Pancreatitis: When to Intervene

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Objectives

• Understand the indications for endoscopic intervention for
  – Acute Pancreatitis
  – Chronic Pancreatitis
  – Recurrent Pancreatitis
Case presentation

- 54 yo male who “drinks a bit”
- Admitted with second episode of pancreatitis in 3 years
- Symptoms for 1-2 days: abd pain N&V
- CT with acute pancreatitis changes and a “pseudocyst”
- US stones in GB, no duct dilation
- TB = 3, alk phos = 350, ALT = 150
Intervene Endoscopically?

- Yes or No
- If yes:
  - Why?
  - How?
    - What ERCP interventions?
  - To improve what?
Acute Biliary Pancreatitis

• Second most common cause
  – Alcohol is first
• Etiology: stones (or microlithiasis) in CBD
• Consider in patient:
  – Female
  – Abnormal LFT’s
  – GB in situ (gallstones a plus)
  – Doesn’t drink
    • Everyone lies!
Factors Predictive of Gallstone Pancreatitis

- Age >50
- Female
- Amylase >4000 IU/L
- AST >100 U/L
- Alkaline phosphatase >300 IU/L
Data from RCT’s

- Neoptolemos (1) and Fan (2)
  - Fewer complications in ERCP groups
    - Especially those with severe pancreatitis
    - Mostly cholangitis
    - Most patients jaundiced
- Folsch (3) only non-jaundiced (bili<5)
  - Less jaundice in urgent ERCP group
  - More severe complications in urgent ERCP group (respiratory failure)
- No effect on mortality or pancreatitis

(1) Neoptolemos Lancet 1988; (2) Fan NEJM 1993; (3) Folsch NEJM 1997
Acute Biliary Pancreatitis

• Perform ERCP within 24-72 hours if
  – Cholangitis (within 24 hours)
  – Bilirubin >5 (i.e., jaundiced)
  – (Maybe severe pancreatitis bili<5)

• Goal: decrease infection/cholangitis

• Does not affect course of pancreatitis

Tenner ACG Guideline, Am J Gastro 2013
Chronic Pancreatitis

• Indications
  – Pain relief

• Endoscopic targets
  – Main PD strictures
  – PD stones
CAUSES OF CHRONIC PANCREATITIS

Alcohol 70%

Other 10%

Idiopathic 20%
Etiology

• Alcohol (70%)
  – Smoking (independent RF and cofactor)
• Genetic: CF, hereditary pancreatitis
• Ductal obstruction: (tumor, stones, trauma, p. divisum? SOD?)
• Systemic: Lupus, TG, hyperparathyroidism
• Autoimmune Pancreatitis
• Idiopathic (20%)
Cambridge Classification

0: Normal
2: Moderate
3: Severe
Stones

Stevens T, DDS 2008
MPD Stricture
MPD Endoscopic Stricture Management

- Pancreatic Sphincterotomy
- Balloon dilation (OTW bougie, Soehendra stent retriever)
- Single stent placement (10 Fr) for 1 year
  - Shorter duration less successful
  - Stent exchange Q3 months
  - Alternative: multiple stents
    - Especially for persistent strictures
  - FC-SEMS experimental

Costamagna et al. Endoscopy 2006;38:254-59
ESGE Guideline, Endoscopy 2012
ERCP vs Surgery for Chronic Pancreatitis

<table>
<thead>
<tr>
<th></th>
<th>Dite et al 2003 (1) 5-yr followup</th>
<th>Cahen et al 2007 (2) 2-yr followup†</th>
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<tbody>
<tr>
<td></td>
<td>ERCP</td>
<td>Surgery</td>
</tr>
<tr>
<td>n</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td>Pain relief (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete</td>
<td>15</td>
<td>34*</td>
</tr>
<tr>
<td>Partial</td>
<td>46</td>
<td>52</td>
</tr>
</tbody>
</table>

1. Dite et al Endoscopy 2003;35:553-8

†7 year follow-up: more procedures in ERCP group (p=0.01)
47% eventually had surgery. Surgical pain relief better (80% vs 38%, p=0.04)
Cahen et al Gastro 2011;141:1690-95
Intraductal Stones

• Challenging
  – Smaller PD size
  – Stone immobility

• Options
  – Standard ES, balloon/basket extraction
  – Lithotripsy (mechanical, EHL)
    • Difficult, complication rates, case series
  – ESWL (+ ERCP)
  – Surgery
ESWL + ERCP Outcomes

- 4 studies >100 patients
  - 117-636 patients
- Average Follow-up 14-60 months
- # ESWL sessions
  - Median 1.8-6
  - Range 1-29
- Clearance 60-78%
- No pain 37.5-91%

Tandan et al., Gastrointest Endosc 2013;78:726-33.
Endotherapy for Chronic Pancreatitis

• Indication: Pain (not diabetes, steatorrhea etc)

• MPD Stricture
  – Endotherapy reasonable first line
    • Inferior to surgery
  – Dilate and stent (10Fr) for 1 year

• MPD stones
  – Mobile/small: standard ERCP techniques
  – Larger/immobile: ESWL (+ ERCP)
Recurrent Pancreatitis

• Recurrent defined attacks acute pancreatitis
  – Asymptomatic between attacks

• Differentiate from:
  – Relapsing pancreatitis
    • No symptom free interval
  – Chronic pancreatitis with exacerbations
Recurrent Pancreatitis Etiology

- Stones/sludge/crystals
- Pancreatic SOD
- Anatomic variants
  - Pancreas divisum
  - Anomalous PBJ
  - Annular pancreas
  - Duodenal diverticula
- Tumors and IPMN
- Metabolic: Ca, TG, EtOH
- Immunologic: AIP, Lupus
- Genetic
  - CFTR, PRSS1, SPINK1

Testoni, WJG 2014
Recurrent Pancreatitis: Endotherapy

- Sphincterotomy plus stent
- Most Common Indications
  - SOD
  - Pancreas divisum
Idiopathic Recurrent Pancreatitis: SOD

• Abnormal SOM in up to 72%
• After ES, no further attacks 50-86%
• Biliary vs. dual sphincterotomy?
  – 1 RCT no benefit to dual*
• No studies with untreated SOD controls

Roberts GI Endosc Clinics NA 2013
* Cote Gastro 2012
Pancreas Divisum
Pancreas Divisum

- Common congenital variant (4-10%)
  - 20% in RAP patients
- Failure of ventral and dorsal ducts to fuse
  - Majority of outflow via minor papilla
- Implicated: recurrent pancreatitis, chronic pancreatitis, chronic abdominal pain
- Associated with genetic abnormalities (e.g. CFTR)
- Treatment: minor papillotomy and stent
Pancreas Divisum Outcome

Fig. 2. Endotherapy response rate by indication for procedure. The rate of endotherapy success in patients with pancreas divisum and acute recurrent pancreatitis (ARP), chronic pancreatitis (CP), and chronic abdominal pain (CAP) is shown as reported in the original study. Each symbol represents a different study and the line indicates the median response rate. Endotherapy response is clearly greater in subjects with PD and ARP than in those with CP or CAP. Open triangles represent studies in which the definition of response to endotherapy includes at least one objective measure of pancreatitis. Solid triangles represent studies in which the definition of response to endotherapy requires no further treatment or intervention. Open circles represent studies in which the definition of response to endotherapy relies on patient perception of pain and/or therapy efficacy. Solid circles represent studies in which the definition of response to endotherapy is not well-defined.
Endotherapy for Recurrent Pancreatitis

• Defined discrete attacks
  – Intervals <2 years
• SOD/Papillary stenosis
  – SOM needed?
  – Biliary versus dual sphincterotomy?
• Pancreas divisum
  – ARP
  – Chronic Pancreatitis
    • My practice: dilated duct
  – Not for abdominal pain alone
Pancreatitis: When to Intervene?

- Acute Biliary Pancreatitis
  - Jaundiced, cholangitis
- Symptomatic Chronic Pancreatitis
  - Stricture: Dilate and 10Fr stent x 1 year
  - Stones: ESWL+ERCP for large stones
- Idiopathic Recurrent Pancreatitis
  - Sphincterotomy for SOD (microlithiasis?)
- Pancreas divisum
  - Recurrent Pancreatitis
  - Chronic pancreatitis with dilated duct
Thank you!

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