

Challenges in ERCP

“Getting In and Getting Them Out!”

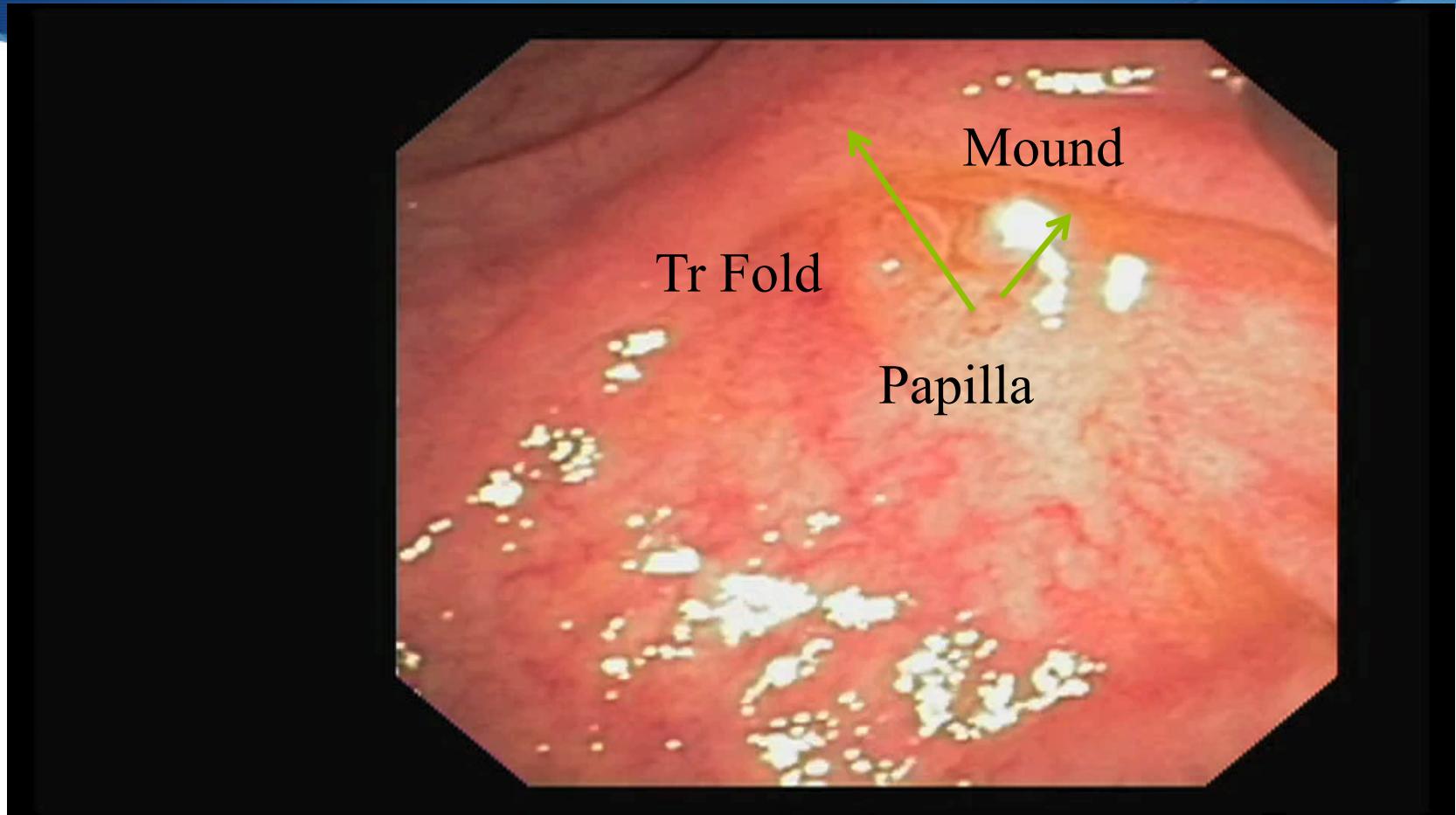
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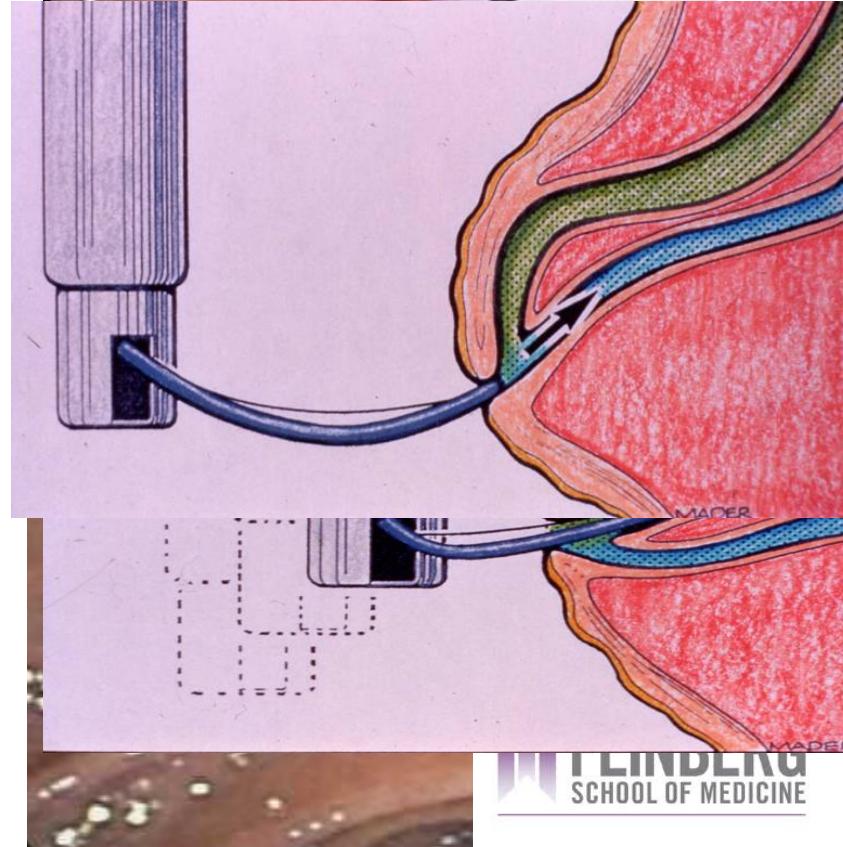
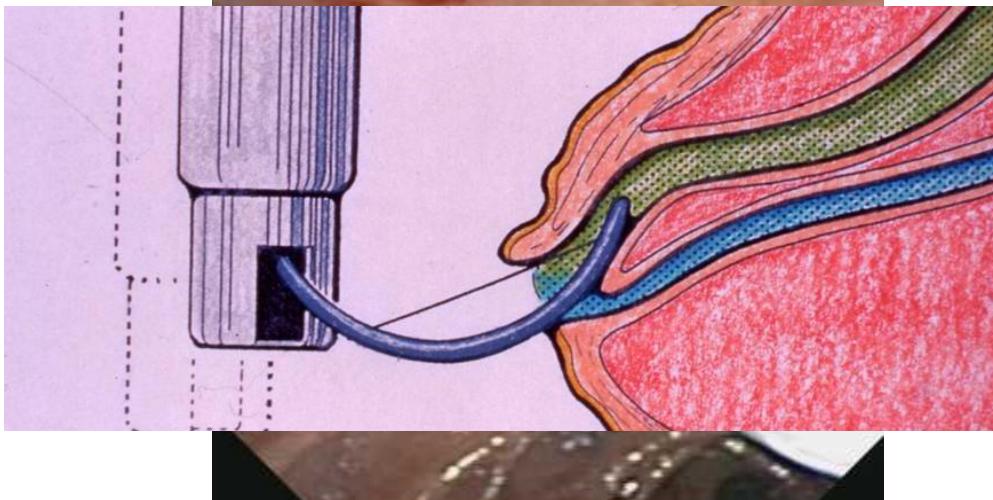
Objectives

- ◆ Cannulation techniques
- ◆ Challenges and Tips
- ◆ What if I just can't get in
- ◆ How to deal with the complicated Stones

Cannulation 101



The Good, the bad, the ugly...



Tricks of the Trade Basic Caveats for Successful ERCP

1. Know your anatomy!
2. Understand the Papilla
3. Avoid distorting of the normal appearance. Push folds away as needed
4. Sphinctertome over Cannula: More control=higher success
5. The duodenoscope is your best weapon
6. Know all your tools!

ERCP

Guidewire Cannulation

2 approaches that can be used for wire-guided cannulation (WGC)

- The catheter tip is inserted into the common channel. A preloaded hydrophilic wire is then gently manipulated in the direction of the bile duct.
- Insert only the tip of the guidewire into the papilla. This avoids impaction of the catheter tip into the papilla

PD stent or Guidewire

- ◆ Cote et al, Randomized crossover study at 2 high volume centers
- ◆ Difficult cannulation defined as inability of attending physician to achieve deep biliary cannulation in 6 minutes or 3 successive PD cannulations
- ◆ Randomized to PD stent or wire
- ◆ 87 patients included (54: PDS, 42: PDW)
- ◆ Final cannulation: PDW: 67%, PDS: 90% (NS)
- ◆ Pancreatitis: 4.6%
- ◆ Impact: Use of either PDW or PDS facilitates CBD cannulation

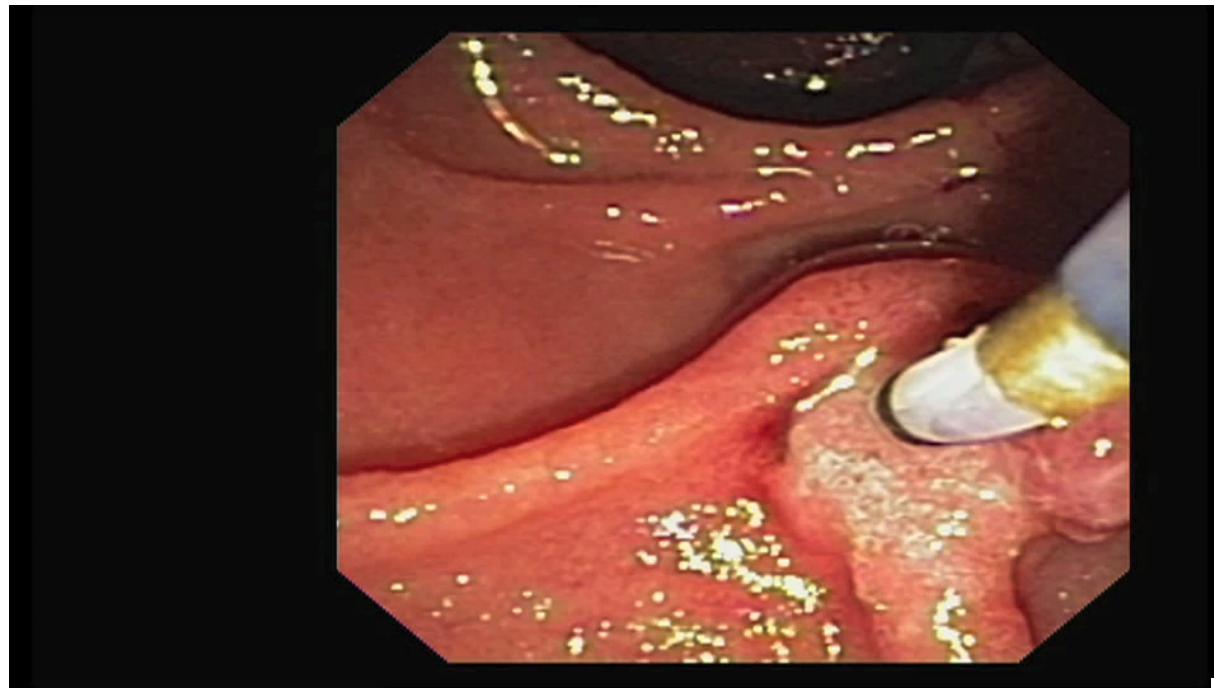
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Utilization of wire in the PD

Advantages:

- Opens a stenotic papillary orifice
- Stabilize the papilla
- To lift the papilla toward the working channel
- To straighten the common channel
- PD drainage
- Access for stent placement

PD wire assisted cannulation



ERCP

Endoscopic Sphincterotomy Caveats

- ◆ Proper visualization is critical (use all of your tools)
- ◆ Avoid too much wire in the duct or too much bowing
“zipper cut”
- ◆ Average incision is 10-15mm
- ◆ Continuous cutting is correct. Pulse cutting results in increase in bleeding
- ◆ ERBE endocut (blended): *Data is inconclusive*

Needle KnifePrecut

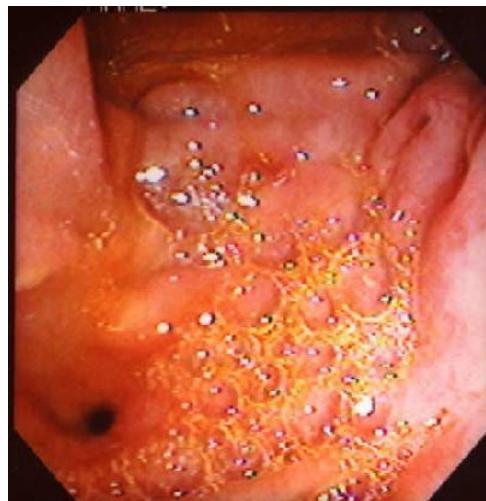
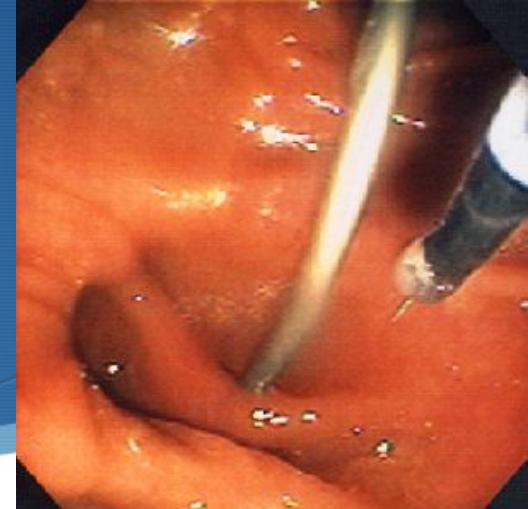
Should I be doing this?

- ◆ Strong Indication is essential
- ◆ Bulging or prominent ampillary mound
- ◆ Biliary ductal dilation
- ◆ Consider referral to high-volume center
- ◆ Avoid SOD
- ◆ EUS-Rendezvous is an effective option

Therapeutic ERCP

Challenging Scenarios

- Billroth II gastrojejunostomy
- Periampullary diverticulum
- Prior Biliary bypass (choledochoduodenostomy)
- Roux-en-Y (Balloon enteroscopy)



Difficult Cannulation Periampullary Diverticulum



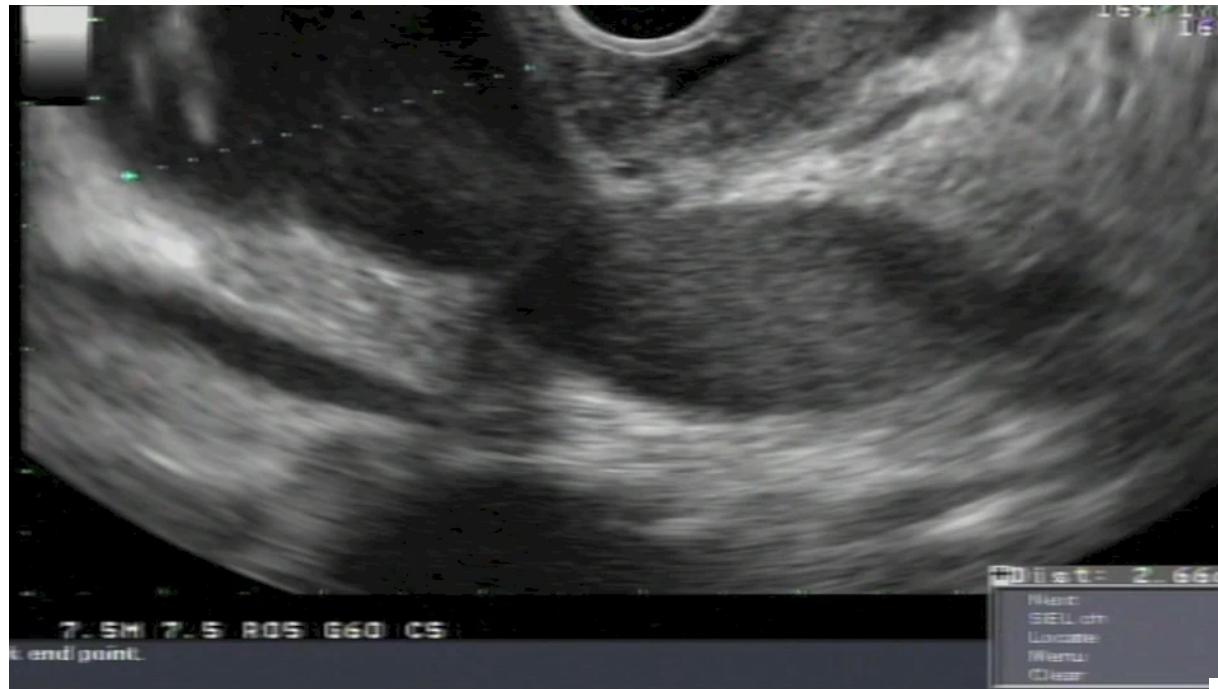
Failed biliary cannulation Refer to academic center?

- ◆ 51 patients referred to a single tertiary referral hospital
- ◆ Indications
 - ◆ CBD stones: 45%
 - ◆ Suspected malignancy: 18%
 - ◆ Benign strictures: 12%
- ◆ Technical success: 100% (Needle knife: 27%)
- ◆ Pancreatitis: 3.9%
- ◆ Impact: As would seem intuitive referral to a high volume academic center after failed biliary cannulation is associated with high technical success with a favorable complication rate.

Failed Cannulation EUS Rendezvous vs Precut

- ◆ 58 consecutive patients with failed cannulation underwent EUS- guided rendezvous
- ◆ Compared to historical cohort of NKP
- ◆ EUS-R was transduodenal puncture
- ◆ TS: EUSR: 98%, NKP: 90% ($p=0.03$)
- ◆ No significant difference in complications: EUS: 3.4%, NKP: 6.9%)

EUS-R



CBD stones

Some numbers

- 5-10% of patients with symptomatic cholelithiasis have CBD stones
- 18-33% of patients with biliary pancreatitis have CBD stones
- Natural history data suggests 21%-34% of CBD stones will spontaneously pass
- 12% of patients have recurrent choledocholithiasis after ERCP with ES and extraction, however 36% of patients in whom surgery is delayed have biliary events (pain)

Large Stones

Data for EPLBD

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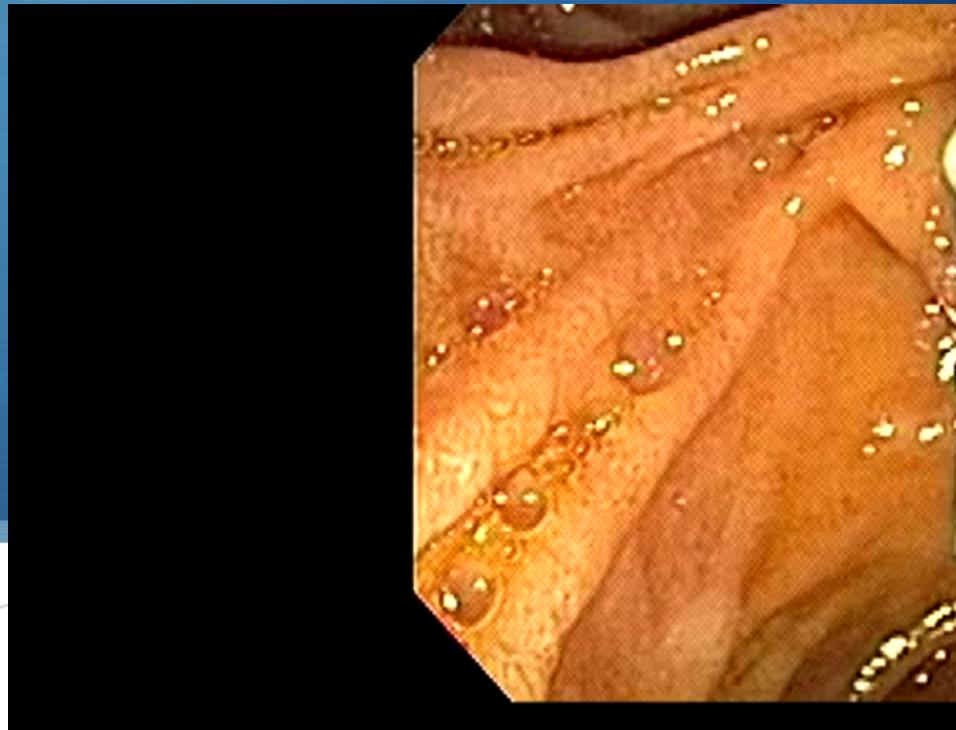


- ◆ 21 publications, 1292 patients
- ◆ Final success rate: 98%
- ◆ Need for mechanical lithotripsy: 9.3%
- ◆ Overall adverse events: 5% (2.8% pancreatitis, 1.2% bleeding)
- ◆ Impact: EPLBD should be considered first line for removal of large stones after endoscopic sphincterotomy

Peroral Cholangioscopy

Stone Therapy

- ◆ International Registry of 98 patients
- ◆ Stones not amenable to standard ERCP therapies
- ◆ All patients had 1 month f/u
- ◆ Mean Stone Size: 19mm
- ◆ 29% of cases found stones missed on prior ercp
- ◆ Success: 92% (Holmium Laser)



ASGE Guidelines

- ◆ Urgent ERC for cholangitis
- ◆ Preoperative ERC or IOC are comparable with high suspicion of CBD stones
- ◆ Recommend cholecystectomy should be performed within 2 weeks after ERC and stone extraction to avoid additional biliary morbidity
- ◆ Recommend pre-procedure antibiotics only for cholangitis, immunosuppressed, or incomplete drainage
- ◆ EPBD should only be performed after ES

ASGE Guidelines

- ◆ Recommend plastic biliary stent in setting of incomplete stone extraction
- ◆ EPBD or Mech Lithotipsy is recommend for large stones
- ◆ Recommended Intraductal lithotripsy (EHL, LL) over ESWL

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Take Home Points

- ◆ Take the time to understand the anatomy
- ◆ Visualize the bile duct, simplify your technique
- ◆ Know your tools and plan ahead for what you may need
- ◆ Strongly consider sphinctertomes and use of guidewire
- ◆ EPLBD should be a gold standard for large stones
- ◆ In expert hand EUS-R may be preferred to Needle Knife
- ◆ Never be afraid to say I need help