

# Post DDW 2017 Review

## Advanced Endoscopy

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# Decreasing Post-ERCP Pancreatitis

# Tips for Decreasing Post ERCP Pancreatitis

- Avoid unnecessary ERCP (i.e. use MRCP and EUS)
- Properly trained endoscopists and assistants; adequate case volumes
- Good technique to minimize cannulation attempts; selective cannulation
- Wire guided technique with minimal contrast into PD
- Prophylactic pancreatic stents in selected patients
- Hydration with 2 liters Lactated Ringer
- Rectal NSAIDS

# RECTAL INDOMETHACIN SIGNIFICANTLY DECREASES THE RATE OF MODERATE TO SEVERE POST-ERCP PANCREATITIS AND DEATH AND SHOULD BE GIVEN BEFORE THE PROCEDURE: A PERSONALIZED MEDICINE APPROACH USING META-ANALYSIS OF AGGREGATE SUBGROUP DATA FROM RANDOMIZED-CONTROLLED TRIALS

Monday, May 8, 2017 | 8:45 AM – 9:00 AM | Location: S402 (McCormick Place)

Session ERCP Safety and Outcomes

Topic Forum

Endoscopy: Outcomes Studies (Biliary/Pancreas)

M. Yaghoobi<sup>1</sup>; M. Alzahrani<sup>1</sup>; J. McNabb-Baltar<sup>2</sup>; M. Martel<sup>3</sup>; A. N. Barkun<sup>3</sup>

<sup>1</sup>Division of Gastroenterology, McMaster University, Hamilton, Ontario, Canada; <sup>2</sup>Division of Gastroenterology, Hepatology, and Endoscopy, Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, United States; <sup>3</sup>Division of Gastroenterology, McGill University Health Sciences, Montreal, Quebec, Canada

- Analyzed 8 high quality trials
- Pooled estimate PEP 5.6% with indomethacin vs 8.8% with placebo
- Overall rate of pancreatitis lower with rectal indomethacin [OR=0.56 90.39-0.82)] NNT=20
- **Administering rectal indomethacin before rather than during or after ERCP significantly reduced PEP rates [OR 0.56 (0.40-0.79)]**
- **Conclusion: Administer rectal indomethacin to all patients before ERCP**

# Gallstone Pancreatitis

Original article

**Cost-effectiveness of same-admission *versus* interval cholecystectomy after mild gallstone pancreatitis in the PONCHO trial**

D. W. da Costa [✉](#), L. M. Dijkstra, S. A. Bouwense, N. J. Schepers, M. G. Besselink, H. C. van Santvoort, D. Boerma, H. G. Gooszen, M. G. W. Dijkgraaf, the Dutch Pancreatitis Study Group

First published: 12 August 2016 [Full publication history](#)

- Dutch multicenter RCT for mild gallstone pancreatitis
- Randomized to cholecystectomy during same admission (<3 days) versus discharge and cholecystectomy 3-4 weeks later
- Same admission CCX fewer complications and less expensive

	Same-admission cholecystectomy	Interval cholecystectomy	P-value
Readmission for recurrent gallstone related complications	4.7%	16.9%	0.002

# OUTCOMES OF PATIENTS WITH NON-SEVERE BILIARY PANCREATITIS WITH OR WITHOUT ENDOSCOPIC SPHINCTEROTOMY DURING THE FIRST HOSPITALIZATION UNDERGOING DELAYED CHOLECYSTECTOMY

645 Monday, May 8, 2017 | 9:00 AM – 9:15 AM | Location: S402 (McCormick Place)

Session ERCP Safety and Outcomes

Topic Forum

Endoscopy: Outcomes Studies (Biliary/Pancreas)

S. Kulpatcharapong<sup>1</sup>; P. Piyachaturawat<sup>1</sup>; W. Ridditid<sup>1</sup>; P. Angsuwatcharakon<sup>1</sup>; P. Kongkam<sup>1</sup>; R. Rerknimitr<sup>1</sup>

<sup>1</sup>Medicine, King Chulalongkorn Memorial Hospital, Thai red cross society, Chulalongkorn University, Bangkok, Thailand

Table 2. Outcomes of endoscopic sphincterotomy (ES) in patients with acute biliary pancreatitis undergoing delayed cholecystectomy

Outcomes	Delayed cholecystectomy (n=66)			Without cholecystectomy (n=43)		
	ES (n=53)	Non-ES (n=13)	P-value	ES (n=28)	Non-ES (n=15)	P-value
Time to ES, median (range) (days)	3 (1-34)	-		3 (1-48)	-	
Time to cholecystectomy, median (range) (days)	68 (8-727)	93 (19-910)	0.26	-	-	-
Recurrent attacks, n (%) <sup>†</sup>	1 (2)	6 (17) <sup>‡</sup>	0.01	1 (4)	5 (33) <sup>‡</sup>	0.01
- Time to recurrence, median (range) (days)	21 (NA)	127 (30-854)	0.29	129 (NA)	686 (31-1085)	0.87
Acute cholecystitis, n (%)		4 (5) <sup>§</sup>			4 (10) <sup>§</sup>	0.29
- Time to attack, median (range) (days)		26 (8-636)			32 (8-103)	0.89
Follow-up time, median (range) (days)	-	-		117 (20-2288)	172 (12-1982)	0.47

<sup>†</sup>12 of 13 patients had recurrent mild biliary pancreatitis <sup>‡</sup>3 patients had 2 episodes of recurrent biliary pancreatitis <sup>§</sup>1 patient had 2 episodes of acute cholecystitis <sup>¶</sup>1 patient died from gangrenous cholecystitis

## • Results:

- If delay CCX -> 17% risk of recurrent ABP (decreased to 2% with ES); 5% risk cholecystitis
- If no CCX -> 33% risk of recurrent ABP (decrease to 4% with ES); 10% risk cholecystitis

## • Conclusions:

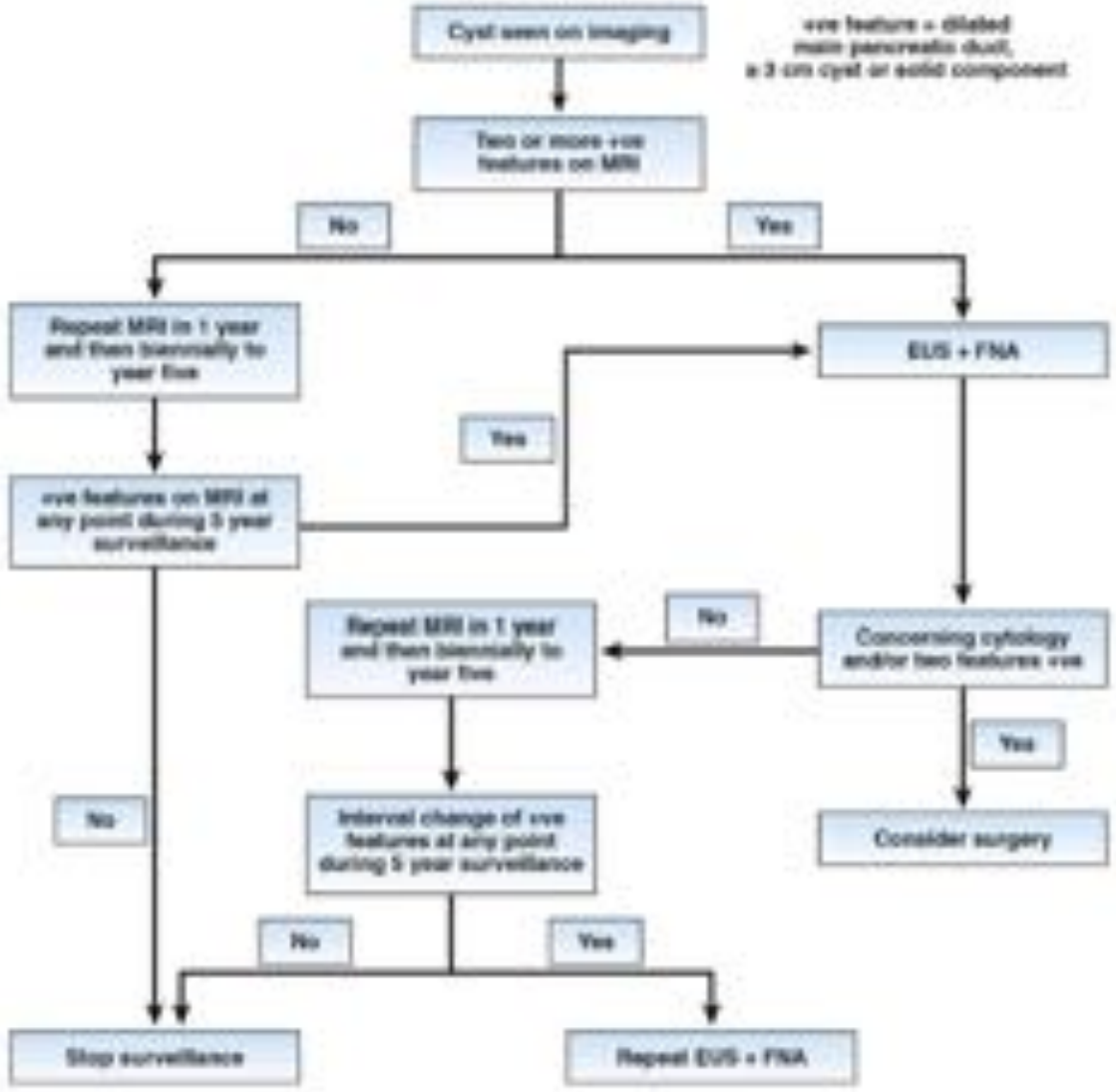
- **Consider biliary sphincterotomy if expect delayed or never cholecystectomy (but still 10% risk future cholecystitis)**

# Pancreatic Cysts

- Increasing data that common incidental lesions and most do not become cancer
- Various guidelines tending towards more conservative approach (i.e. less surgery): Sendai, Fukuoka, AGA, ASGE
- No accurate way to predict who will get cancer (as opposed to who has a mucinous lesion)



Management of Asymptomatic Neoplastic Pancreatic Cysts  
 Clinical Decision Support Tool



2015 AGA Pancreatic Cyst Guidelines  
 Vege, Ziring, Jain, Moayyedi, et al. Gastro 2015;148:819-822



# PANCREATIC CANCER INCIDENCE IS LOW IN A LARGE NATIONAL COHORT OF 7,346 PATIENTS WITH PANCREATIC CYSTS

668 Monday, May 8, 2017 | 2:30 PM – 2:45 PM | Location: S403b (McCormick Place)

Session Pancreas Cysts, IPMN and NET  
Research Forum

Pancreatic Cystic Neoplasms, IPMN and Neuroendocrine Tumors

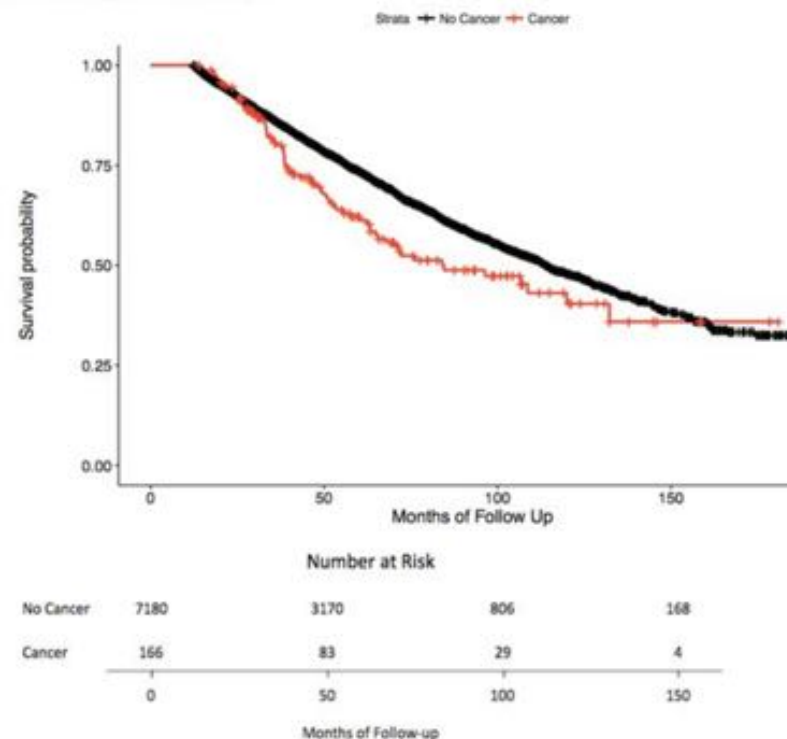
G. S. Anand<sup>1</sup>; R. Bustamante<sup>1</sup>; L. Liu<sup>1</sup>; S. Vege<sup>2</sup>; A. Earles<sup>1</sup>; T. J. Savides<sup>1</sup>; S. M. Fehmi<sup>1</sup>; W. Kwong<sup>1</sup>; S. Gupta<sup>1</sup>

<sup>1</sup>University of California, San Diego, La Jolla, California, United States; <sup>2</sup>Mayo Clinic, Rochester, Minnesota, United States

- VA National Database identified cyst patients by ICD-9.
- 7,346 patients with >1 year f/u after cyst diagnosis
- Mean age = 70 years. 96% male
- **2.3% developed pancreatic cancer**
  - 1.9% cancer diagnosis between 1-5 years
  - 0.3% cancer diagnosis between 5-10 years

**Figure 1. Kaplan-Meier Survival Curve comparing Survival between Pancreas Cyst Patients with Pancreatic Cancer and without Pancreatic Cancer.**

This figure illustrates that patients with pancreatic cysts who develop cancer have higher initial mortality compared to cyst patients who do not develop cancer, though on long follow up beyond 150 months, mortality is similar, as is expected with long term follow up.



# NEEDLE-BASED CONFOCAL LASER ENDOMICROSCOPY (NCLE) FOR THE DIAGNOSIS OF PANCREATIC CYSTIC LESIONS: PRELIMINARY RESULTS OF THE FIRST PROSPECTIVE MULTICENTER STUDY

Monday, May 8, 2017 | 10:30 AM – 10:45 AM | Location: S403b (McCormick Place)

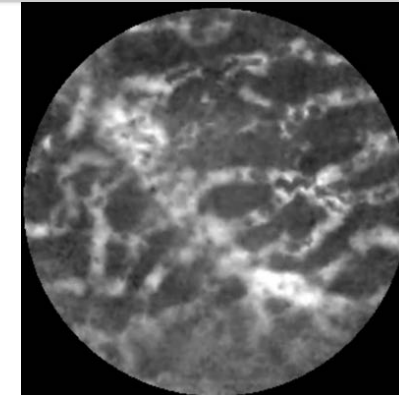
Session Imaging and Advanced Technology of the Pancreas  
Research Forum

Confocal Endomicroscopy and Other Optical Sectioning Techniques

B. Napoleon<sup>1</sup>; B. Pujol<sup>1</sup>; M. Palazzo<sup>2</sup>; F. Caillol<sup>3</sup>; L. Palazzo<sup>4</sup>; A. Aubert<sup>2</sup>; F. Maire<sup>2</sup>; L. Buscali<sup>5</sup>; A. Lemaistre<sup>6</sup>; M. Giovannini<sup>3</sup>

<sup>1</sup>Hôpital Jean Mermoz, Lyon, France; <sup>2</sup>Hôpital Beaujon, Clichy, France; <sup>3</sup>Institut Paoli-Calmettes, Marseille, France; <sup>4</sup>Clinique du Trocadéro, Paris, France; <sup>5</sup>Hôpital de Rangueil, Toulouse, France; <sup>6</sup>Biominis, Lyon, France

- 209 patients
- Final diagnosis based on surgical or EUS pathology



Performance of nCLE criteria versus clinical diagnoses evaluated prospectively

	Se	Sp	PPV	NPV	Ac	AUROC	Diag. yield
SCA	0.95	1	1	0.98	0.98	0.98	0.91
IPMN	0.92	0.95	0.93	0.98	0.95	0.94	0.94
MCN	0.89	0.98	0.90	0.91	0.91	0.83	0.94
ML (IPMN, MCN, ML)	0.95	1	1	0.94	0.97	0.98	0.91
NER	1	0.95	0.75	1	0.98	0.98	0.91
Pre-malignant Lesions	0.98	0.95	0.98	0.91	0.98	0.98	0.91

Diagnostic yield and accuracy of EUS morphology, CEA biochemistry and nCLE for discriminating between mucinous and non-mucinous lesions

	Se	Sp	PPV	NPV	Ac	AUROC	Diag. yield
nCLE	0.95	1	1	0.94	0.97	0.98	0.91
EUS morphology	0.78	0.85	0.8	0.89	0.81	0.82	0.47
CEA > 192 ng/mL	0.68	0.95	0.98	0.65	0.78	0.81	0.71

Needle CLE may improve diagnostic yield to distinguish mucinous from non-mucinous cysts compared to EUS or CEA  
Does not predict who will get cancer.  
Risks of procedure?

# A MULTICENTER, VALIDATION STUDY OF CYST FLUID ANALYSIS FOR MAb DAS-1 FOR THE IDENTIFICATION OF HIGH-RISK AND MALIGNANT MUCINOUS CYSTS OF THE PANCREAS

Monday, May 8, 2017 | 2:00 PM – 2:15 PM | Location: S403b (McCormick Place)



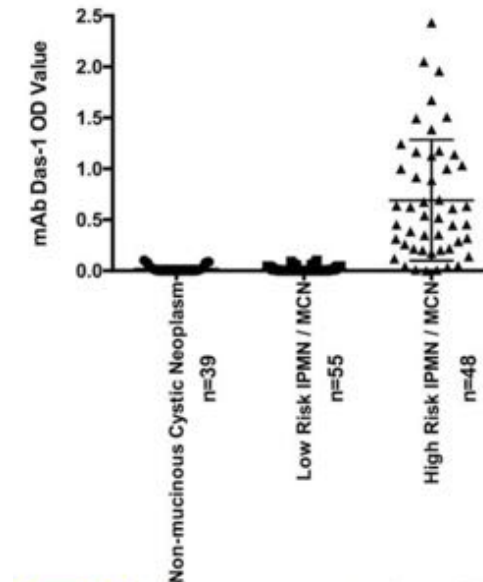
**Session** Pancreas Cysts, IPMN and NET  
Research Forum

Pancreatic Cystic Neoplasms, IPMN and Neuroendocrine Tumors

K. K. Das<sup>1</sup>; X. Geng<sup>2</sup>; V. Morales-Oyarvide<sup>3</sup>; T. Huynh<sup>3</sup>; I. Pergolini<sup>3</sup>; M. B. Pitman<sup>3</sup>; C. R. Ferrone<sup>3</sup>; W. R. Brugge<sup>3</sup>; M. Al Eshat<sup>4</sup>; D. Haviland<sup>4</sup>; E. Thompson<sup>5</sup>; C. L. Wolfgang<sup>5</sup>; A. Lennon<sup>5</sup>; P. Allen<sup>6</sup>; K. D. Lillemoe<sup>3</sup>; C. Fernandez-Del Castillo<sup>3</sup>; K. M. Das<sup>2</sup>; M. Mino-Kenudson<sup>3</sup>

<sup>1</sup>Division of Gastroenterology, Department of Medicine, Washington University, Saint Louis, Missouri, United States; <sup>2</sup>Division of Gastroenterology, Department of Medicine, Rutgers-Robert Wood Johnson Medical School, New Brunswick, New Jersey, United States; <sup>3</sup>Departments of Surgery and Pathology and Division of Gastroenterology, Massachusetts General Hospital, Boston, Massachusetts, United States; <sup>4</sup>Department of Surgery, Memorial Sloan Kettering Cancer Center, New York, New York, United States; <sup>5</sup>Departments of Pathology, Surgery and Medicine, Johns Hopkins School of Medicine, Baltimore, Maryland, United States

- Monoclonal antibody mAb Das-1 reacts specifically to colonic epithelial phenotype and identifies pre-malignant and malignant lesions of the UGI tract.
- 142 pancreatic cyst aspirates
- Final pathology by histology
- Define High Risk IPMN/MCN
  - Cancer
  - IPMN with high grade dysplasia
  - Intermediate grade dysplasia of intestinal type
  - Mucinous cystic neoplasm with high grade dysplasia

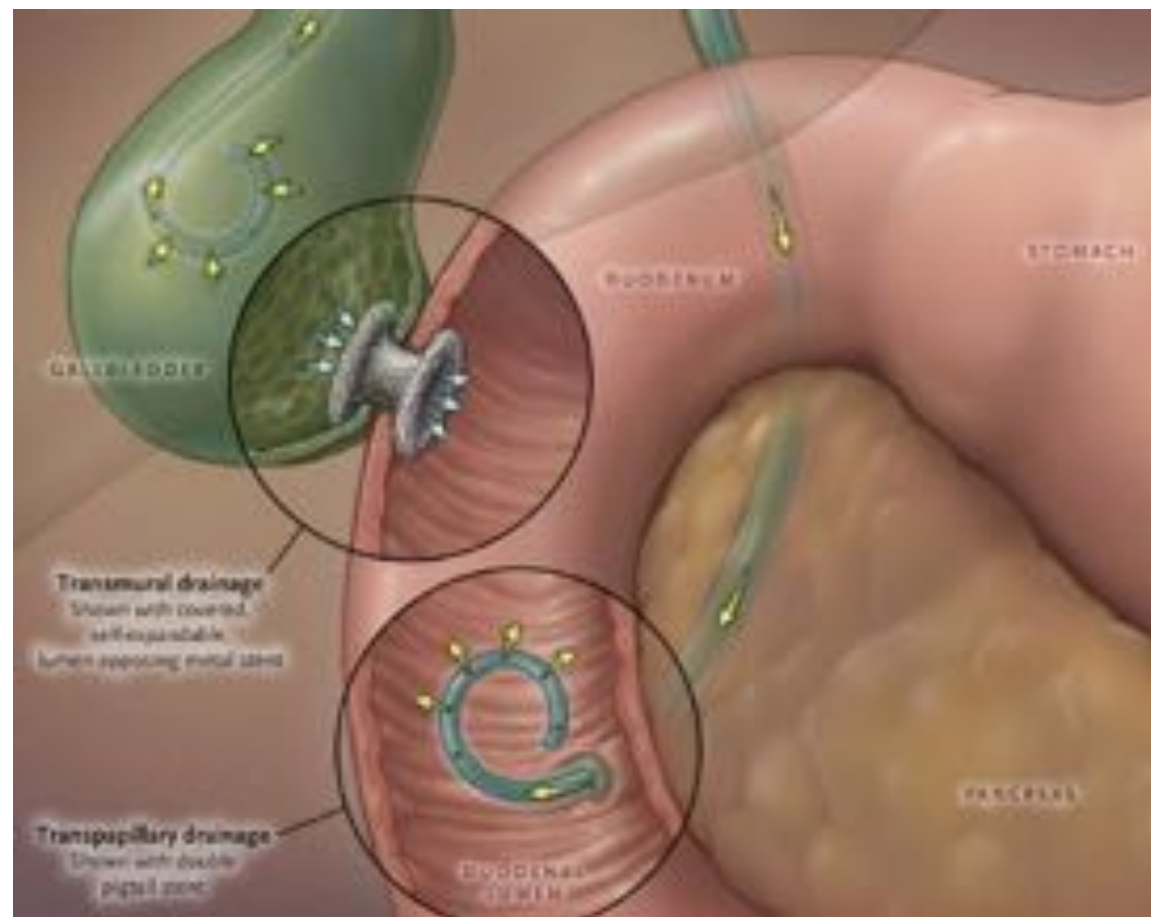


**Pancreatic cyst** fluid immunoreactivity against mAb Das-1 by ELISA in high-risk IPMN/MCN (n=48), low-risk IPMN/MCN (n=55), and non-mucinous cystic lesions (n=39). mAb Das-1 had a sensitivity of 87% and specificity of 100% (AUC 0.927) for detecting high-risk cystic lesions of the pancreas. Reactivity was significantly higher in high-risk lesions as compared to low-risk lesions and non-mucinous cystic lesions (p<0.0001). Bars indicate the mean and SD.

Promising biomarker to help determine which patients should have resection

Unclear if improves on current guidelines

# EUS-guided Gallbladder Drainage





## LONG-TERM CLINICAL OUTCOMES OF EUS-GUIDED GALLBLADDER DRAINAGE EUS-GBD WITH LUMEN-APPOSING METAL STENTS (LAMS).

213 Saturday, May 6, 2017 | 4:15 PM – 4:30 PM | Location: S103 (McCormick Place)

Session **Frontiers of Therapeutic EUS: Can Do, Might Do and Should Do?**

Topic Forum

Endoscopy: EUS Pancreas, Biliary

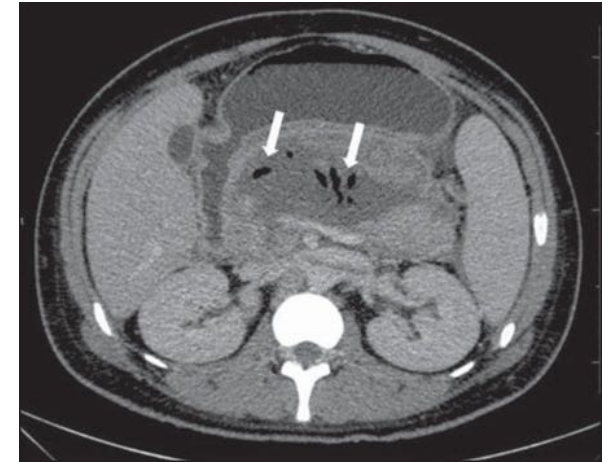
R. Torres-Yuste<sup>1</sup>; I. Penas-Herrero<sup>1</sup>; R. Sanchez-Ocana<sup>1</sup>; M. Cimavilla<sup>1</sup>; M. de Benito<sup>1</sup>; J. Santos<sup>1</sup>; P. Gil-Simon<sup>1</sup>; C. De la Serna<sup>1</sup>; M. Perez-Miranda<sup>1</sup>

<sup>1</sup>Gastroenterology and Hepatology, Hospital Universitario Río Hortega, Valladolid, Castilla y Leon, Spain

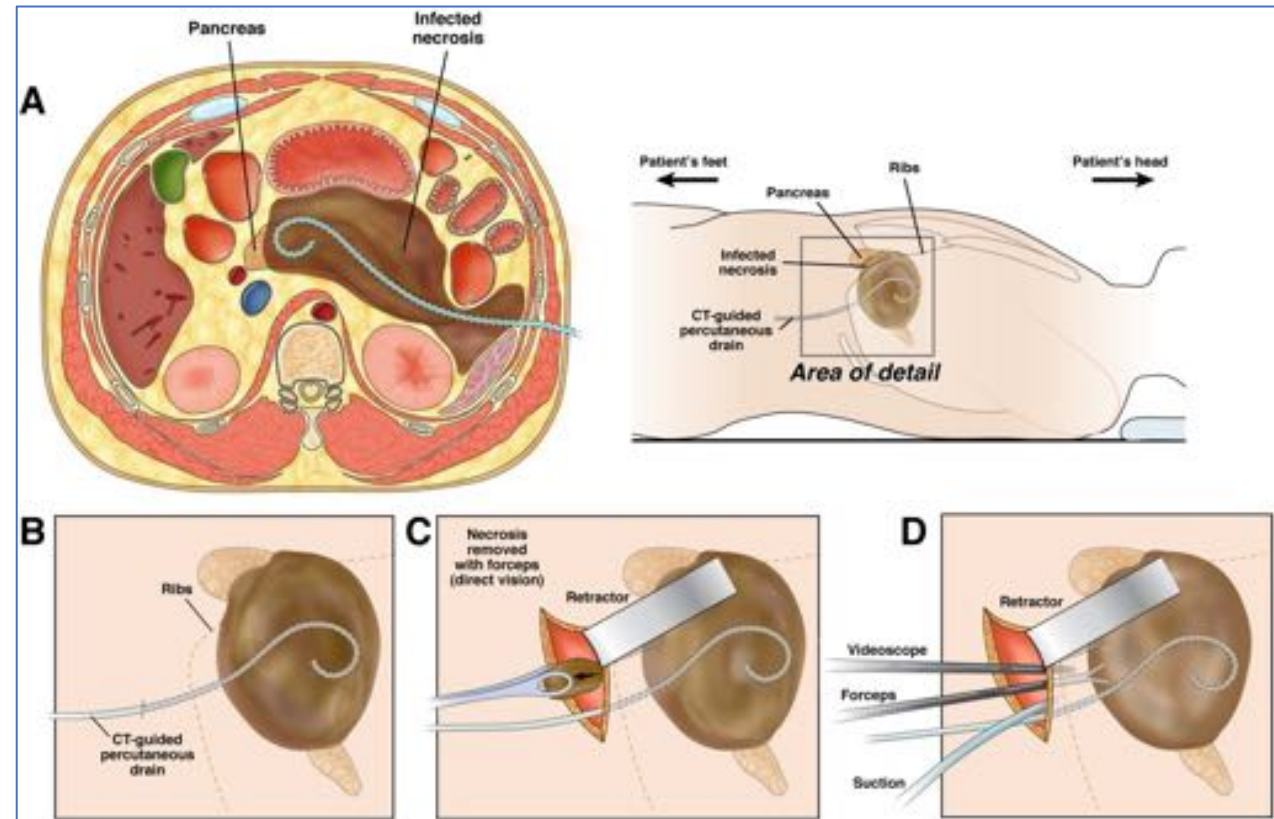
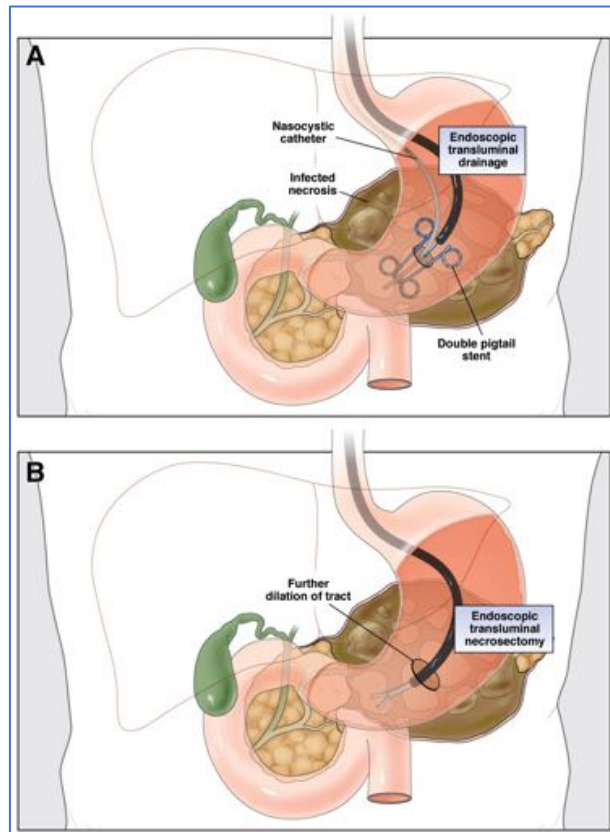
- 51 high surgical risk patients with acute cholecystitis
  - Excluded 30 because <12 months LAMS indwell time
    - 12 (24%) died within 1 year
    - 3 (6%) had cholecystectomy
    - 10 (20%) underwent LAMS removal during first year
    - 5 (10%) miscellaneous reasons
  - 21 patients evaluated with LAMS >12 months
  - 1 (5%) readmitted for biliary disease (cholangitis)
  - No cholecystitis, gastric outlet obstruction, or gallbladder sump syndrome
  - **Conclusions: EUS GBD LAMS could be long term solution for selected patients with acute cholecystitis**

# Pancreatic Fluid Collection Drainage

- 20% of acute pancreatitis patients develop necrosis with pancreatic fluid collections
  - 2/3 remain sterile – conservative treatment
  - 1/3 infection of necrosis
    - 30% mortality rate (12-39%)
    - Indication for treatment
      - Percutaneous drainage followed by surgical necrosectomy reduces death and major complications from 69% to 40% compared to open necrosectomy (PANTHER trial, NEJM 2010)
        - Catheter drainage alone adequate in 35% of patients



# Transluminal endoscopic step-up approach versus minimally invasive surgical step-up approach in patients with infected necrotizing pancreatitis (TENSION trial) – Dutch RCT multicenter





## ENDOSCOPIC OR SURGICAL STEP-UP APPROACH FOR NECROTIZING PANCREATITIS, A MULTI-CENTER RANDOMIZED CONTROLLED TRIAL

64 Saturday, May 6, 2017 | 8:34 AM – 8:37 AM | Location: S100ab (McCormick Place)

Session ASGE Presidential Plenary: Hot Coffee, Doughnuts, Debates...and Our Best Science  
Plenary Session

Endoscopy: Natural Orifice - NOTES

S. van Brunschot<sup>1</sup>; S. van Brunschot<sup>1</sup><sup>1</sup>Gastroenterology and Hepatology, Academic Medical Center, Amsterdam, Netherlands

- “TENSION” RCT trial comparing endoscopic and surgical step-up approach in patients with infected necrotizing pancreatitis
- Dutch multicenter study – 98 patients
- Primary endpoint death or major complications
- Endoscopic step-up=endoscopic transluminal drainage followed by endoscopic necrosectomy (if needed)
- Surgical step-up=percutaneous drainage follows by laparoscopic VARD (if needed)
- **Conclusions: No difference between surgery and endoscopy in outcome, but less fistula and shorter LOS**

	Endoscopic Tx (n=51)	IR/Surgical Tx (n=47)	P-value
Death/major complication	43%	45%	0.88
Pancreatic fistula	5%	32%	0.001
Hosp Days	53	69	0.01

## DISCONTINUATION OF PPIs REDUCES THE NUMBER OF ENDOSCOPIC PROCEDURES REQUIRED FOR RESOLUTION OF WALLED-OFF PANCREATIC NECROSIS 2

Monday, May 8, 2017 | 2:15 PM – 2:30 PM | Location: S404 (McCormick Place)

Session Management of Walled-Off Necrosis and Postsurgical Fluid Collection  
Topic Forum

Endoscopy: EUS Pancreas, Biliary

R. Z. Sharaha<sup>1</sup>; G. Yang<sup>2</sup>; A. Javia<sup>2</sup>; C. Edirisuriya<sup>2</sup>; A. Noor<sup>2</sup>; T. Mumtaz<sup>2</sup>; U. Iqbal<sup>2</sup>; D. E. Loren<sup>2</sup>; T. E. Kowalski<sup>2</sup>; D. G. Adler<sup>3</sup>; N. Cosgrove<sup>2</sup>; Y. Ailcea<sup>4</sup>; A. Tyberg<sup>1</sup>; E. Dawod<sup>1</sup>; A. A. Novikov<sup>1</sup>; I. Andalib<sup>1</sup>; M. Kahaleh<sup>1</sup>; A. Siddiqui<sup>2</sup><sup>1</sup>Weill Cornell Medicine, New York, New York, United States; <sup>2</sup>Thomas Jefferson University, Philadelphia, Pennsylvania, United States; <sup>3</sup>University of Utah, Salt Lake City, Utah, United States; <sup>4</sup>Drexel University, Philadelphia, Pennsylvania, United States

- Retrospective multicenter study
- Mean cyst size 119 mm (range 47-210 mm)
- **Conclusions: Discontinuing PPI results in decreased stent occlusion/WON infection and fewer procedures needed**

	PPI users (n=136)	Non-PPI users (n=136)	P-value
Technical success	100%	99%	ns
GI Bleeding	2.9%	7.3%	0.13
<b>Stent occlusion or WON infection within 30 days</b>	<b>31%</b>	<b>19%</b>	<b>0.01</b>
Long term AE >30 days	31%	29%	ns
Complete resolution of WON	78%	78%	ns
<b>Mean # direct endoscopic necrosectomy</b>	<b>4.6</b>	<b>3.2</b>	<b>&lt;0.01</b>

# Stents for Malignant Hilar Biliary Obstruction

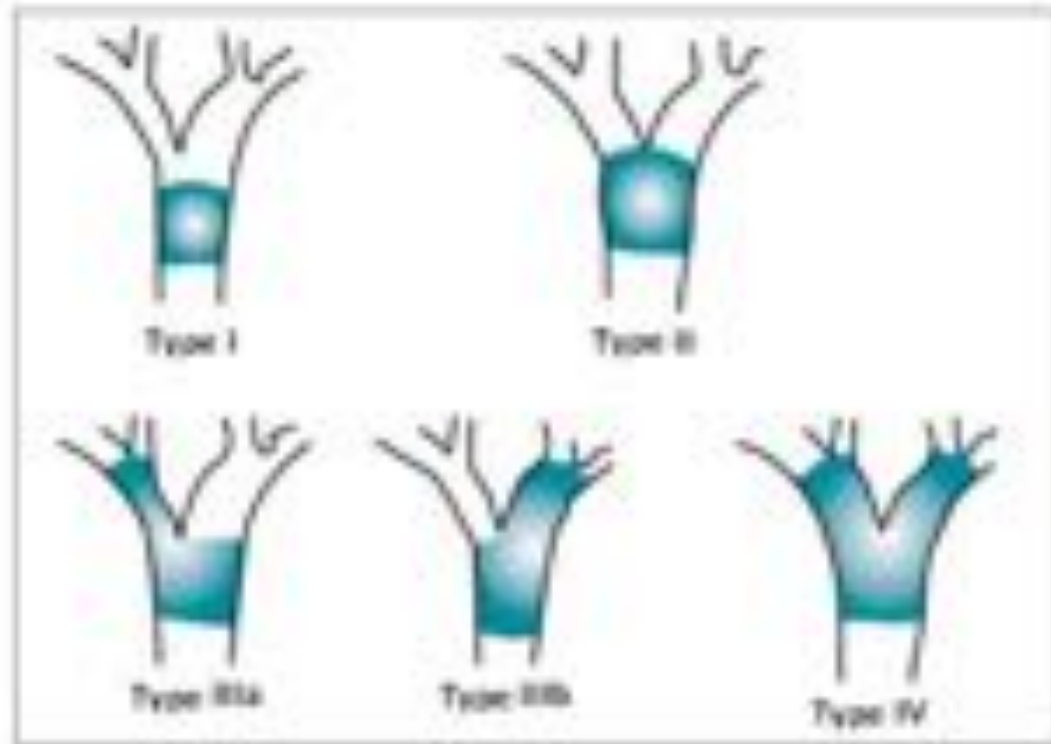


Fig. 1. Types of hilar tumors, according to Bismuth-Corlette's classification.

# BILATERAL VERSUS UNILATERAL DEPLOYMENT OF A METAL STENT FOR A NON-RESECTABLE MALIGNANT HIGH-GRADE HILAR BILIARY STRICTURE: A MULTICENTER PROSPECTIVE RANDOMIZED STUDY

Monday, May 8, 2017 | 2:00 PM – 2:15 PM | Location: 5402 (McCormick Place)

Session Malignant Biliary Stricture: New Diagnostic Modalities and Evolving Topic Forum

Endoscopy: ERCP Other

T. Lee<sup>1</sup>; T. Lee<sup>1</sup>; T. Kim<sup>2</sup>; T. Kim<sup>2</sup>; H. Choi<sup>3</sup>; H. Choi<sup>3</sup>; S. Lee<sup>4</sup>; S. Lee<sup>4</sup>; J. Cho<sup>5</sup>; J. Cho<sup>5</sup>; S. Jeong<sup>6</sup>; S. Jeong<sup>6</sup>; J. Kim<sup>7</sup>; J. Kim<sup>7</sup>; J. Hyun<sup>8</sup>; J. Hyun<sup>8</sup>; D. Park<sup>9</sup>; D. Park<sup>9</sup>; J. Han<sup>10</sup>; J. Han<sup>10</sup>; S. Park<sup>1</sup>; S. Park<sup>1</sup>; J. Moon<sup>2</sup>; J. Moon<sup>2</sup>  
<sup>1</sup>Internal Medicine, Soonchunhyang University College of Medicine, Cheonan Hospital, Cheonan, Korea (the Republic of); <sup>2</sup>Internal Medicine, Wonkwang University College of Medicine, Iksan, Korea (the Republic of); <sup>3</sup>Internal Medicine, Soonchunhyang University College of Medicine, Bucheon Hospital, Bucheon, Korea (the Republic of); <sup>4</sup>Internal Medicine, Seoul National University College of Medicine, Seoul, Korea (the Republic of); <sup>5</sup>Internal Medicine, Dankook University College of Medicine, Cheonan, Korea (the Republic of); <sup>6</sup>Internal Medicine, Inha University Hospital, Incheon, Korea (the Republic of); <sup>7</sup>Internal Medicine, Hallym Univ. College of Medicine, Anyang, Korea (the Republic of); <sup>8</sup>Internal Medicine, Korea University Ansan Hospital, Ansan, Korea (the Republic of); <sup>9</sup>Internal Medicine, University of Ulsan College of Medicine, Asan Medical Center, Seoul, Korea (the Republic of); <sup>10</sup>Internal Medicine, Chungbuk National University College of Medicine, Cheongju, Korea (the Republic of)

- Randomized 133 patients to bilateral vs unilateral SEMS
- Bismuth type  $\geq 2$

	Bilateral (n=67)	Unilateral (n=66)	P-value
Technical success	96%	100%	.02
Clinical success	95%	85%	0.05
Stent malfunction	3%	17%	0.01
Stent patency days	252	139	0.01
Median survival days	270	178	0.053

Bilateral stents for hilar cholangiocarcinoma has longer stent patency and survival

# BISMUTH CLASSIFICATION OF HILAR CHOLANGIOCARCINOMAS ACCURATELY PREDICTS THE CLINICAL OUTCOMES AND SURVIVAL RATES OF PATIENTS THAT UNDERGO UNILATERAL VERSUS BILATERAL ENDOSCOPIC PALLIATIVE STENTING: RESULTS OF THE MULTICENTER, INTERNATIONAL COLLABORATIVE TRIAL

Monday, May 8, 2017 | 3:00 PM – 3:15 PM | Location: S402 (McCormick Place)

Session Malignant Biliary Stricture: New Diagnostic Modalities and Evolving

Topic Forum

Endoscopy: ERCP Biliary Neoplasia

A. Siddiqui<sup>1</sup>; M. Murphy<sup>1</sup>; R. Lam<sup>1</sup>; A. Kamath<sup>1</sup>; M. Parikh<sup>1</sup>; D. Pleskow<sup>2</sup>; G. I. Papachristou<sup>3</sup>; R. Z. Sharaiha<sup>4</sup>; U. Iqbal<sup>1</sup>; D. G. Adler<sup>5</sup>; D. E. Loren<sup>1</sup>; T. E. Kowalski<sup>1</sup>; A. Noor<sup>1</sup>; T. Mumtaz<sup>1</sup>; I. Yasuda<sup>6</sup>

<sup>1</sup>Thomas Jefferson University, Philadelphia, Pennsylvania, United States; <sup>2</sup>Beith Israel Deaconess Medical Center - Harvard Medical School, Boston, Massachusetts, United States; <sup>3</sup>University of Pittsburgh, Pittsburgh, Pennsylvania, United States; <sup>4</sup>Weill Cornell Medicine, New York, New York, United States; <sup>5</sup>University of Utah, Salt Lake City, Utah, United States; <sup>6</sup>Teikyo University Mizonokuchi Hospital, Kawasaki, Japan

- Multicenter US and Japan – hilar cholangiocarcinoma
- Compare Unilateral vs Bilateral SEMS
- 331 patients (mean age 70 years)
- Bismuth classification: 1: 20%, 2: 34%, 3: 16%, 4: 30%

	Unilateral stent (n=108)	Bilateral stent (n=223)	P-value
Technical success	99%	100%	ns
Procedure AE	7.5%	8.6%	ns
Occlusion rates	32%	40%	0.17
Weeks to occlude	33 weeks	42 weeks	0.21
Bismuth 2-4 survival	21 weeks	33 weeks	0.003



# BISMUTH CLASSIFICATION OF HILAR CHOLANGIOCARCINOMAS ACCURATELY PREDICTS THE CLINICAL OUTCOMES AND SURVIVAL RATES OF PATIENTS THAT UNDERGO UNILATERAL VERSUS BILATERAL ENDOSCOPIC PALLIATIVE STENTING: RESULTS OF THE MULTICENTER, INTERNATIONAL COLLABORATIVE TRIAL

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Topic Forum

Endoscopy: ERCP Biliary Neoplasia

A. Siddiqui<sup>1</sup>; M. Murphy<sup>1</sup>; R. Lam<sup>1</sup>; A. Kamath<sup>1</sup>; M. Parikh<sup>1</sup>; D. Pleskow<sup>2</sup>; G. I. Papachristou<sup>3</sup>; R. Z. Sharaiha<sup>4</sup>; U. Iqbal<sup>1</sup>; D. G. Adler<sup>5</sup>; D. E. Loren<sup>1</sup>; T. E. Kowalski<sup>1</sup>; A. Noor<sup>1</sup>; T. Mumtaz<sup>1</sup>; I. Yasuda<sup>6</sup>  
<sup>1</sup>Thomas Jefferson University, Philadelphia, Pennsylvania, United States; <sup>2</sup>Beith Israel Deaconess Medical Center - Harvard Medical School, Boston, Massachusetts, United States; <sup>3</sup>University of Pittsburgh, Pittsburgh, Pennsylvania, United States; <sup>4</sup>Weill Cornell Medicine, New York, New York, United States; <sup>5</sup>University of Utah, Salt Lake City, Utah, United States; <sup>6</sup>Teikyo University Mizonokuchi Hospital, Kawasaki, Japan

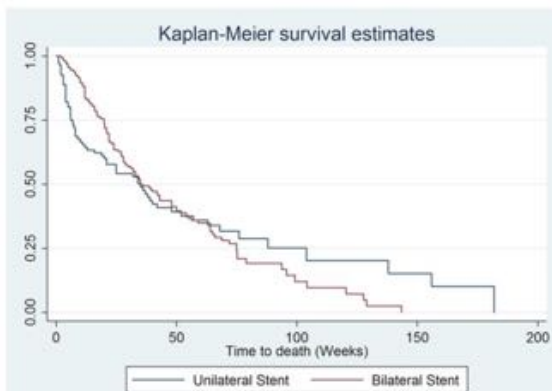


Figure 1. Kaplan-Meier analysis evaluating survival in patients with unresectable cholangiocarcinoma (Unilateral and Bilateral SEMS)

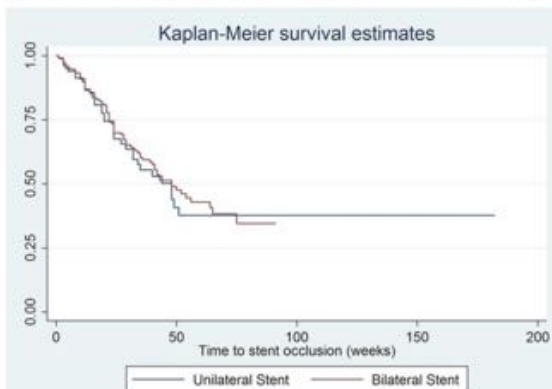


Figure 2. Kaplan-Meier analysis evaluating stent occlusion rates in patients with unresectable cholangiocarcinoma (Unilateral and Bilateral SEMS)

## • Conclusions:

- Unilateral stents safe and effective for type 1 tumors
- Patients with type 2, 3, and 4 benefit from bilateral stents in terms of overall mortality and survival

# Submucosal Endoscopy

*Per-oral endoscopic myotomy (POEM)*



Pavlichis FJ, Hawari B, Ahmed I, Chen L, Collins FB, Hawari RH, et al. Treatment of achalasia. *Endoscopy*. 2007 ; 39 : 761-764.

Inoue H, Minami H, Kobayashi Y, Sato Y, Kaga M, Suzuki M, et al. Peroral endoscopic myotomy (POEM) for esophageal achalasia. *Endoscopy* 2010 ; 42 : 265-271.

Sechurn R, Bada H & Inoue H. Peroral endoscopic myotomy: an evolving treatment for achalasia. *Nature Reviews Gastroenterology & Hepatology* 2015 ; 11 : 400-408.



# PERORAL ENDOSCOPIC MYOTOMY (POEM) VERSUS PNEUMATIC DILATATION IN THERAPY-NAIVE PATIENTS WITH ACHALASIA: RESULTS OF A RANDOMIZED CONTROLLED TRIAL

037 Monday, May 8, 2017 | 10:21 AM – 10:31 AM | Location: S406 (McCormick Place)

Session AGA Presidential Plenary

Plenary Session

Esophageal Motility and Dysmotility

F. A. Ponds<sup>1</sup>; P. Fockens<sup>1</sup>; H. Neuhaus<sup>2</sup>; T. Beyna<sup>2</sup>; T. Frieling<sup>3</sup>; P. Chiu<sup>4</sup>; J. C. Wu<sup>4</sup>; G. Costamagna<sup>5</sup>; P. Familiari<sup>5</sup>; V. W. Wong<sup>4</sup>; P. J. Kahrilas<sup>6</sup>; J. E. Pandolfino<sup>6</sup>; A. J. Smout<sup>1</sup>; A. J. Bredenoord<sup>1</sup>

<sup>1</sup>Department of Gastroenterology and Hepatology, Academic Medical Centre, Amsterdam, Netherlands; <sup>2</sup>Department of Gastroenterology, Evangelisches Krankenhaus, Düsseldorf, Germany; <sup>3</sup>Department of Gastroenterology, HELIOS Clinic, Krefeld, Germany; <sup>4</sup>Institute of Digestive Disease, The Chinese University of Hong Kong, Hong Kong, NT, Hong Kong; <sup>5</sup>Digestive Endoscopy Unit, Gemelli University Hospital, Rome, Italy; <sup>6</sup>Department of Medicine, Northwestern University, Chicago, Illinois, United States

- Dutch multicenter study
- New achalasia randomized to 30->35 mm balloon dilation vs POEM
- **Conclusions: POEM has higher 1 year success compared to PD but more reflux**

	POEM (n=67)	Pneumatic Dilation (n=66)	P-value
Clinical success at 3 months	98%	79%	P<0.01
Clinical success at 12 months	92%	70%	P<0.01
Endoscopic Esophagitis at 12 months	48%	13%	P=0.02

## Critiques:

- 1) Dilation program stopped at 2 dilations and did not allow repeat or increase to 40 mm. This would be usual protocol.
- 2) Marked difference in endoscopic esophagitis but no difference in 24 hr acid exposure at 1 year. Why?

# Other uses of submucosal endoscopy

- Full thickness tissue resection
- Pylorus stenosis
- Anti-reflux?

## CLINICAL RESULTS OF ANTIREFLUX MUCOSECTOMY (ARMS) FOR REFRACTORY GERD

998 Tuesday, May 9, 2017 | 10:00 AM – 10:15 AM | Location: S404 (McCormick Place)

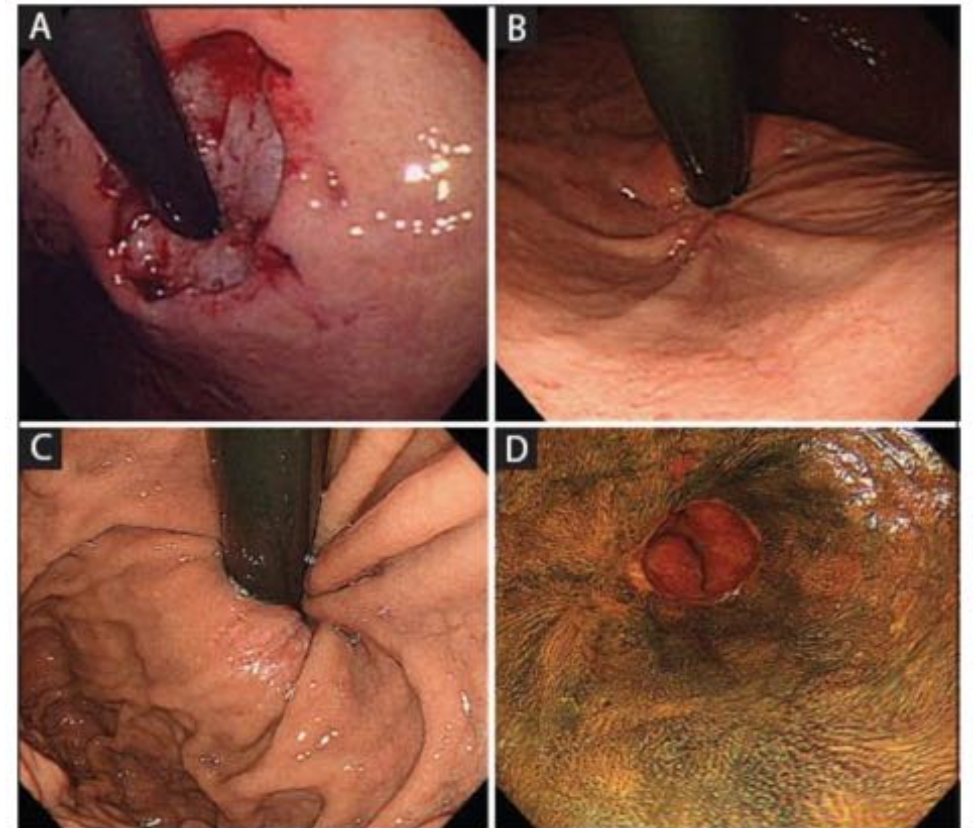
Session Advanced Esophageal Endoscopy Including Anti-Reflux Mucosectomy  
Topic Forum

Endoscopy: Gastroesophageal Reflux (GERD)

H. Inoue<sup>1</sup>; K. Sumi<sup>1</sup>; T. Tatsuta<sup>1</sup>; Y. Ikebuchi<sup>1</sup>; J. Tuason<sup>1</sup>

<sup>1</sup>Digestive Disease Center, Showa University Koto-Toyosu Hospital, Tokyo, Japan

- Use cap EMR to perform hemi-circumferential EMR along lesser curve cardia. Healing results in narrowing.
- 67 cases
- 61% off PPI at 1 year
- 10% dysphagia required single dilation



# Endoscopic Obesity Treatment

# Targeted Endoscopic Therapy

## Stomach

Space occupying  
Gastric remodeling  
Outlet obstruction  
Aspiration

**Obesity**

## Small Bowel

Sleeves  
Duodenal resurfacing  
Anastomosis  
Flow altering

**Stronger anti-diabetic effects**

# Space Occupying Balloons



Courtesy of Christopher Thompson MD



# SINGLE FLUID-FILLED INTRAGASTRIC BALLOON FOR WEIGHT LOSS: US POST-REGULATORY APPROVAL MULTICENTER CLINICAL EXPERIENCE IN 245 PATIENTS

Monday, May 8, 2017 | 8:00 AM – 8:15 AM | Location: S401 (McCormick Place)

Session Recent Advances in Bariatric Endoscopy

Topic Forum

Endoscopy: Primary Therapy (Balloons, Restrictive, Malabsorptive)

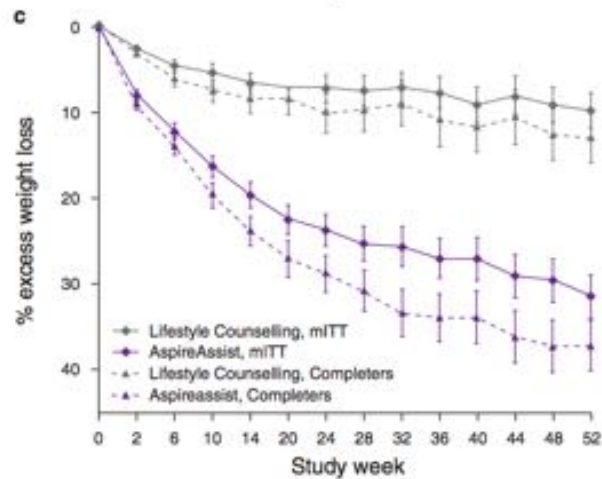
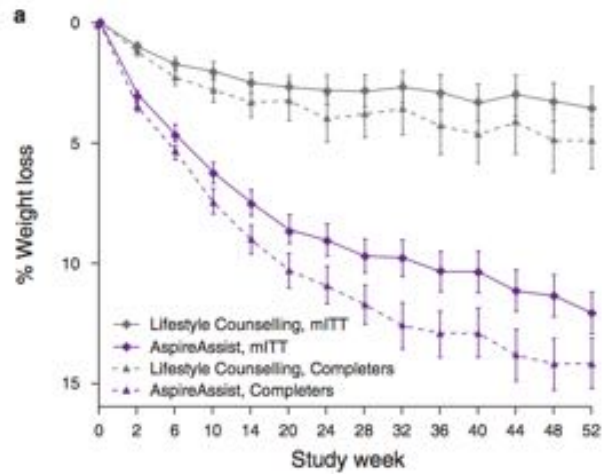
E. J. Vargas<sup>1</sup>; H. C. Kadouh<sup>2</sup>; F. Bazerbachi<sup>2</sup>; A. J. Acosta<sup>2</sup>; P. A. Lorentz<sup>3</sup>; C. M. Pesta<sup>4</sup>; A. Ball<sup>5</sup>; R. L. Moore<sup>6</sup>; A. Agnihoti<sup>7</sup>; M. K. Dunlap<sup>7</sup>; V. Kumbhari<sup>7</sup>; T. Curry<sup>8</sup>; E. Ledonne<sup>8</sup>; T. Pitz<sup>8</sup>; A. A. Novikov<sup>9</sup>; R. Z. Sharaha<sup>9</sup>; E. Ibegbu<sup>10</sup>; M. Mundi<sup>11</sup>; C. Gostout<sup>2</sup>; B. K. Abu Dayyeh<sup>2</sup>

<sup>1</sup>Internal Medicine, Mayo Clinic, Rochester, Minnesota, United States; <sup>2</sup>Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, Minnesota, United States; <sup>3</sup>Nursing and Nutrition, Mayo Clinic, Rochester, Minnesota, United States; <sup>4</sup>Allure Medical Spa, Shelby, Michigan, United States; <sup>5</sup>Ball Surgical Practice, South Charleston, West Virginia, United States; <sup>6</sup>Moore Metabolics, Metairie, Louisiana, United States; <sup>7</sup>Division of Gastroenterology, Johns Hopkins University School of Medicine, Baltimore, Maryland, United States; <sup>8</sup>Metabolic Weight Loss Centers, Cincinnati, Ohio, United States; <sup>9</sup>Gastroenterology and Hepatology, Weill Cornell Medicine, New York, New York, United States; <sup>10</sup>Atlantic Medical Group, Kinston, North Carolina, United States; <sup>11</sup>Endocrinology, Diabetes, Metabolism and Nutrition, Mayo Clinic, Rochester, Minnesota, United States

- 8 US centers
- Orbera IntraGastric Balloon (Apollo Endosurgery)
- 245 patients
- Percent responders at 6 months
  - $\geq 5\%$  TBWL = 84%
  - $\geq 10\%$  TBWL = 55%
- Treatment related adverse events
  - Nausea/vomiting 58%
  - Abdominal pain 16%
  - Dehydration requiring IV fluids 7%
  - Hospital admission 1.7%
  - LA grade 1-2 esophagitis 10%
- 16% had balloon removed before 6 months (77% symptoms, 23% pt request)

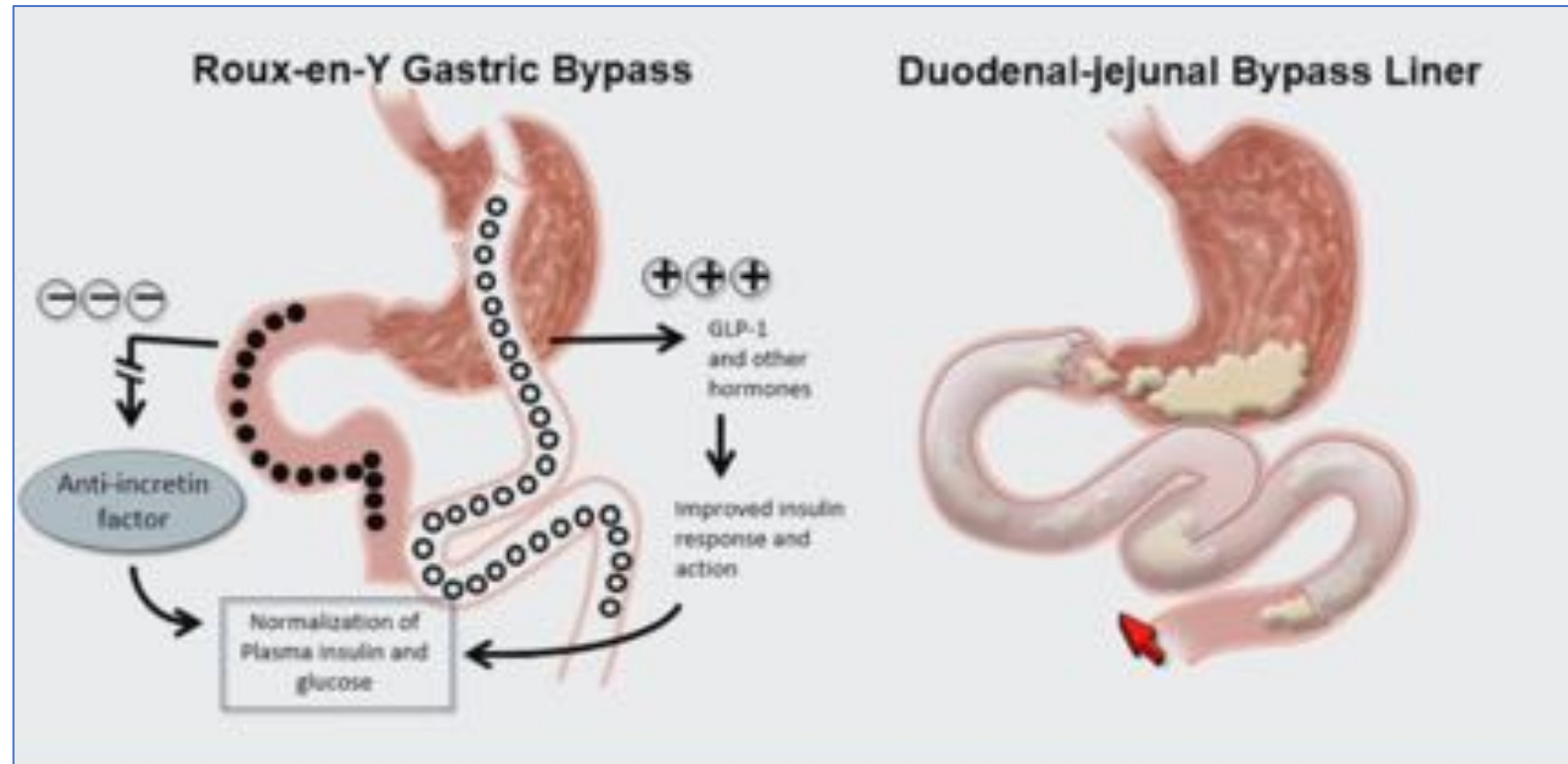
# Aspiration Therapy for Obesity

- 30 Fr modified PEG with fenestrated tail
- Patient able to eat and drain stomach





# Duodenal-jejunal Bypass Liner



Courtesy of Christopher Thompson MD

# EFFECT OF THE DUODENAL-JEJUNAL BYPASS LINER ON GLYCEMIC CONTROL IN TYPE-2 DIABETIC PATIENTS WITH OBESITY: A META-ANALYSIS WITH SECONDARY ANALYSIS ON WEIGHT LOSS AND HORMONAL CHANGES

Monday, May 8, 2017 | 8:30 AM – 8:45 AM | Location: S401 (McCormick Place)

Session Recent Advances in Bariatric Endoscopy

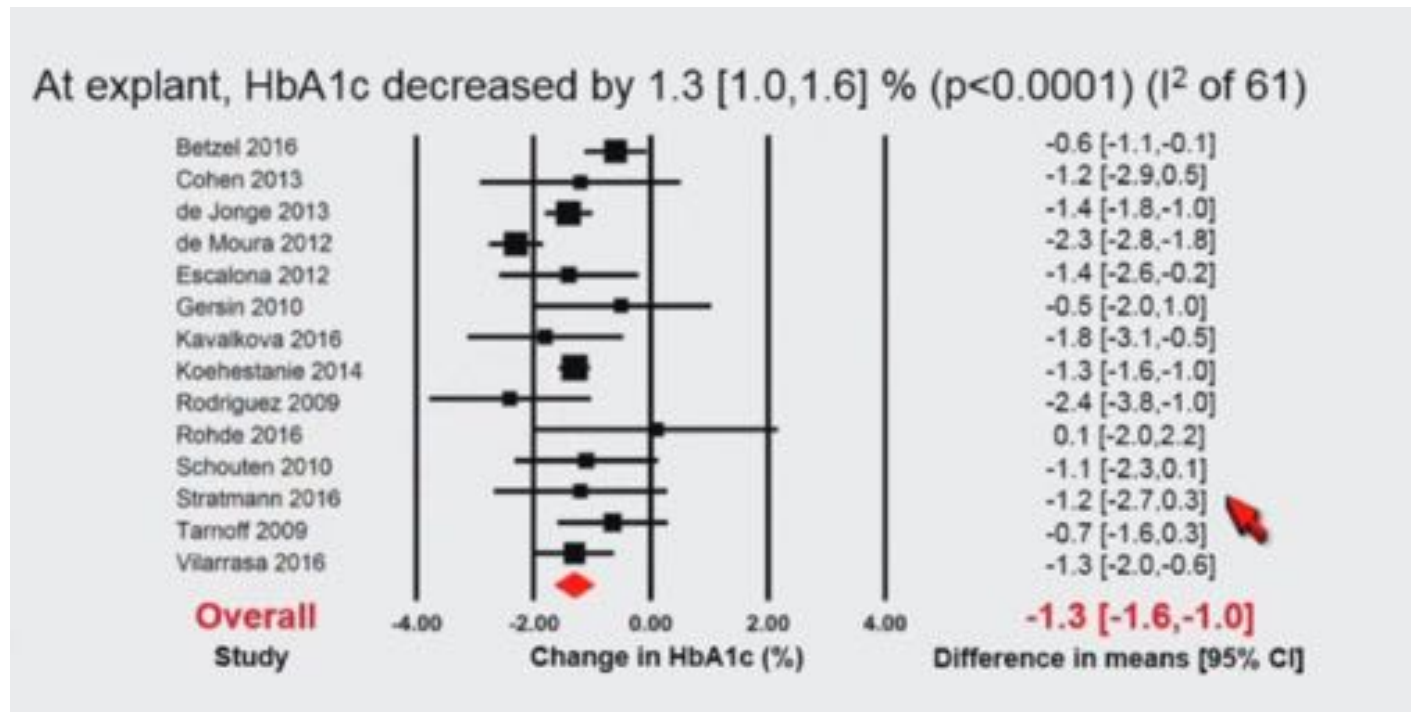
Topic Forum

Endoscopy: Primary Therapy (Balloons, Restrictive, Malabsorptive)

P. Jirapinyo<sup>1</sup>; A. V. Haas<sup>1</sup>; C. C. Thompson<sup>1</sup>

<sup>1</sup>Brigham & Women's Hospital, Boston, Massachusetts, United States

- Duodenal-jejunal bypass liner is endoscopically fixated at duodenal bulb and extends to the proximal jejunum and has been thought to induce gut hormone changes leading to improved glycemic control and weight loss



# Duodenal Mucosal Resurfacing



Ablation of duodenal mucosa between ampulla and ligament of Treitz

- *Expand* sub-mucosal space with saline injection to create protective barrier
- *Ablate* duodenal mucosa using *hydrothermal* approach



No implant

Leverages existing skill set

# Duodenal Mucosal Resurfacing

## Tolerability and Safety: All Procedures

- Procedure well-tolerated
- Three duodenal stenoses effectively treated via balloon dilation
- No evidence of malabsorption, GI bleeds, perforation, or pancreatitis

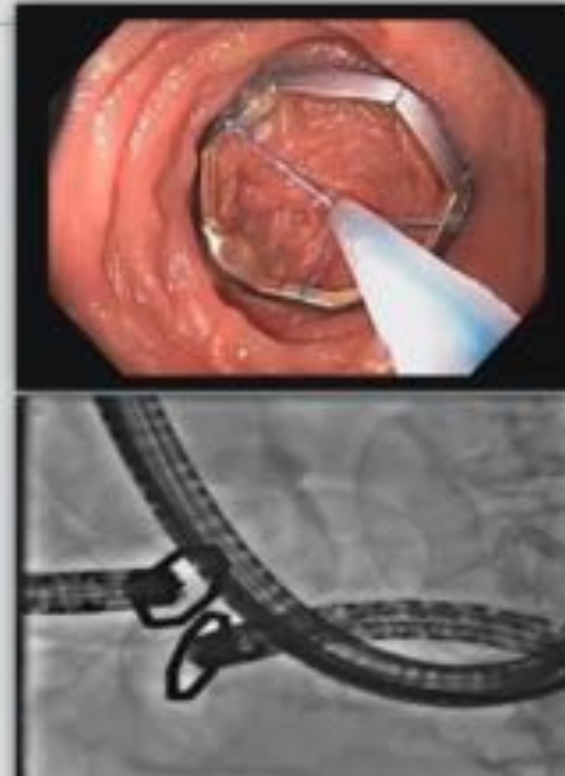
## Efficacy

- Reduction in glycemic indices
- Long-segment ablation more potent than short segment
- Modest weight effect noted



# Endoscopic Anastomosis

## Enteral Diversion



Courtesy of Christopher Thompson MD

# Ergonomics and Endoscopist Injuries



## Historical Prevalence of Injury in Endoscopy

Study	Year	% Men	Prevalence of Injury
Buschbacher (ASGE)	1994	95% Men	57%
Keate (ASGE) (abstract)	2006	Not reported	78%
Hansel (Mayo)	2007	83% Men	74%
Lee (Australian) (abstract)	2007	84% Men	37%
Ridtitid (ASGE)	2015	84% Men	53%

Ref: Technical Review. Shergill et al. ASGE 2009

10:00 AM| #2145| Empowerment, Success and Safety of Women in Gastroenterology

## IMPACT OF ERGONOMICS AND INJURY IN ENDOSCOPY-RESULTS FROM SURVEY

Katherine Garman

BOOKMARK

LIKE

# Impact of Ergonomics and Injury in Endoscopy

AGA Survey Results

Katherine S. Garman, MD, MHS

May 6, 2017



# AGA 2017 Ergonomics Survey

- 612 respondents
- 69% general GI; 50% community practice
- Majority 11-40 colonoscopies per week
- 86% reported injuries

# Types of Injuries from GI Endoscopy – 2017 AGA Survey

## Injury in Women – 85.8%

Eye Strain – 22.2%  
Right Finger – 15.2%  
Left Finger – 13.0%  
Right Thumb – 26.2%\*  
Left Thumb – 32.7%  
Right Wrist – 30.6%\*  
Left Wrist – 18.6%  
Right Elbow – 8.3%  
Left Elbow – 6.0%  
Right Shoulder – 18.5%\*  
Left Shoulder – 17.1%\*  
Neck – 37.3%  
Upper Back – 16.1%\*  
Lower Back – 34.0%  
Feet – 21.1%



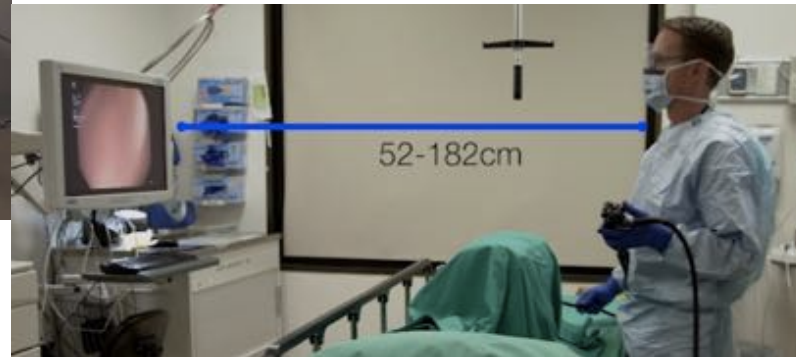
## Injury in Men – 85.8%

Eye Strain – 21.5%  
Right Finger – 12.0%  
Left Finger – 12.5%  
Right Thumb – 18.7%  
Left Thumb – 34.9%  
Right Wrist – 17.5%  
Left Wrist – 15.1%  
Right Elbow – 13.7%  
Left Elbow – 8.7%  
Right Shoulder – 12.3%  
Left Shoulder – 11.2%  
Neck – 35.5%  
Upper Back – 8.7%  
Lower Back – 35.0%  
Feet – 15.8%

# AGA 2017 Ergonomics Survey

- Average time to injury = 11 years after starting endoscopy
- Factors associated with injury
  - Any prior injury
  - Older age
  - Increased # scopes/week
  - Screen height

# Repetitive Stress Injury



## Post-procedure Stretching Exercises

1. Periscapular stabilizing exercises
  - Using clean gloves
  - Stretch shoulder muscles, and activate core
2. Shoulder release and side stretch
3. Reactivating the fingers
  - Using balled up gown
4. Shoulder rolls
  - When washing hands
5. Full body check-in
  - Rubber band
6. Back stretch

# Learn more about how to prevent GI endoscopy work related injuries

The screenshot shows the Video GIE website interface. At the top, there's a navigation bar with 'Articles & Issues', 'For Authors', 'Journal Info', and 'More Periodicals'. Below that, there's a search bar and social media icons. The main content area features the article title 'Optimizing ergonomics before endoscopy' by Michael A. Chang, MD, Jeffrey Mitchell, MSPT, OCS, Syed M. Abbas Fahmi, MSc, MD. The article is available in PDF format (413 KB) and has a 'Download Images (.ppt)' option. The article outline includes sections for 'Disclosure & Supplementary data' and 'Ergonomics plays an important role in injury prevention for endoscopists'. A video player is embedded in the article, showing a person demonstrating ergonomic adjustments. The video is titled 'Video 1: Video demonstrating optimizing ergonomics prior to endoscopy'.

The DVD cover features the ASGE logo and the title 'Taking Care of You: Ergonomic Essentials for Your Practice'. The central image shows a man in a white lab coat and blue face mask, with a blue line indicating a neck angle of '-15 to -25 Degrees'. To the right, there are three smaller images showing a woman in a lab coat, a man in a lab coat, and a man in a lab coat. The bottom right corner has a 'DVD VIDEO' logo.

Amandeep Shergill, MD, Carisa Harris-Adamson, PhD, CPE, PT, Gottumukkala S. Raju, MD, FASGE, Nao Kusuzaki, Kenneth R. McQuaid, MD, FASGE, George Russell, and Krystof Andres

Thank You