Making ERCP Easy: Tips From A Master

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The ABC’S of ERCP

- ACCESS
- BILIARY SPHINCTEROTOMY
- CALCULI
- STRICTURES
Pearls of Wisdom

• Avoid *diagnostic* ERCP
Pearls of Wisdom

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• SELECTIVE Therapeutic ERCP
  – Selective Endoscopists within your group
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  – Selective Risk (yours and the patient’s!)
  – Selective Cannulation
Pearls of Wisdom

- Avoid diagnostic ERCP
- **SELECTIVE** Therapeutic ERCP
  - Selective **E**ndoscopists within your group
  - Selective **R**isk (yours and the patient’s!)
  - Selective **C**annulation
  - Selective **P**atients
Modified Bismuth-Corlette Classification

<table>
<thead>
<tr>
<th>TYPE I</th>
<th>TYPE II</th>
<th>TYPE IIIa</th>
<th>TYPE IIIb</th>
<th>TYPE IV</th>
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NIH 2002 Consensus Conference on ERCP

- Choledocholithiasis
  - High-index of suspicion
  - Low suspicion - less invasive modalities
    - U/S – 50% sensitivity
    - MRCP – less than 5mm and/or distal stones may be missed
    - EUS – may be better than cholangiography
  - Pre-operatively vs. Post-operatively
NIH 2002 Consensus Conference on ERCP

• Acute Biliary Pancreatitis
  – When biliary obstruction is present
• Pancreaticobiliary abdominal pain
  – Depends on objective evidence (elevated LFT’s AND dilated bile duct – emperic sphincterotomy)
Access
“Position, Position, Position”
“Position, Position, Position”
Improve Biliary Cannulation

- Guidewire – physician controlled
- “Double Wire” Technique
- Pancreatic duct stent
- Transpancreatic septotomy
- Needle-knife pre-cut (expert)
Biliary Sphincterotomy

- 11 o’clock position
- One-third of cutting wire in the duct
- Extent of sphincterotomy – depends on pathology
  - Base it on size of stone and/or distal bile duct diameter
  - For maximal extent, consider the intraduodenal portion of the bile duct
Calculi (Biliary)
Extraction Balloons and Baskets
Stone Extraction Algorithm

- Deep cannulation
- Adequate sphincterotomy
- Equipment
  - Balloons (extraction and dilating)
  - Baskets
  - Mechanical Lithotripsy
  - Electrohydraulic Lithotripsy (cholangioscopy)
- Stent (not as sole therapy)

90% of all stones
Difficult Biliary Stones

- Size greater than downstream bile duct
  - Balloon dilation
  - Mechanical lithotripsy
  - Acutely impacted and not stentable
    - Consider PTC to decompress and percutaneous cholangioscopy with EHL as an alternative to surgery
    - Emergent referral
- Treat downstream strictures
- Multiple and/or cuboidal
Billroth II
Sphincterotomy and Papillary Balloon Dilation

- N=103 (5 U.S. Referral Centers)
- ES (initial or extension) and EBD (12mm or greater)
- Median stone and balloon size = 13mm
  - Fluoroscopic “waist”
- 95% success in one session (1/4\textsuperscript{th} required lithotripsy)
- Complications (5.4%)
  - Cystic duct perforation required 2 month hospitalization (N=1)
  - Bleeding requiring embolization of GDA (N=1)
  - Broken basket requiring open BDE (N=1)
  - No pancreatitis reported

Lithotriptors
Enhancing Ductal Clearance: The ABC’s

- **Assess opening**: cautiously consider papillary balloon dilation
- **Bust the stone**: lithotripsy
- **Cut**: extend the sphincterotomy maximally
- **Strictures**: recognize downstream strictures and dilate prior to attempting extraction
Strictures
The Importance of Confirming Malignancy

- Surgical morbidity/mortality
- Low rate of resectability
- Expands and expedite treatment
- Tumor markers do not diagnose cancer
Yield of Sampling Depends on Etiology

- **Forceps biopsy:**
  - Ampullary CA – 80% - 90%
  - Cholangio – 33% - 50%
  - Pancreatic – 33% - 70%

- **Brush cytology:**
  - Cholangio – 40% - 80%
  - Pancreatic – 15% - 65%

Improving Tissue Sampling Yield

- Use two modalities, even two brushes
- Stricture dilation prior to brush cytology has mixed yield
- Clip the brush and flush the catheter
EUS or ERCP to diagnose Pancreatic Adenocarcinoma?

• Prospective, comparative study
  – ERCP – biopsy and brush X 2
  – EUS-FNA (at least two passes)
  – Sensitivities (ERCP better for biliary tumors, EUS better for pancreatic tumors)
    • ERCP biopsy – 36%
    • ERCP cytology – 46%
    • EUS-FNA – 75%

Conclusions: The ABC’S

- **Access**: Understand multiple techniques
  - If failed, do you retry?
- **Biliary Sphincterotomy**: Tailor to indication
- **Calculi**: recognize features of stone location and downstream duct to improve success
- **Strictures**: exclude malignancy with multiple modalities
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