



GHAPP

Gastroenterology & Hepatology
Advanced Practice Providers

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Inpatient Management of Post-ERCP Complications

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Disclosures

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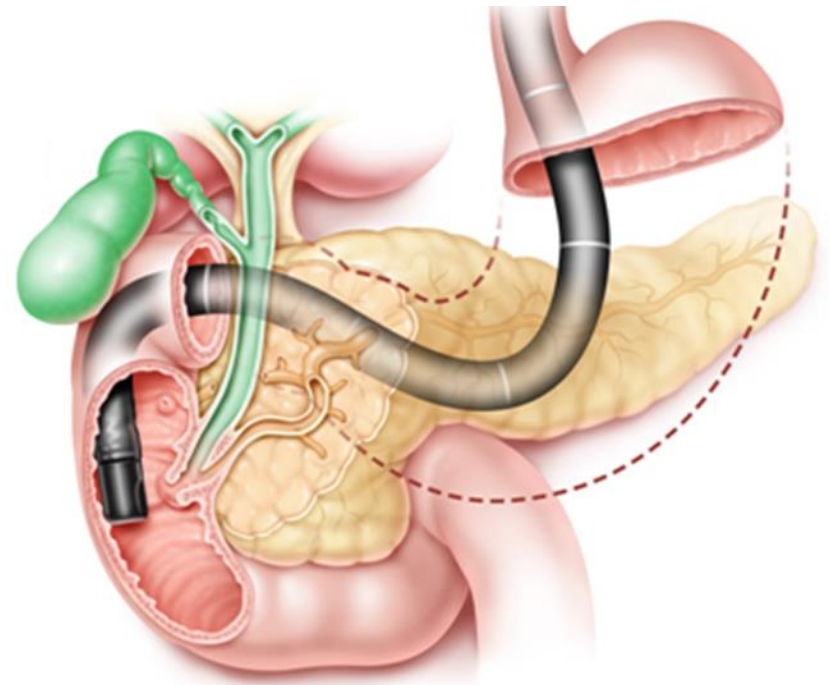
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- No financial relationships to disclose

Endoscopic Retrograde Cholangiopancreatography

- Endoscopic technique in which a specialized side-viewing upper endoscope is guided into the duodenum, allowing for instruments to be passed into the bile and pancreatic ducts



Indication for ERCP

- Jaundiced patient suspected of having biliary obstruction, acute biliary pancreatitis with concomitant cholangitis or biliary obstruction
- Without jaundice with clinical and biochemical or imaging data suggest pancreatic duct or biliary tract disease
- Suspected malignancy
- Duct disruptions

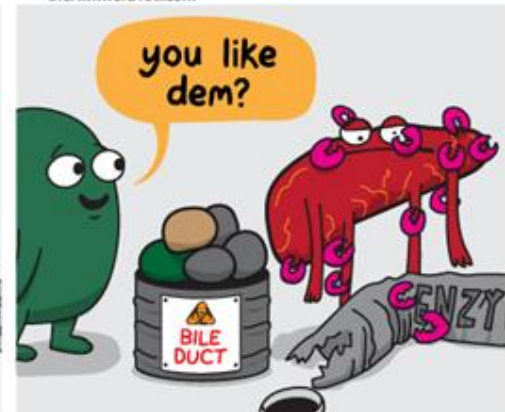
Pancreatitis



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Case #1



38 year old AAF



PMH: Asthma, anxiety and HTN

PSH: None



Presented to ER for sudden onset RUQ abdominal pain



Work-up

Case #1 Results



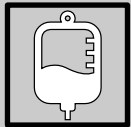
Intermittent chest pain that randomly radiates into her abdomen since miscarriage 9 months ago

Non-bloody emesis

Pain worsening since eating a taco yesterday



AST 21, Tbili 0.3, Dbili <0.1, Alk phos 63, WBC 6.2, lipase 51 (reference range 0-60 IU/L) afebrile, hemodynamically stable



BP 130/60 | Pulse 77 | Temp 37.1 °C (98.8 °F) | Resp 18 | Ht 1.549 m (5' 1") | Wt 77.1 kg (170 lb) | LMP 11/12/2019 (Exact Date) | SpO2 99% | BMI 32.12 kg/m² | OB Status Having periods | Smoking Status Never Smoker | BSA 1.76 m²

Case #1 Results



Physical exam: Positive for chest pain, abdominal pain, nausea, emesis, and back pain



12 lead EKG: Sinus Brady 49 BMP, normal QT and QRS interval



**RUQ US IMPRESSION:
Cholelithiasis without sonographic evidence of acute cholecystitis.
The liver is sonographically unremarkable.**

Case #1 Continued



Treatment



Plan



Follow up



Case #1...



10 days later presented to the ER for 10/10 substernal chest pain radiating into upper abdomen (R>L)



BP 183/86 | Pulse 86 | Temp 36.6 °C (97.9 °F) | Resp 18 || LMP 12/27/2019 (Exact Date) | SpO2 98% |



Lipase 36 (reference range 0-60), AST 757, ALT 446, Tbili 1.7, Dbili 0.9, Alk phos 90, WBC 4.5

Case #1...



Imaging



Treatment



Plan/Follow up

Intraoperative Cholangiogram Images

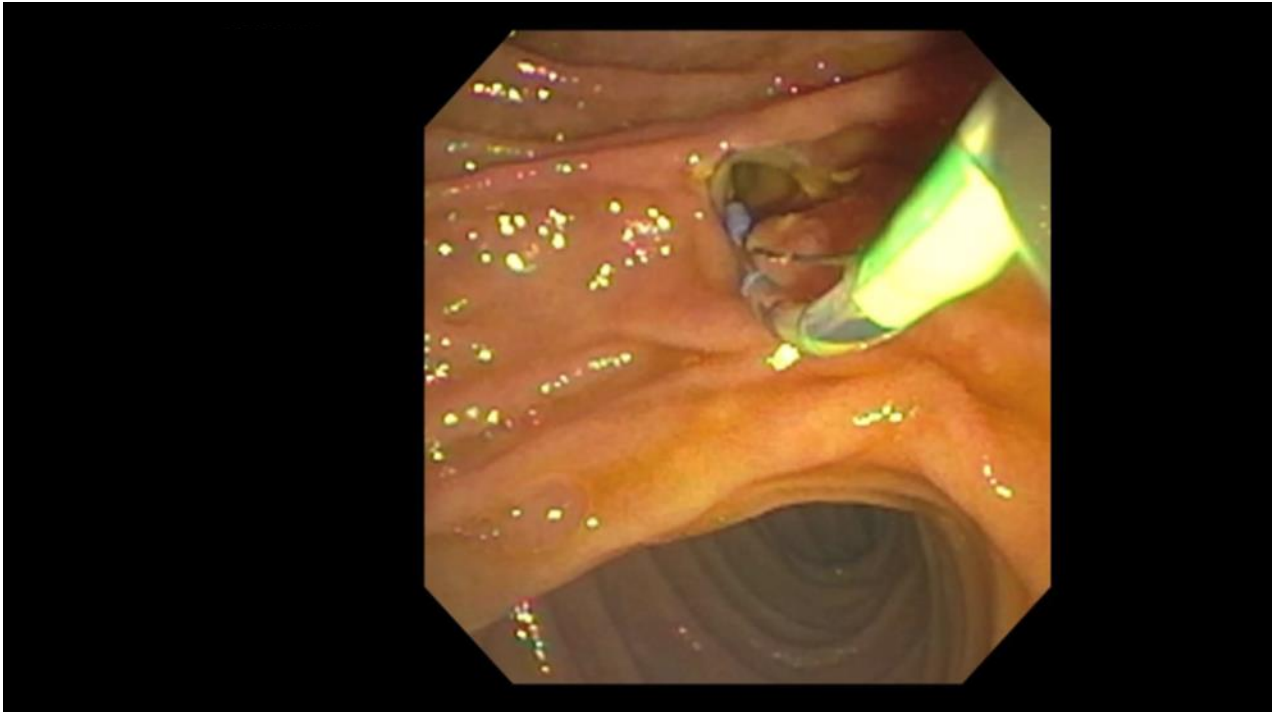


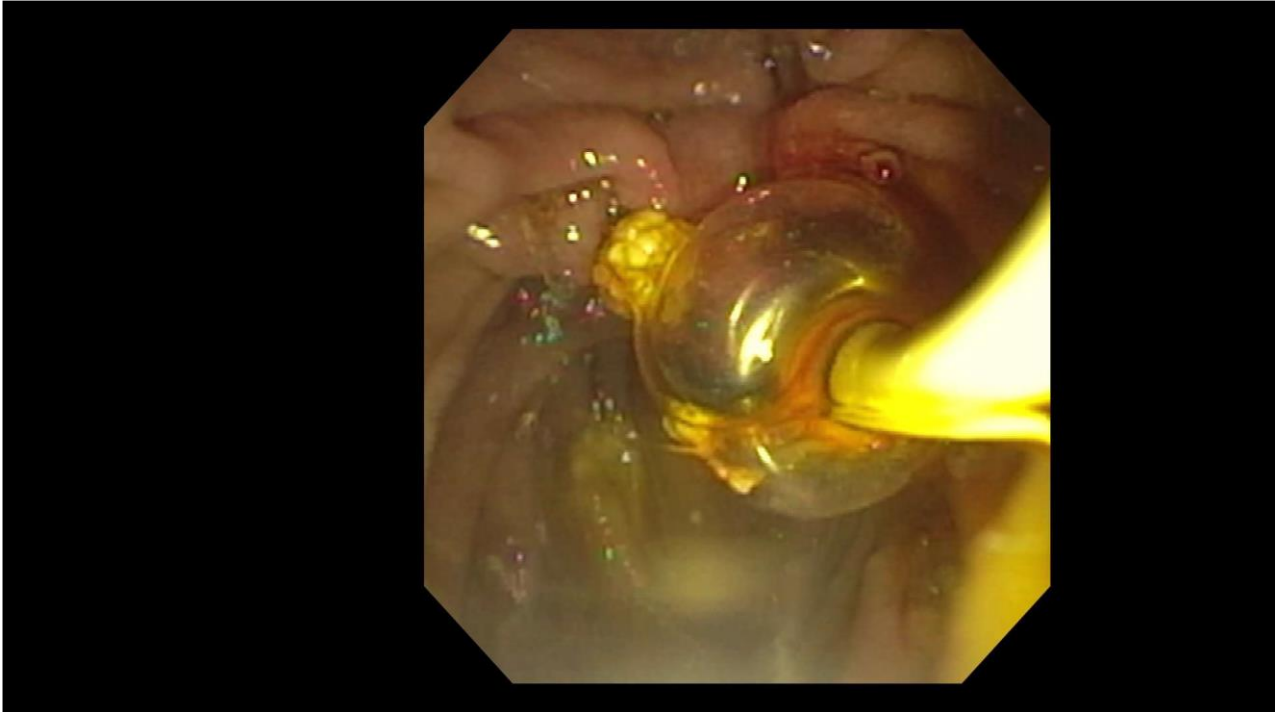
Case #1...

- ERCP consent

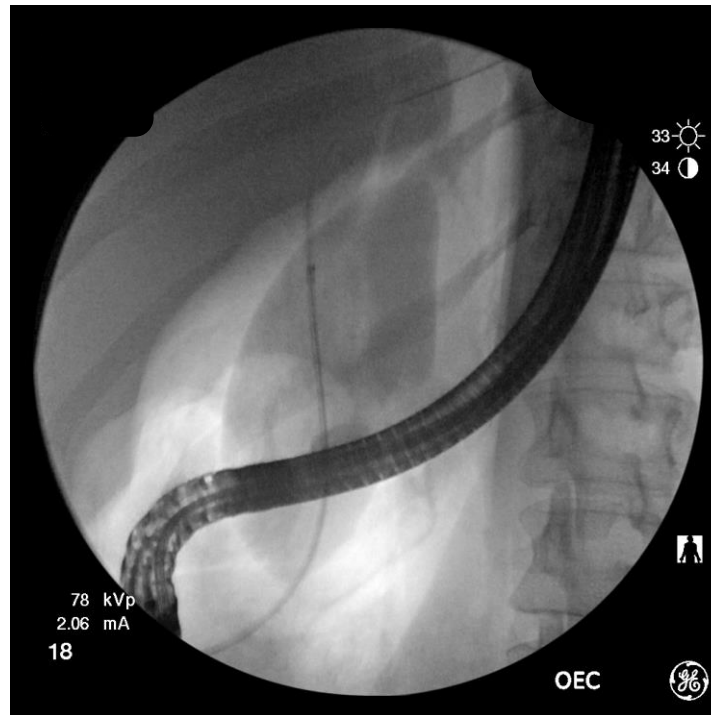


Case #1

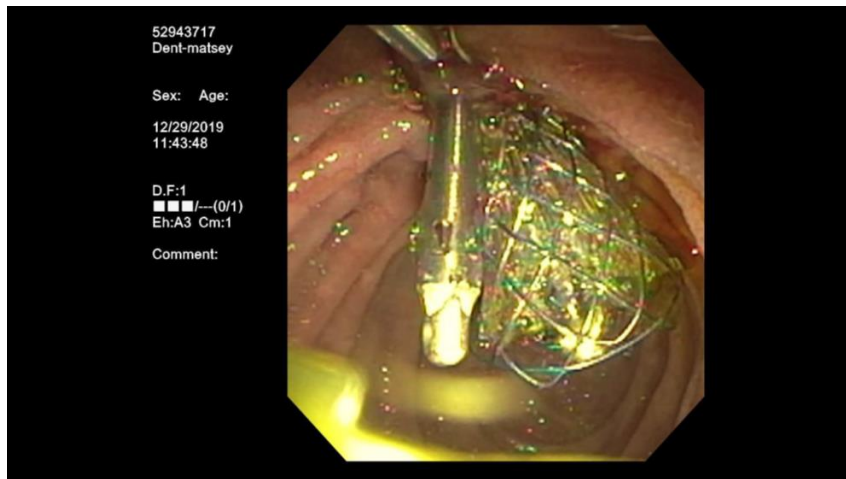




Case #1



Case #1



- A retroperitoneal microperforation was seen after sphincterotomy
- Treated by placing a transpapillary fully covered metal stent and further closing the defect with 3 hemostatic clips

Case #1



Liver enzymes
downtrending



Negative for
peritoneal signs



Diet advanced



Discharged home
with GI follow up

Case #2

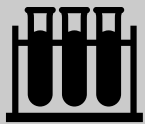


71-year-old male

PMH: HTN, HLD, OSA, GERD, Cholecystectomy 10 years prior



Presented to PCP with anorexia and weight loss for the past 2-3 weeks



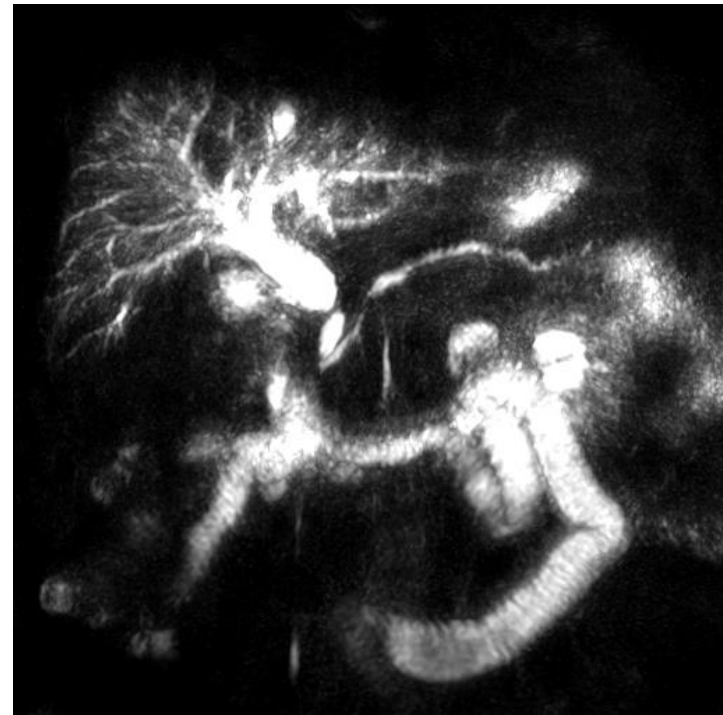
ALT 542, AST 324, T bili 2.6, ALP 1556, lipase 56 (reference range <82 IU/L), Acute hepatitis panel negative

Ultrasound: The common bile duct measures 1.0 - 1.6 cm

Case #2

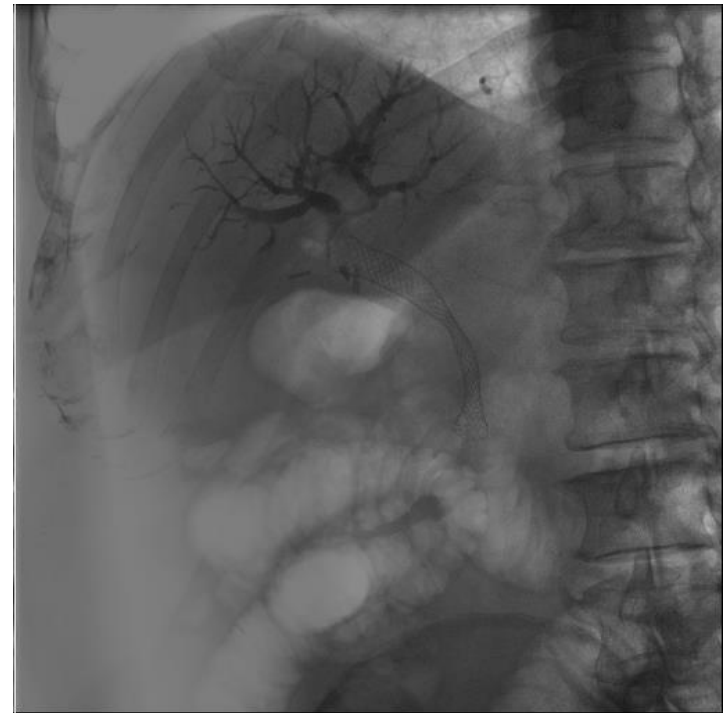


Short segment focal
stricturing of the mid to
distal common bile
duct with associated
moderate intrahepatic
biliary ductal dilatation



Case #2

- ERCP
 - Severe biliary stricture was found in the middle third of the main bile duct; this is concerning for malignancy
 - Biliary sphincterotomy performed and a small amount of sludge swept from the duct
 - A single fully covered metal stent was placed into the common bile duct with avid flow of bile after deployment



Case #2



8/10 abdominal pain that radiates to both flank sides and lower back, is sharp, nausea and vomiting



WBC 12, ALT 516, AST 324, Tbili 5.6 (direct 3.3), ALP 1151, lipase 1370 (reference range <82 IU/L)



Inflammation of the pancreatic head and uncinate process may be related to recent ERCP with stent placement. Peripancreatic fat stranding. Adjacent inflammation of the second and third part of the duodenum.

Risk Factors for PEP

Independent risk factors for post-ERCP pancreatitis identified with multivariable analysis

Risk factors		Odds ratio (95% CI)
Patient-related	Prior post-ERCP pancreatitis	8.7 (3.2 – 23.86)
	Female sex	3.5 (1.1 – 10.6)
	Previous recurrent pancreatitis	2.46 (1.93 – 3.12)
	Suspected sphincter of Oddi dysfunction	1.91 (1.37 – 2.65)
	Younger patient age (<40 years old) 30 vs 70 years old	1.8 (1.27 – 2.59) 2.14 (1.413.25)
	Absence of chronic pancreatitis	1.87 (1.003.48)
	Normal serum bilirubin	1.89 (1.222.93)
Procedure-related	Difficult cannulation (>10 minutes)	1.76 (1.13 – 2.74)
	Repetitive pancreatic guidewire cannulation	2.77 (1.79 – 4.30)
	Pancreatic injection	2.2 (1.60 – 3.01)
	Pancreatic sphincterotomy	3.07 (1.64 – 5.75)
	Endoscopic papillary large-balloon dilation of an intact sphincter	4.51 (1.51 – 13.46)

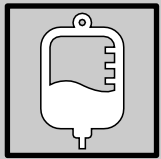
Case #2



Treatment



Monitoring



Follow up

Case #3



69 year old Caucasian male



PMH: No significant past medical history
PSH: inguinal hernia repair, colonoscopy, tonsillectomy



Presented to ER with complaints of abdominal pain x 3 weeks and blood in his urine

Case #3

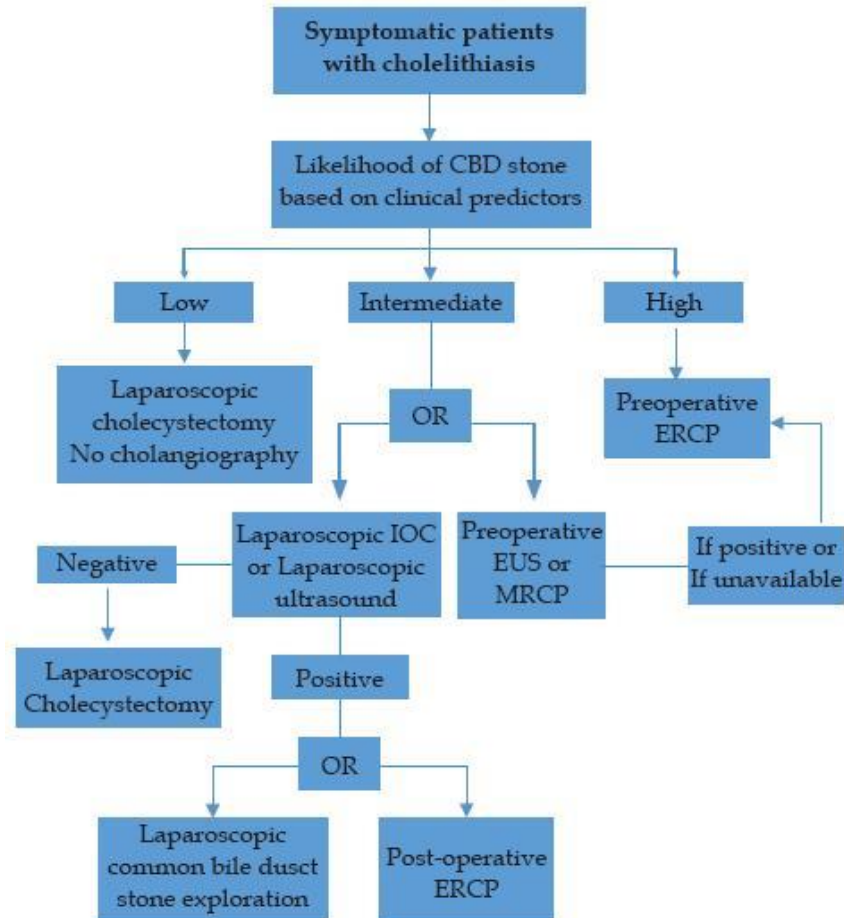


Work up



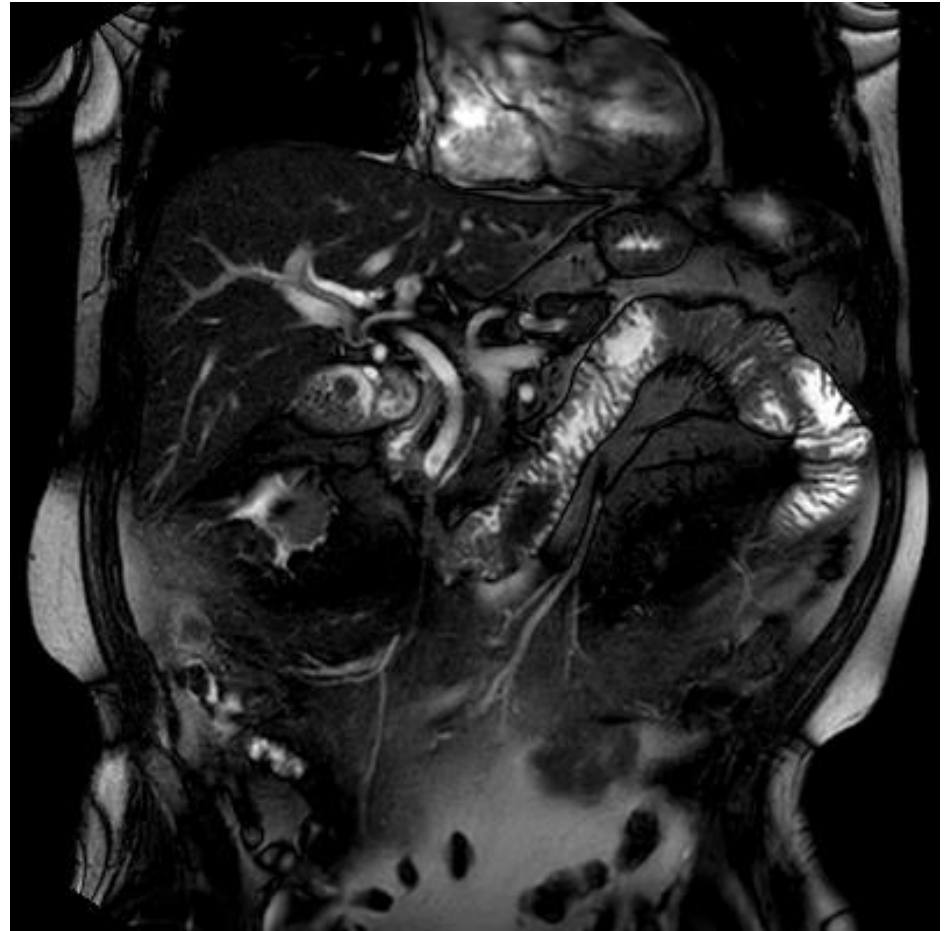
Imaging vs Endoscopy

The Role of Endoscopy in the Evaluation of Suspected Choledocholithiasis

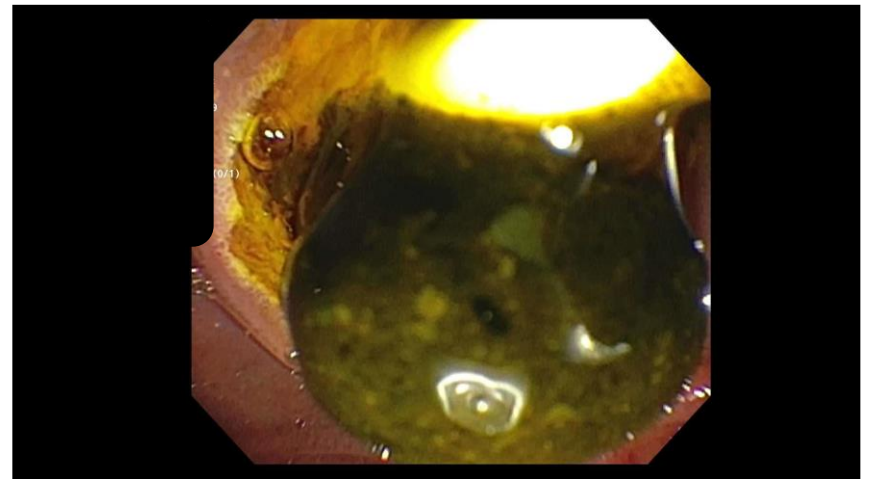
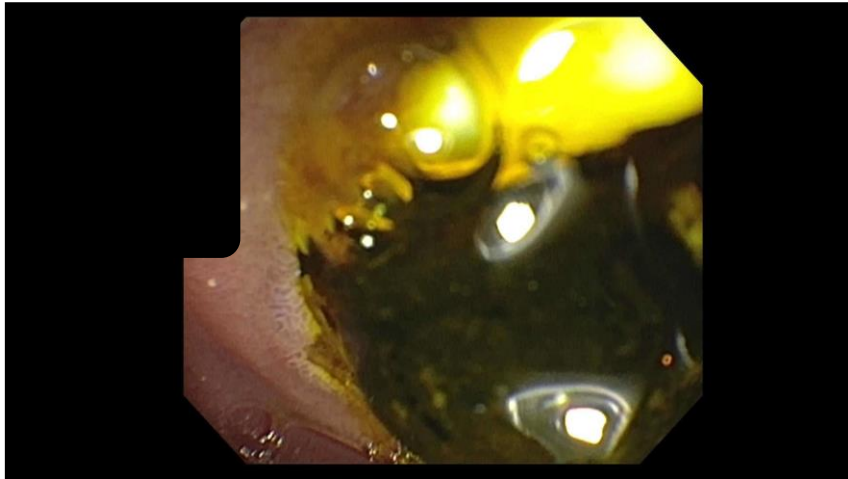


Case #3

- MRI/MRCP



Case #3

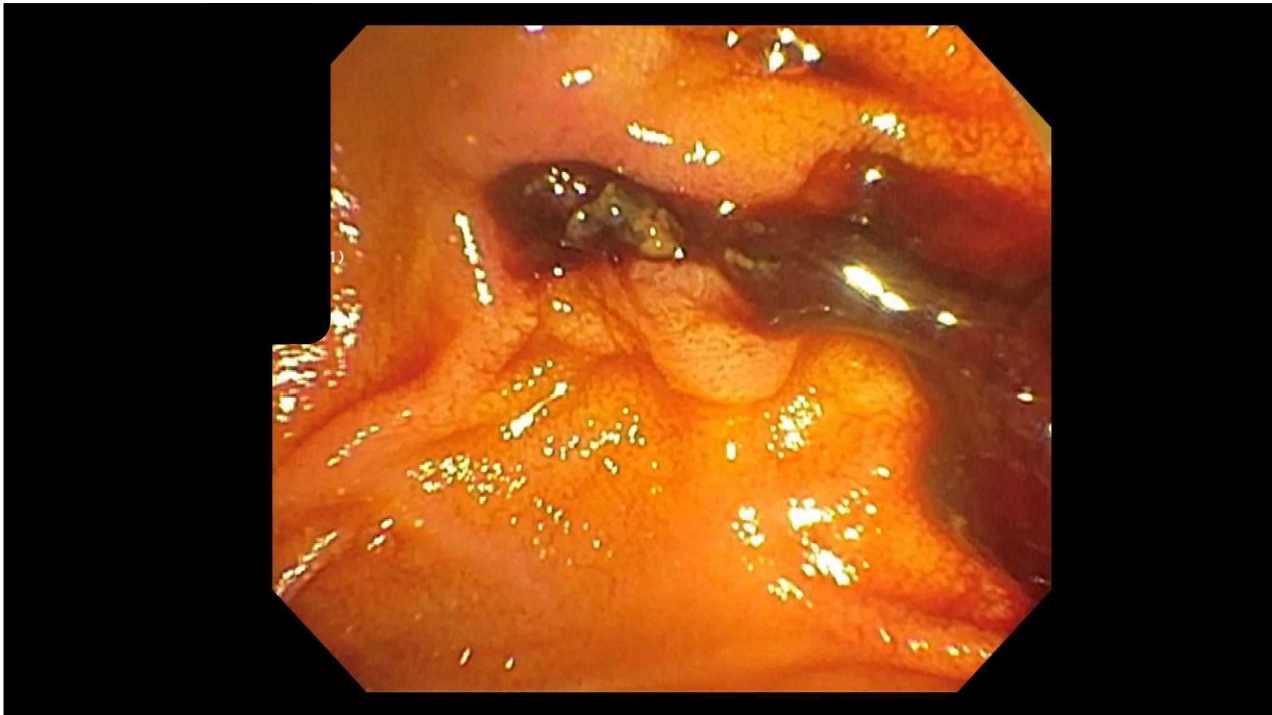


Case #3

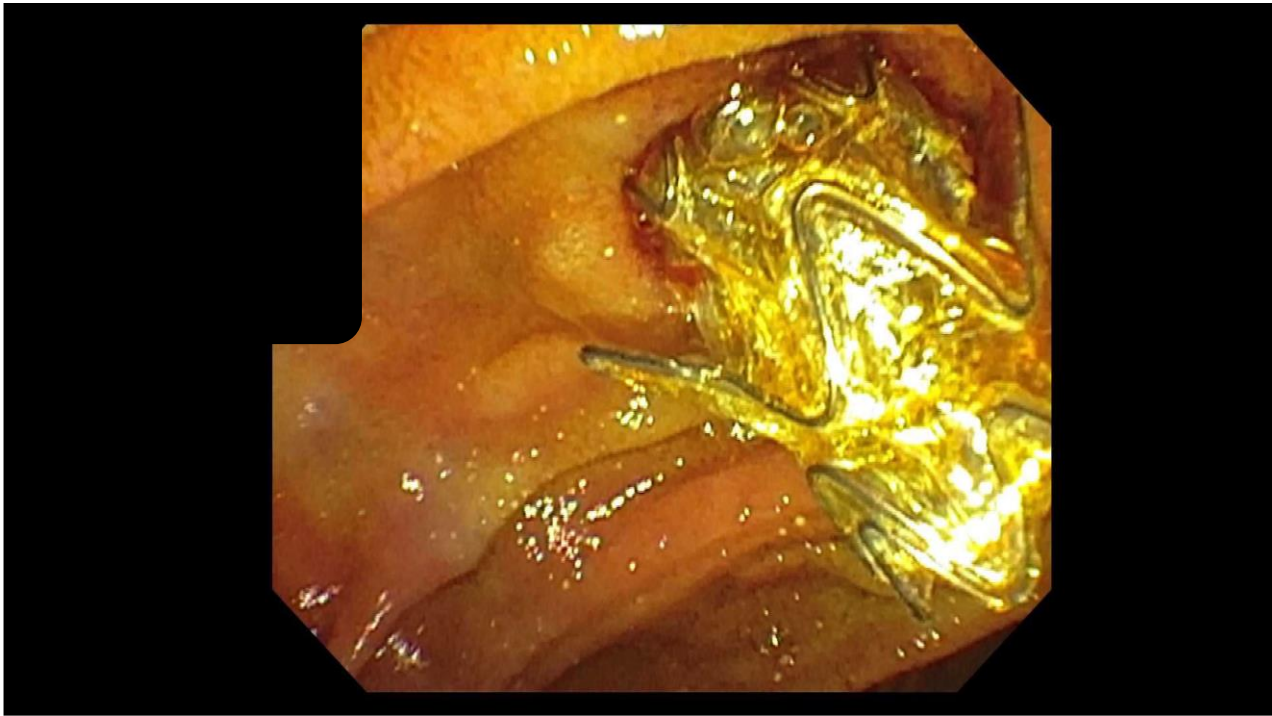
POD 1 C/O bloody BM this morning and lightheadedness

HOD 1	HOD2	HOD 3	HOD 4
WBC 6.7	7.7	10.3	14.8
RBC 5.86	5.43	5.40	4.00
Hgb 18.1	16.5	16.6	12.2
HCT 54.1	49.9	50.8	37.4
Plt 169	168	202	217

Case #3



Case #3



Other Potential Complications...



INFECTION



STENT INDUCTED

References



American Society for
Gastrointestinal Endoscopy

Adverse events associated with ERCP

- https://www.asge.org/docs/default-source/education/practice_guidelines/adverse_events_ercp.pdf?sfvrsn=9ad4e851_4



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Q&A