Pouch Disorders: Diagnosis and Management TIPS

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Disclosures

• Honorary Speaker
  – Abbvie
  – Medtronic
  – Takeda
Objectives

- Who gets an ileal pouch?
- The anatomy of the ileal pouch
- Living with an ileal pouch
- Complications of the ileal pouch
- Pouchoscopy
- Health maintenance
Who gets an ileal pouch?

• The prevalence of UC is as high as 249 per 100,000 persons in North America

• About 30% of patients with ulcerative colitis undergo colectomy after 15 years
  – Medically refractory disease
  – Dysplasia or colorectal cancer
Ileal Pouch Anatomy

Prior To Surgery (Normal)

With Diverting Ileostomy

After Ileostomy Takedown

Ileum

Rectum

Ileostomy

Ileal pouch

Intestinal continuity restored

LSU Health New Orleans
Quality of Life after Ileal Pouch

• QOL measures improve 2-5 years after an ileal pouch
  – improves relations with friends
  – provides greater freedom in role function
  – improves body image
  – reduces negative effects of colitis

Living with Ileal Pouch

• Adapting to the ileal pouch (initially)
  – Pouch may not hold much stool
  – Stool may be loose
  – Leakage of mucus and stool may occur
    • Use barrier ointment to protect skin
  – After 6 months to a year, stool output decreases
to 4-6 bowel movements daily and 1 at night
Tips to improve stool thickness

- Anti-diarrhea medications
  - Loperamide, diphenoxylate/atropine

- Bulk forming medications
  - Fiber
    - Take with small amount of water

- Diet
  - Limit foods that cause gas
  - Include foods that may thicken stool
    - Applesauce, bananas, breads, cheese, pasta, rice, peanut butter, tapioca
  - Avoid foods that may thin stool
    - Alcohol, apple juice, grape juice, spicy foods, prune juice
## Possible Complications

### Surgical
- **Early**
  - Leak
  - Abscess
  - Pelvic sepsis
- **Late**
  - Fistula
  - Sinus
  - Stricture
  - Ischemia

### Medical
- Acute pouchitis
- Chronic pouchitis
- Cuffitis
- CD of the pouch
- Irritable pouch syndrome
- Infections (Cdiff, CMV)
- Pelvic floor dysfunction
- SIBO
- Rectal CA
Pouchitis

- IPAA
  - Acute Pouchitis (50%)
  - No Pouchitis (50%)
  - Recurrent Acute Pouchitis (60%)
  - Chronic Pouchitis (5-20%)
  - No further Pouchitis (40%)

Penna et al, Gut 1996
# Pouchitis

<table>
<thead>
<tr>
<th></th>
<th>Acute</th>
<th>Acute relapsing</th>
<th>Chronic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antibiotic-responsive</td>
<td></td>
<td>Antibiotic-dependent</td>
<td>Antibiotic-refractory</td>
</tr>
<tr>
<td>Idiopathic</td>
<td></td>
<td>Secondary</td>
<td></td>
</tr>
<tr>
<td>(unidentified pathogens or triggering factors)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Pathogen-associated e.g. *Clostridium difficile*
- Cytomegalovirus
- Other pathogens
- Luminal or vascular factor-associated
  - NSAID
  - Ischaemic
  - Diversion
  - Postobstruction from outlet stricture
- Autoimmune-associated
  - IgG4-associated
- Primary sclerosing cholangitis
- Concurrent inflammatory pouch disorders
  - Crohn’s disease
  - Cuffitis
  - Pouch sinus and pouch fistula
Pathogenesis

• Dysbiosis:
  – increase in aerobes and C. perfringens
  – decrease in anaerobes and Lactobacillus
  – decrease in microbiome diversity

• Altered immunity:
  – higher levels of inflammatory cytokines

• Genetically susceptible host

• Other factors:
  – ischemia, NSAIDS, infections (C. diff, CMV, candida)

Li et al. Inflamm Bowel Dis 2013
Scarpa et al. Surgery 2011
Risk Factors

- Young age at colectomy
- Smoking (acute)
- Not smoking (chronic)
- NSAIDs
- Extensive UC
- Backwash ileitis
- PSC
- Thrombocytosis prior to colectomy
- Extraintestinal manifestations
- Autoimmune diseases
- Steroid use prior to colectomy
- Polymorphism of IL-1 receptor antagonist
- NOD2/CARD15
- Noncarrier of TNF allele 2
- pANCA
- Cbir 1 Flagellin Ab

White et al. Dis Colon Rectum 2010
Okon et al. Am Surg 2005
Lepisto et al. Inflamm Bowel Dis 2008
Diagnosis

• Clinical: increase in stool frequency, urgency, incontinence, increase in night time seepage, perianal/abd pain

• Endoscopic + Histology: pouchoscopy with biopsies

• Stool cultures to rule out other causes: C. diff, CMV, common bacterial pathogens
PDAI – score ≥7 is pouchitis

Table 113-1  -- Pouchitis Disease Activity Index

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>SCORE</th>
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<tbody>
<tr>
<td><strong>Clinical</strong></td>
<td></td>
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<tr>
<td>Postoperative Stool Frequency</td>
<td></td>
</tr>
<tr>
<td>Usual</td>
<td>0</td>
</tr>
<tr>
<td>1 or 2 stools/day more than usual</td>
<td>1</td>
</tr>
<tr>
<td>≥3 stools/day more than usual</td>
<td>2</td>
</tr>
<tr>
<td>Rectal Bleeding</td>
<td></td>
</tr>
<tr>
<td>None or rare</td>
<td>0</td>
</tr>
<tr>
<td>Present daily</td>
<td>1</td>
</tr>
<tr>
<td>Focal Urgency or Abdominal Cramps</td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>0</td>
</tr>
<tr>
<td>Occasional</td>
<td>1</td>
</tr>
<tr>
<td>Usual</td>
<td>2</td>
</tr>
<tr>
<td>Fever (≥100°F)</td>
<td></td>
</tr>
<tr>
<td>Absent</td>
<td>0</td>
</tr>
<tr>
<td>Present</td>
<td>1</td>
</tr>
<tr>
<td><strong>Endoscopic</strong></td>
<td></td>
</tr>
<tr>
<td>Edema</td>
<td>1</td>
</tr>
<tr>
<td>Granularity</td>
<td>1</td>
</tr>
<tr>
<td>Friability</td>
<td>1</td>
</tr>
<tr>
<td>Loss of vascular pattern</td>
<td>1</td>
</tr>
<tr>
<td>Mucoid exudate</td>
<td>1</td>
</tr>
<tr>
<td>Ulceration</td>
<td>1</td>
</tr>
<tr>
<td><strong>Histologic</strong></td>
<td></td>
</tr>
<tr>
<td>Polymorphonuclear Leukocyte Infiltration</td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>0</td>
</tr>
<tr>
<td>Mild</td>
<td>1</td>
</tr>
<tr>
<td>Moderate + crypt abscess</td>
<td>2</td>
</tr>
<tr>
<td>Severe + crypt abscess</td>
<td>3</td>
</tr>
<tr>
<td>Percent of Mucosa That Is Ulcerated per Low-Power Field (Average)</td>
<td></td>
</tr>
<tr>
<td>&lt;25</td>
<td>1</td>
</tr>
<tr>
<td>25-50</td>
<td>2</td>
</tr>
<tr>
<td>&gt;50</td>
<td>3</td>
</tr>
</tbody>
</table>

Treatment

• Acute Pouchitis
  – Primary Prophylaxis: VSL#3
  – Acute Pouchitis: Antibiotics for 14 days (Cipro, Flagyl, Augmentin), in mild cases VSL #3
  – Secondary Prophylaxis: VSL #3
• Acute Relapsing Pouchitis
  – Antibiotic dependent: rotating antibiotics + VSL #3

• Chronic Pouchitis
  – Antibiotic resistant: 4 week course of combination abx (Ciprofloxacin + Metronidazole, Ciprofloxacin + Rifaximin)
  – Look for other causes: Infections, Crohn’s, Cuffitis, NSIADS, PSC, Autoimmune, pelvic floor dysfunction, SIBO
  – Budesonide, Biologics
Symptoms indicating pouchitis

Pouchoscopy, biopsy and stool test for *Clostridium difficile*

Active pouchitis

Ciprofloxacin or metronidazole
Vancomycin if positive for *C. difficile* (2-week course)

Response

Episodic

Antibiotic-responsive

Antibiotics when necessary

Frequent relapse

Antibiotic-dependent

Probiotic or low-dose antibiotic

No response

Antibiotic-refractory pouchitis

Ciprofloxacin + metronidazole, rifaximin or tinidazole selected on the basis of faecal coliform sensitivity testing (4-week course)

Evaluation and management of secondary causes (e.g., ischaemia, cytomegalovirus, concurrent PSC, autoimmunity, pouch structural disorder)

Oral or topical 5-aminosalicylates, topically active steroids, immunomodulators or biologic agents
Cuffitis

- Urgency and blood in stool

- Inflammation of the 1-2cm rectal mucosa cuff

- Common in those with stapled anastomosis without mucosectomy

- Treat with topical 5-ASA or topical steroids
Infections

- C. diff
- CMV
- Candida
- Bacterial pathogens
Crohn’s Disease

- Early: pre-IPAA Crohn’s colitis

- Late: Denovo (months to years after IPAA, worse prognosis, risk factors: family h/o CD and smoking)

Diagnosis: Endoscopic + histology + MRI imaging + exam under anesthesia

Treatment: stop NSAIDs + smoking, medical, endoscopic, surgical
Pouch Evacuation Disorder

• Pelvic floor dysfunction resulting in abnormal pouch emptying:
  – Incomplete emptying of pouch
  – SIBO → Antibiotic dependent
  – ARM + MRI pouchogram
  – Biofeedback pelvic floor retraining
Irritable Pouch Syndrome

– diagnosis of exclusion
– endoscopy + histology negative
– hypersensitivity of the pouch
– low fat + low carb diet
– antidiarrheals, antispasmodics, or TCA
Ischemia

- inflammation in half of the pouch body, sparing the other half

- sharp demarcation of inflammation
Pouch Failure

– 7-9%

– Early: pouch leak, abscess, pelvic sepsis

– Late: chronic pouchitis, Crohn’s of the pouch, refractory cuffitis, chronic deep complex sinus
Pouch Neoplasia

• Risk Factors
  – prepouch dysplasia/neoplasia
  – long standing UC
  – extensive UC with backwash ileitis
  – PSC
  – chronic pouchitis
  – villous atrophy of pouch mucosa

• Pouchoscopy
  – High risk: previous dysplasia/colon CA, PSC → q1-2 years
  – Intermediate risk: chronic pouchitis with subtotal villous atrophy, cuffitis → 2-5 years
  – Low risk: q 5 years
Pouchoscopy

- Enema preparation usually sufficient
- Pediatric scope or gastroscope
- Sedation not necessary, can give topical anesthesia
- Pouch assessment
  - Pre-pouch ileum, pouch inlet, blind limb, tip of J, pouch body, cuff, anastomosis/suture lines
    - Configuration and distensibility
    - Record Inflammation and ulceration
    - Sites and severity
    - Record stenosis and/or stricture
  - Biopsies
    - Prepouch ileum
    - 4 quadrant in upper and lower pouch
    - Cuff
    - Do not biopsy the anastomosis
Pregnancy

- Decreased fertility in females
- Reversible pouch dysfunction in third trimester
- Delivery: patient and OB preference
Health Maintenance

- Low fiber, low carbohydrate diet
- Yearly Labs: CBC, LFT’s, Vitamin B12/D, ferritin
- Dxa scan at baseline and depending on risk q 5yrs
- Pouchoscopy
  - Within one year from creation of pouch (post op check)
  - High risk: previous dysplasia/colon CA, PSC → q1-2 years
  - Intermediate risk: chronic pouchitis with subtotal villous atrophy, cuffitis → 2-5 years
  - Low risk: q 5 years
Summary

• The ileal pouch anal anastomosis is the preferred surgical treatment for medically refractory UC or FAP, but is not typically offered to patients with Crohn’s disease

• Quality of life improves with IPAA

• The ileal pouch is not the same as a colon, but does adapt well over time

• Pouchitis is the most common complication in patients with IPAA and is often treatable with antibiotics
References


• Seril et al. Clostridium difficile infection in patients with ileal pouches. Am J Gastroenterol 2014; 109:941 – 947

• Shen et al. Diagnosis and management of postoperative ileal pouch disorders. Clin Colon Rectal Surg 2010;23:259–268
Questions?

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