparisons across all techniques



D. Network of adverse events comparisons across all techniques



E. Network of reintervention comparisons across all techniques

14 studies network meta-analysis of high-risk pts with acute cholecystitis. - 1400 pts; EUS-GBD superior to transpapillary stenting in clinical success and non-inferior to LC and Perc-GBD.

- Similar technical success
- EUS-GBD lower reintervention compared to perc-GBD.

Byale, et al. ID 300 Sun

TO DILATE OR NOT TO DILATE: OUTCOMES FOLLOWING LUMEN-APPOSING METAL STENT PLACEMENT DURING EUS-GUIDED GASTROJEJUNOSTOMY

Matthew Bell[1], Sylvia Sudat[1], Kenneth F. Binmoeller[1], Andrew Nett[1], Yongyan Cui[1], Nazia Hasan[1]*

BACKGROUND
Endoscopic ultrasound-guided gastrojejunostomy (EUS-GJ) has emerged as a minimally invasive alternative for the management of gastric outlet obstruction (GOO). The technique creates a gastric-jejunal bypass by deploying a lumen-apposing metal stent (LAMS) from the stomach into a jejunal loop distal to the obstruction. **Some endoscopists routinely dilate the LAMS to facilitate immediate expansion**, while others rely on spontaneous expansion without dilation. Despite this variation, no consensus or evidenced-based guidelines exist regarding post-deployment dilation. This study evaluates technical and clinical outcomes of EUS-GJ with and without post-deployment dilation over a 10-year period at a quaternary referral center.

METHODS:

We performed a **retrospective review** of all patients who underwent EUS-GJ for benign or malignant GOO at California Pacific Medical Center between 2014 and 2024. Consecutive patients undergoing EUS-GJ for GOO were included; cases performed primarily for biliary access or with incomplete follow-up were excluded. Post-deployment dilation was performed at the discretion of the attending endoscopist. In the non-dilation group, electrocautery-enhanced LAMS were deployed and allowed to self-expand without balloon dilation. Demographics were collected (Table 1) and outcomes time to resumption of oral intake, gastric outlet obstruction scoring system (GOOSS) scores at discharge and follow-up, and technical success. Comparisons between the dilation and non-dilation groups were performed using the Wilcoxon rank-sum text for continuous variables and Fisher's exact test for categorical variables.

RESULTS:

Of **158 patients** that met inclusion criteria, technical success was achieved in **27 in the non-dilation** group and **130 in the dilation** group. Mean **time to oral intake was comparable** between the two cohorts (Table 2). GOOSS scores at discharge were also similar. **Reintervention rates were numerically lower in the non-dilation group**, though this difference was not statistically significant. **Adverse event rates and severity profiles were comparable** between groups with **less aspiration events experienced in the non-dilation group**.

This study represents the first direct comparison of outcomes between dilation and non-dilation of LAMS during **EUS**-GJ. Our findings demonstrate that **both techniques are safe and effective, with no significant differences in time to oral intake, clinical success, or adverse events**. Interpretation of these findings should consider key limitations, including the smaller non-dilation cohort, retrospective design, and potential era bias, as non-dilation reflects a more contemporary practice pattern. Nonetheless, the comparable outcomes suggest that routine post-deployment dilation may not be necessary for effective EUS-GJ. Prospective studies are needed to validate these results and guide standardization of EUS-GJ technique.

ARTIFICIAL INTELLIGENCE TO ASSIST ENDOSCOPISTS WITH EUS-GUIDED GALLBLADDER DRAINAGE: A REAL-TIME PILOT TRIAL

Prashanth Rau[*1], Matthew Marcello[1], Patrick D. Powers[1], Alessandro Colletta[1], Neil Patel[1], Subin Chirayath[1], Sarah Hyder[1], Jaroslav Zivny[1], Savant Mehta[1], Neil B. Marya[1]*

Introduction:
Endoscopic ultrasound gallbladder drainage (EUS-GBD) is a non-surgical therapeutic intervention to achieve gallbladder decompression. **EUS**-GBD is technically complex with the potential for adverse events, limiting its use. The aim of this study was to develop and deploy a real-time artificial intelligence (AI) that identifies safe treatment windows for **EUS**-GBD.

Methods:
Consecutive EUS-GBD videos from a single center were identified for expert annotation. EUS-video segments ("windows") were annotated based on safety for EUS-GBD. Grade A and B annotations indicated safe gallbladder targets, grade C annotations were borderline, grade D and F annotations were unsafe or nonexistent targets.
An AI was then trained to mimic expert annotations. AI performance to accurately identify video frames as safe (Grade A/B) or not (Grade C/D/F) was evaluated on a reserved series of pre-recorded test videos.
To determine a non-inferiority margin for the trial, a second annotator reviewed the windows and was found to have 82.6% agreement with the expert (non-inferiority margin of 17.4%).
In the trial, a real-time computer housing the AI was deployed during EUS cases (NCT 06981052). Endosonographers performing EUS examinations were blinded to the AI and were asked if windows were "safe" or "unsafe" for EUS-GBD. A second observer documented the real-time EUS-AI recommendations for the same windows as "safe" (Grade A/B) or "unsafe" (Grade C/D/F) as well as those of the performing endosonographer. AI safety recommendations were then compared to that of the performing endosonographer.

Results:
From 59 **EUS**-GBD videos, 884 unique windows were annotated. On a per-patient basis, 746 annotated windows (396,597 extracted still frames) were randomly assigned for AI training and 138 windows (76,966 extracted still frames) for testing. (AUROC 0.954; Figure 1) when tasked with mimicking expert frame annotations as "safe." **The EUS-AI had a sensitivity of 87.5%, specificity of 90.8%, and accuracy of 89.2%**
For Phase 2, the AI was tested in real time during 38 live EUS cases where 135 gallbladder windows were assessed by a performing provider. The performing providers noted that 54 windows were "safe", and 81 windows were "unsafe." The real-time EUS-AI was 98.1% sensitive, 93.8% specific, and 95.6% accurate in mimicking safety recommendations from performing physicians (Figure 2). EUS AI was statistically non-inferior to the performing provider assessment (p=0.01).

Discussion:
A real-time **EUS-AI is capable of accurately identifying appropriate or inappropriate windows for EUS-GBD.** Future studies should evaluate if EUS-AI could benefit physicians performing EUS-GBD with varying levels of experience.

COMPARABLE OUTCOMES AFTER ENDOSCOPIC ULTRASOUND-GUIDED GASTROENTEROSTOMY IN PATIENTS WITH VERSUS WITHOUT INTRA-ABDOMINAL CARCINOMATOSIS: A SINGLE CENTRE STUDY

benedetto neri[*1], dario biasutto[1], Claudia Marinaccio[1], Serena Stigliano[1], Gianluca Andrisani[1], nicolo citterio[1], Marta Pettinalli[1], Giulia Parisi[1], Francesco Maria Di Matteo[1]*

Aims/Purpose:

Intra-abdominal carcinomatosis represents a contraindication to Endoscopic-ultrasound-guided gastroenterostomy (EUS-GEA). Primary aim:to compare the clinical success rates of EUS-GE in patients with malignant gastric outlet obstruction (MGOO) with vs without concomitant intra-abdominal carcinomatosis. Secondary aims:to compare clinical and procedural characteristics, technical success rates and long-term outcomes.

Methods:

All patients undergoing EUS-GE for MGOO from June2018 to December2024 were **retrospectively** enrolled.

Definitions: Technical success: establishing EUS-GE; clinical success: low-residue diet tolerance without re-intervention for 14days after EUS-GE. Inclusion criteria: 1)age>18 years; 2)MGOO. Exclusion criterium:missing data. Intra-abdominal carcinomatosis was defined according to CT or MRI.

Results:

EUS-GE for MGOO was performed in **74 patients** (36[48.6%] males, age 71[30-92]). Intra-abdominal **carcinomatosis was present in 29(39.2%)** patients. Ascites was more frequent in patients with carcinomatosis (19[65.5%] vs 12[26.7%],p=0.02). ECOG performance status,malignancy stage and other baseline clinical characteristics were comparable between patients with vs. without carcinomatosis.
All **EUS**-GE were performed in deep sedation and LAMS size was always at least 15mm**. Technical success rates (Carcinomatosis:28 [96.6%] vs no-Carcinomatosis:43[95.6%],p=0.69),** procedural time (minutes) (Carcinomatosis:33[16-85] vs no-Carcinomatosis:40[20-106],p=0.52) and **adverse events (Carcinomatosis:4[19.8%] vs no-Carcinomatosis:9[20%],p=0.71) were comparable between groups.Post-procedural hospital stay was longer in patients with carcinomatosis (8[2-18] vs 4[2-15**],p=0.0009). **Clinical success rates were comparable between groups (carcinomatosis:25[86.2%] vs no-carcinomatosis:43[95.6%],p=0.31).**All failures were due to malignancy progression. **Median survival (days) and oral feeding toleration until last follow-up/death were comparable** between groups (Carcinomatosis:42[21-398] vs no-Carcinomatosis:66[26-622],p=0.07; Carcinomatosis:26[89.6%] vs no-Carcinomatosis:42[93.3%],p=0.89). Oncological treatments resumption and re-hosptitalization rates did not differ between groups.

CONCLUSION: CARCINOMATOSIS WITH OR WITHOUT ASCITES DOES NOT APPEAR TO BE A CONTRAINDICATION TO EUS-GJ

COLO-ENTEROSTOMY: AN EMERGING TREATMENT FOR MALIGNANT SMALL BOWEL OBSTRUCTION COMPARABLE OUTCOMES AFTER ENDOSCOPIC ULTRASOUND-GUIDED GASTROENTEROSTOMY IN PATIENTS WITH VERSUS WITHOUT INTRA-ABDOMINAL CARCINOMATOSIS: A SINGLE CENTRE STUDY

benedetto neri[*1], dario biasutto[1], Claudia Marinaccio[1], Serena Stigliano[1], Gianluca Andrisani[1], nicolo citterio[1], Marta Pettinalli[1], Giulia Parisi[1], Francesco Maria Di Matteo[1]*

INTRODUCTION

The management of malignant small bowel obstruction (SBO) is complicated and can be limited, with nasogastric drainage and venting gastrostomy tubes resulting in poor quality of life. Endoscopic ultrasound-guided placement of lumen apposing metal **stents (EUS-LAMS) has emerged as a potential treatment modality for malignant SBO**, allowing bypass of the obstructed area. This case series examines the demographics and treatment outcomes of patients who underwent colo-enterostomy with **EUS**-LAMS to better elucidate the risks and benefits of this novel intervention. We hypothesized that colo-enterostomy would result in successful hospital discharge without nasogastric drainage and equivalent survival to venting gastrostomy for similar indications.

METHODS

This retrospective case series was performed at a single academic, quaternary medical center, using an endoscopy database, querying keywords associated with colo-enterostomy. Adults of age who underwent colo-enterostomy for malignant small bowel obstruction between 1/2022 and 6/2025 were included. Demographic and treatment outcome data were obtained via electronic medical record review. Clinical success was defined as post-procedural discharge without a nasogastric tube or venting gastrostomy. Potential predictors included age, sex, baseline functional independence, and size of LAMS used. The Mann-Whitney U test and linear regression were used to assess for associations between predictors and clinical success.

RESULTS

Patients ranged in age from 39 – 78 (median 56) and a majority were female (76%) (Table 1). **Technical success was achieved in 26 patients (90%)** (Table 2). Reasons for technical failure included unintentional creation of a **colo-gastrostomy** (1), unintentional creation of a **colo-colostomy** (1), and **sigmoid perforation** (1). Three patients died prior to hospital discharge from their disease, unrelated to the procedure. Twenty-three of the remaining patients (88%) were successfully discharged without a nasogastric tube or venting gastrostomy. There was no association between age, sex, functional status, or size of stent used and clinical success. Post-procedural survival ranged from 9 – 314 days (median 97).

DISCUSSION

Colo-enterostomy with EUS-LAMS for the treatment of malignant SBO is technically feasible, with good outcomes, allowing patients to be discharged home without nasogastric tube or venting gastrostomy. The median survival of 97 days following colo-enterostomy is comparable to survival following venting gastrostomy. Further technical refinement is needed for this procedure to reduce technical failure and complications requiring re-intervention. Future studies directly comparing colo-enterostomy with **EUS**-LAMS and venting gastrostomy will be needed to elucidate the ideal intervention for patients with malignant SBO with special attention to both technical success and quality of life.

Table 1: Patient Demographics and Primary Diagnosis

Female Sex	22/29 (75.9%)
Independent Prior to Admission	23/29 (79.3%)
Primary Diagnosis	
- Colorectal Cancer	12/29 (41.4%)
- Metastatic Cancer of Uncertain Origin	5/29 (17.2%)
- Pancreatobiliary Cancer	4/29 (13.8%)
- Female Genitourinary Cancer	2/29 (6.9%)
- Other Metastatic Cancer	6/29 (20.7%)

Table 2: Treatment Outcomes

Mortality within 30 Days	7/29 (24.1%)
Technical Success	26/29 (89.7%)
Stent Obstruction within 30 days	1/29 (3.4%)
Gastrointestinal Bleed within 90 days	2/29 (6.9%)
Repeat Intervention	4/29 (13.8%)
Discharge without Nasogastric Tube	26/29 (89.7%)
Discharge without Parenteral Nutrition	17/29 (58.6%)

ADVERSE EVENTS ASSOCIATED WITH AXIOS: FDA MAUDE DATABASE ANALYSIS (2020-2025)

Ishaan Vohra[*1], Muhammad K. Hasan[2], Kambiz S. Kadkhodayan[2], Dennis Yang[2], Deepanshu Jain[2], Natalie Danielle Cosgrove[2], Maham Hayat[2], Emmanuel Palomera-Tejeda[4], Dushyant Singh Dahiya[5], Ranya Ahmed[3], Mustafa Atiq Arain[2]*

Background:

The AXIOS Stent (Boston Scientific) is a lumen-apposing metal stent for EUS-guided drainage. Comprehensive post-market surveillance is essential for patient safety. The objective was to analyze device problems and patient adverse events associated with the AXIOS stent reported to the FDA MAUDE database from 2020-2025, with temporal trend analysis.

Methods:

Retrospective analysis of AXIOS-related adverse event reports from January 2020 through 2025. Reports were categorized by device problems and patient adverse events with year-over-year trend analysis.

Results:

1,677 reports were analyzed from January 2020 through October 2025. Annual reporting showed substantial increases: 2020 (n=150), 2021 (n=168), 2022 (n=212), 2023 (n=266), 2024 (n=447), 2025 (n=434)—representing a 189% increase from 2020 to 2025.

Device Problems: **Positioning/malpositioning predominated (638 reports, 38.0%**), followed by **activation failure(distal) (320, 19.1%)** and **stent migration (118, 7.0%**) **[Figure 1A].** Notable trends from 2020 to 2025 included activation failures(distal) increasing 720% (2020→2025: 15→123) and positioning problems rising 176% (62→171). Detachment(Proximal) problems increasing 220% (5→16) and material integrity problems surged 214% (7→22) **[Figure 2A].** Other issues: breakage (107, 6.4%), premature deployment (89, 5.3%)

Patient Events: Hemorrhage/bleeding was most common (125, 7.5%), followed by perforation (82, 4.9%) and pain (50, 3%) **[Figure 1B].** Hemorrhage increased 158% from 2020 to 2025 (12→31); perforation surged 525% (4→25) **[Figure 2B]**. Infectious complications totaled 26 (1.6%). Mortality events occurred in 9 cases (0.5%), concentrated in 2024 (n=5)

Conclusions: Our analysis from 2020 to 2025 reveals substantial increases in AXIOS adverse event reporting, with reports nearly tripling from 2020 to 2025. The trend likely reflects increased device utilization, enhanced reporting compliance, and potentially emerging safety concerns. **Device positioning and activation failures(distal) remain predominant,** with activation failures showing particularly dramatic increases (720% from 2020 to 2025). The surge in hemorrhage and perforation warrants enhanced surveillance and clinical vigilance. Future studies are needed to assess potential factors associated with increased reporting including device-related issues, operator technique , and procedure-related factors, and to develop strategies to optimize patient safety.

Figure 2A: Device/Stent Problems Trends by Year
AXIOS Stent System (2020-2025)

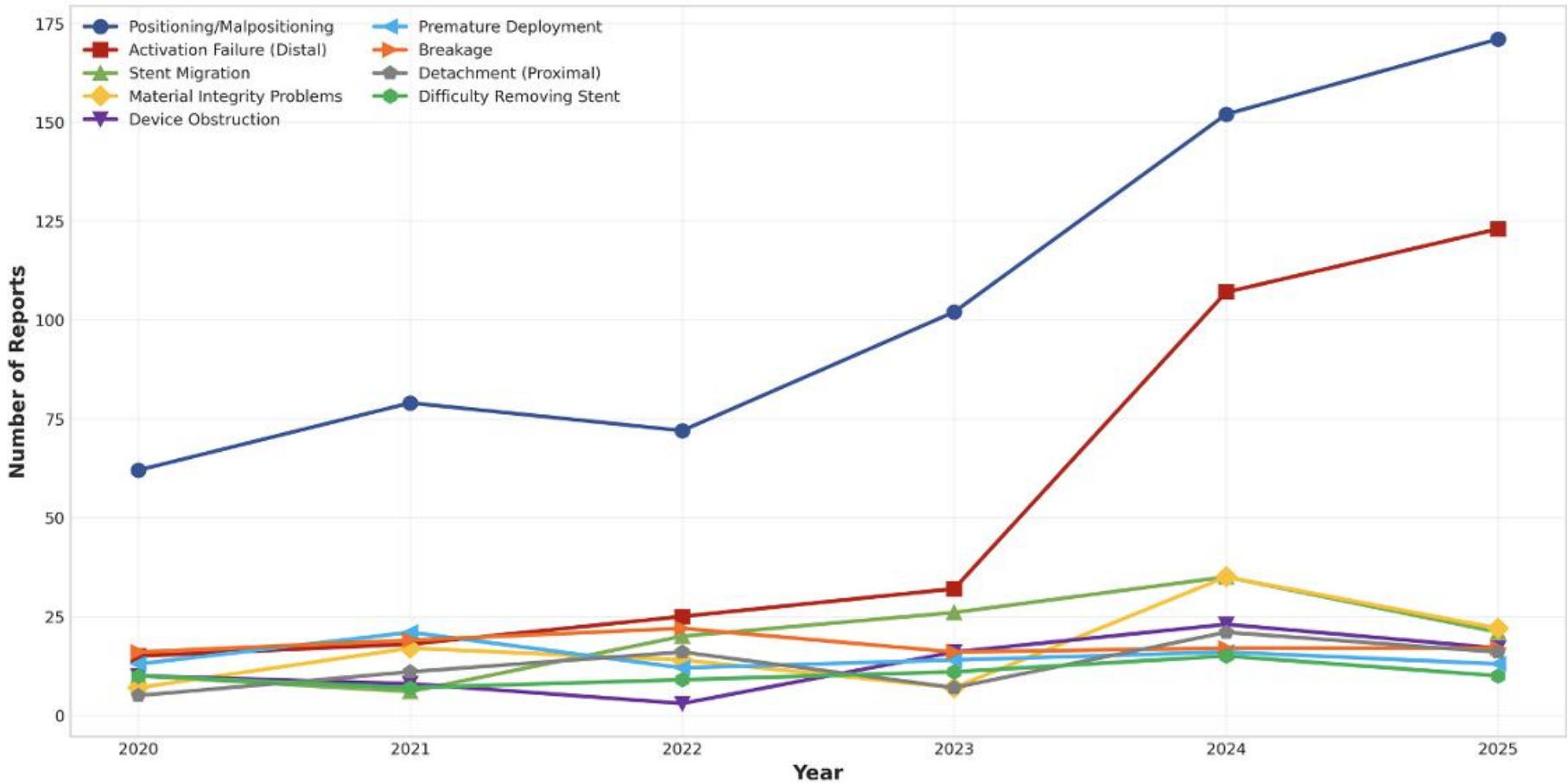


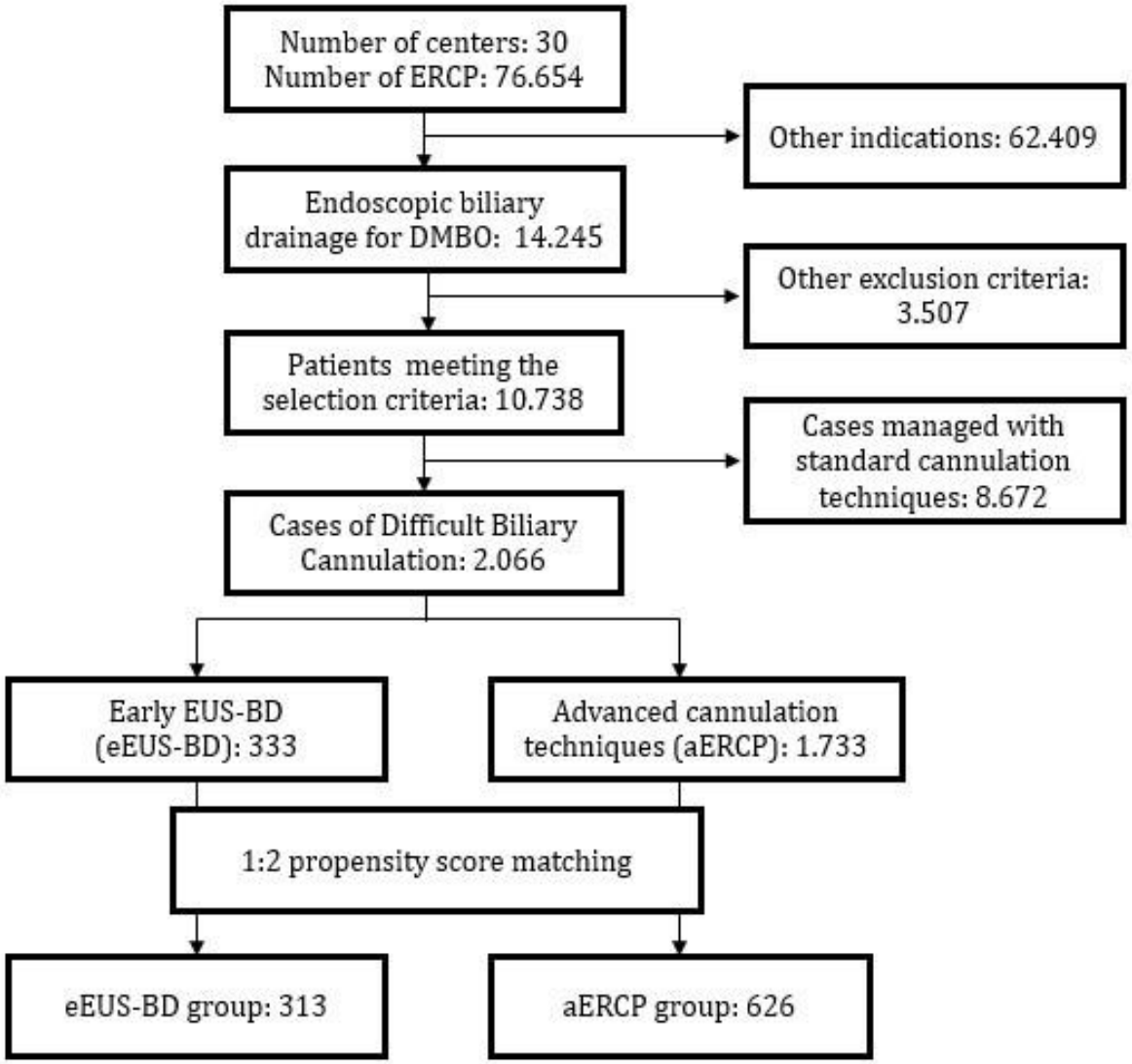
Figure 2B: Patient Adverse Events Trends by Year
AXIOS Stent System (2020-2025)

Pre-op LN eval by EUS of potentially resectable hilar CCA: POELH trial

- 7 centers Belgium/Netherlands
- All LN's over 5mm sampled (!)
- 254 patients
- 1262 LN found one-third sampled
    - 20% had clinically sig't EUS findings
    - Precluded surgery in 43 patients (17%)? (regional LNM 21, extraregional LNM 10, pancreas invasion

De Jong, et al. ID 74 Sat

Advanced ERCP vs. Early EUS-BD for MDBO



- 30 centers in USA, Canada, Europe
- Retrospective (6 years) 1:2 propensity score-matched cohort for comparability
- Difficult biliary cannulation 19%
- AE's 18% for aERCP and 9% EUS-BD
- 12% PEP in aERCP group
- Tech success: 82% aERCP vs. 96% EUS-BD ($p<.01$)
- Clinical success similar 95%-96%
- Conclusion – EUS-BD safer, more effective for difficult biliary cannulation **

Spadaccini, et al. ID 381 Sun

EUS-CD with LAMS vs. ERCP for MDBO

- Pts from ELEMENT and DRAMBO RCT that survived over 1 year from randomization
  - N=299 and median time to death similar (250 days)
  - Stent dysfunction 9% with EUS-CDS and 11% with ERCP
  - 30d AE – 13% of EUS-CDS and 16% of ERCP
  - AE's after 1 yr – 10% of EUS-CDS and 6% of ERCP

Ganescu, et al. ID 380 Sun

AI for pancreatic cyst dysplasia grading in EUS
AI on EUS detection of Solid Pancreatic Tumors

- 22,515 EUS images from centers in Portugal, Spain, Brazil, USA
- Used cytology of cyst fluid, FNB, surgical path as “ground truth”
- Mean average precision50 of .885 for detecting IPMN
- HGD vs. LGD – 88% Sens, 89% accuracy ?specificity
- 38 EUS video clips, 57 endosonographers
  - Interpret clips with and without AI (mAI Companion, IGlobe Scientific)
  - Asked to detect SPT’s on a frozen screenshot and report the position and outline of the tumor
  - AI overall diagnostic accuracy 92%
  - Overall accuracy of investigators with AI 77% vs. without AI 71%

Saraiva, et al. Presentation ID 58 Sat
Swanstrom, et al ID 59 Sat

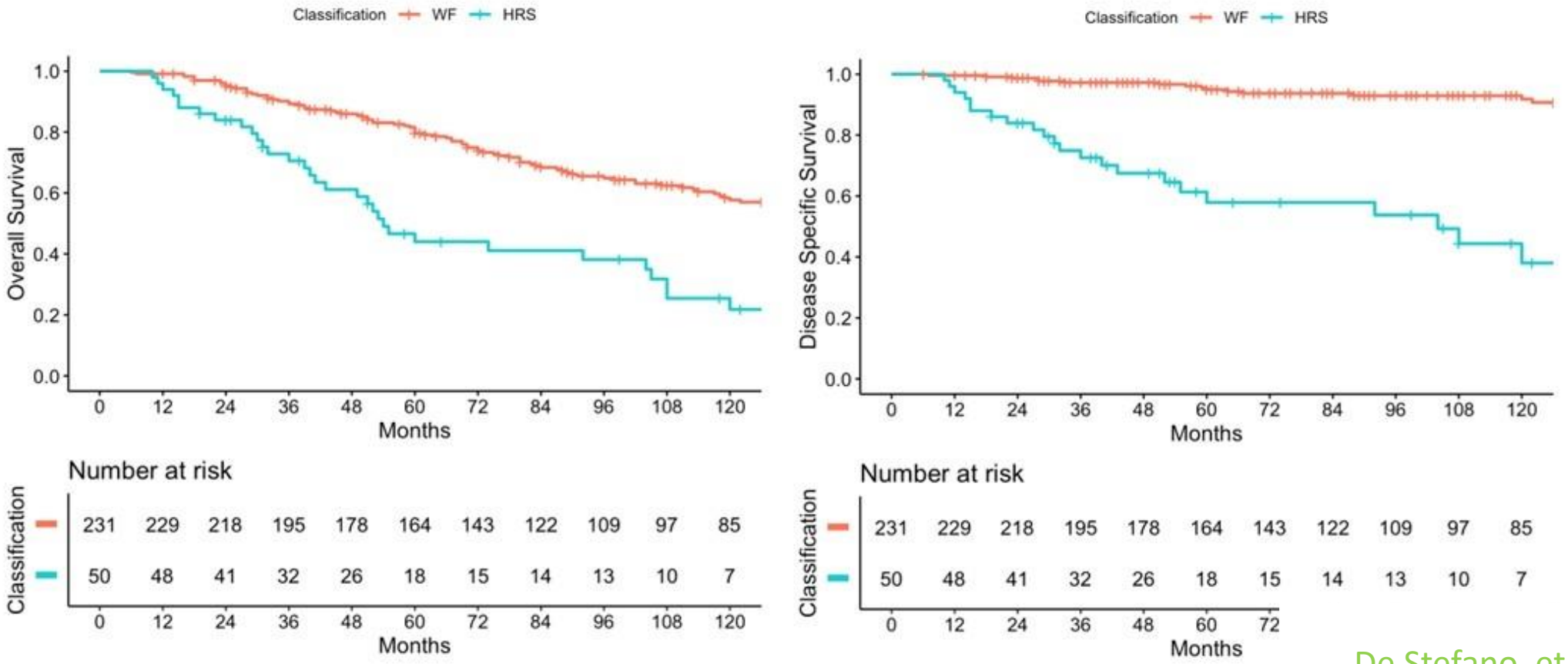
Risk of malignancy in IPMN with worrisome features and high-risk stigmata: survival analysis beyond 10- years

- Worrisome (WF) – cyst over 3cm, under 5mm nodule, thickened wall, MPD 5-9mm, growth rate
- HRS – OJ, over 5mm nodule, MPD over 10mm, positive cytology
- N=281 pts at six panc centers US and France
  - 159 BD IPMN
  - 122 MD IPMN
  - 18% HRS and 82% with WF
  - Overall 60% progressed
  - 16% of the 281 developed malignancy (time to CA development 3-6 years)
  - 94% of BD IPMN had 10 year disease free survival

De Stefano, et al, ID 854 Mon

Risk of malignancy in IPMN with worrisome features and high-risk stigmata: survival analysis beyond 10- years

WF vs. HRS
median follow-up: 162 [146-177] vs. 122 [105-138]



De Stefano, et al, ID 854 Mon


MERCI!