Surgical Case Presentations: Crohn's Disease

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Case #1

- 23 year old G0P0 woman
- Well controlled Crohn’s colitis (on asacol and flagyl)
- 3 weeks ago experienced severe anal pain followed by vaginal discharge
- Referred because of gas and small volume feculent discharge per vagina
- Recent colonoscopy: mild, patchy colitis, rectal sparing
- Recent SBFT: normal

• Anorectal exam:
  - Tone & squeeze normal
  - Non tender
  - No mass
  - Palpable pit in mid-anal canal, anterior midline
  - Proctoscopy: normal mucosa & compliance, insufflation → air per vagina

Infliximab Treatment of Fistulas in Patients With CD

- Placebo
- Infliximab 5 mg/kg (n=27)

% Patients

0 20 40 60 80

26% 13% 48% 55%

P<0.002 P<0.001

Accent II: 54 Week Results
Sands BE, et al. NEJM, 2005

<table>
<thead>
<tr>
<th></th>
<th>Placebo</th>
<th>5 mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 98</td>
<td>N = 91</td>
<td></td>
</tr>
<tr>
<td>Time to loss of response</td>
<td>14 weeks</td>
<td>&gt; 40 weeks</td>
</tr>
<tr>
<td>Response</td>
<td>23/98 (23%)</td>
<td>42/91 (46%)</td>
</tr>
<tr>
<td>Complete response</td>
<td>19/98 (19%)</td>
<td>33/91 (36%)</td>
</tr>
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Rectovaginal Fistula: Are response rates lower?

- Data from Accent II
  - Overall partial response after 3 infusions in 195/282 (69%)
  - Partial response in patients with RV fistula = 16/26 (61%)
- Open Label data not so good, especially when endpoint is complete response
  - RV fistula partial response in 50-60%, but complete response in only 15-30%

Short-term Complete Response by Fistula Type

<table>
<thead>
<tr>
<th>Fistula Type</th>
<th>% CR</th>
</tr>
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<tbody>
<tr>
<td>Perianal</td>
<td>80</td>
</tr>
<tr>
<td>Abd Wall</td>
<td>70</td>
</tr>
<tr>
<td>RV</td>
<td>50</td>
</tr>
</tbody>
</table>

Conclusions

- Remicade may mitigate symptoms (partial response) in many patients with RV fistula
  - ~ 50% will improve
  - Improved QOL for partial response?
  - Role in improving operative outcomes?
- Remicade unlikely to achieve complete response in the short term, and even less likely to maintain complete response over time
  - < 25% will have complete response, and likely closer to 10%.
- Returns @ 6 months: no change in symptoms or physical findings
- Recommendation?

The optimal management of this patient is:
- Continue medical therapy
- Loop ileostomy
- Endoanal advancement flap
- Endovaginal flap

Case #2
- 54 year old woman
- Presents with feculent drainage via vagina
- Colonoscopy performed: severe inflammation of distal colon and rectum
- Visible fistula in anal canal (<0.5cm)
- Diagnosis of Crohn's disease

- Patient placed on 5-ASA
- Continues to have symptoms of fecal drainage via vagina that requires daily use of diapers
- Scheduled for repair of rectovaginal fistula
• Vaginal advancement flap performed
• Complete breakdown of repair with large perineal wound
• Diverting ileostomy performed
• Wounds healed with significant defect of rectovaginal septum

Flexible Sigmoidoscopy: severe inflammation/friability up to 22cm from anus
• Started on Remicade with immediate improvement in fatigue, abdominal cramping and rectal discharge
• Repeat Flex Sig 6 months later with significant endoscopic response
• Pt eager to have ileostomy taken down

Surgical Options?
• Repeat local repair
• Proctectomy
• Tissue transposition flap
Rectovaginal Fistula-Classification

<table>
<thead>
<tr>
<th>Simple</th>
<th>Trauma Infection IBD</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 2.5 CM</td>
<td>Low/Mid</td>
</tr>
<tr>
<td>Complex</td>
<td>IBD</td>
</tr>
<tr>
<td>≥ 2.5 CM</td>
<td>High</td>
</tr>
<tr>
<td>may need</td>
<td>Radiation</td>
</tr>
<tr>
<td>diversion,</td>
<td>Malignancy</td>
</tr>
<tr>
<td>flaps</td>
<td>Previous repairs</td>
</tr>
</tbody>
</table>

Effect of Crohn’s Disease

<table>
<thead>
<tr>
<th>Recurrence Rates</th>
<th>Transanal Mucosal Advancement Flap</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cryptoglandular</td>
</tr>
<tr>
<td>Halverson 01</td>
<td>23%</td>
</tr>
<tr>
<td>Mizrahi 02</td>
<td>33%</td>
</tr>
<tr>
<td>Penninckx 00</td>
<td>50%(no stoma)</td>
</tr>
<tr>
<td>Michelassi 00</td>
<td>60%(no stoma)</td>
</tr>
</tbody>
</table>

Need for proctectomy?

- Evaluation of 224 patients with anorectal complications of Crohn's disease
- Proctectomy performed in 38% due to multiple fistulas, fecal incontinence, tight anal stenosis
- Higher rate of proctectomy
  - Severe rectal disease refractory to med tx (78% vs 14%)
  - Multiple anorectal complications of Crohn's with rectal sparing (23% vs 10%)

Gracilis Transposition Flap

- Zmora et al 2000 2 patients with RVF secondary to Crohn's
  - One with persistent severe proctitis with persistent fistula
  - Success 50%
- Rius et al 2000
  - 2 patients with RVF(one also with RUF)
  - Success 100%
Case #3

- 23 year old male who presented with Crohn’s disease at age 13
- Three previous resections
  - 1999 – small bowel resection, strictureplasty X 5
  - 2002 – ileocolic resection, loop ileostomy
  - 2003 – total proctocolectomy, end ileostomy

Current symptoms related to duodenal Crohn’s disease:
- Difficulty eating
- Post prandial bloating and vomiting
- 25 pounds weight loss

Previous medical treatment included:
- Remicade, prilosec, prednisone and tube feeds
What procedure is indicated?

- Balloon Dilation?
- Gastrojejunostomy?
  - +/- vagotomy?
- Strictureplasty?

**Balloon Dilation**

- Short pyloric or duodenal strictures
- Risk of perforation 1-2%
- Series of 5 patients dilated and
  - avoided surgery with mean follow up of 4 years
  - 3 required repeat dilations
  - no complications
  Matsui et al Endoscopy 1997

**Gastrojejunostomy**

- 6 series with 108 patients (53% G-J Bypass)
  - Obstruction(83%)
  - Refractory abdominal pain(11%)
  - Massive bleeding (5%)
- Leahy Clinic experience
  - 30 year period, 70 patients with duodenal crohn's treated, 25 had surgery (39%)
  - Bypass most effective (78% good to excellent results
  - Resection of gastric or duodenal Crohn's did not improve results but had 4 fold increased morbidity
  - Marginal Ulcers in 24% in spite of vagotomy
  - Highly selective vagotomy not adequately evaluated but advocated(difficult with inflammation in lesser omentum)
  Reynolds and Stellato Surg Clin Nor Am 2001

Stricturoplasty

- Excellent choice in patients with diffuse small bowel disease
- Avoids blind loops and marginal ulceration
- Heineke-Mikulicz for shorter strictures
- Finney for longer strictures

Recurrent Operations and Complications

<table>
<thead>
<tr>
<th></th>
<th>Stricturoplasty</th>
<th>Bypass</th>
<th>F/U</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yamamoto 99</td>
<td>69%</td>
<td>46%</td>
<td>143/192 mo</td>
</tr>
<tr>
<td>Worsey 99</td>
<td>15%</td>
<td>10%</td>
<td>42/96 mo</td>
</tr>
<tr>
<td>Delay Gastric Emptying</td>
<td>15%</td>
<td>24%</td>
<td></td>
</tr>
<tr>
<td>Leaks</td>
<td>12%</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>42%</td>
<td>24%</td>
<td></td>
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Case #4

- 54 yr old woman Crohn's dx 1973
- Ileocolic resection, hx of anal fistula
- Develops obstruction and obstructive defecation - has ileal stricture, rectal stricture and stenotic anal canal with RVF
- Colonoscopy shows active disease throughout colon but most severe in rectosigmoid junction
  - Has been on steroids since the 1970s
  - Never below 20mg
  - Intolerant to 6 MP, Immuran,
  - MTX had no effect
  - Tried on Remicade and had no effect

- H-M Strictureplasty performed
- What about maintenance therapy?
• Has SB resection, proctectomy, descending colostomy, repair of hernia at old ileostomy site
• Requires parastomal hernia repair of colostomy site one year later
• Continues to have active disease of colon (50 mg prednisone)
• Tried on Prograf and then Humira
• One year later develops sudden pain, swelling and erythema of RLQ abdominal wall with spontaneous rupture of an abscess containing gas and stool.

CT demonstrates no intraabdominal infection

Colocutaneous Fistula from Ascending colon to abd wall with subcutaneous abscess

• Has just begun Humira so she is placed on IV antibiotics with significant improvement in symptoms but fistula persists with recurrent abscesses
• Colonoscopy demonstrates significant disease of remaining colon
• Continues to require at least 20 mg of prednisone a day
Next Step?

- Continue medical therapy?
- Completion colectomy?

Granular, friable colonic mucosa of colostomy

Colocutaneous Fistula

**Large Bowel: Surgical Options**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Proctocolectomy</td>
<td>92%</td>
</tr>
<tr>
<td>Segmental Colectomy</td>
<td>6%</td>
</tr>
<tr>
<td>Subtotal Colectomy</td>
<td>2%</td>
</tr>
</tbody>
</table>

*Prabhakar et al, 1998*

**Results of Segmental/Subtotal Colectomy**

<table>
<thead>
<tr>
<th>Study</th>
<th>Patients</th>
<th>F/U</th>
<th>Recurrence</th>
<th>Reoperation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prabhakar 98</td>
<td>49</td>
<td>14.2</td>
<td>55%</td>
<td>33%</td>
</tr>
<tr>
<td>Martel 2002</td>
<td>84</td>
<td>4.9</td>
<td>--</td>
<td>43%</td>
</tr>
<tr>
<td>Polle 2005</td>
<td>91</td>
<td>8.3</td>
<td>--</td>
<td>33%</td>
</tr>
<tr>
<td>Flint 77</td>
<td>29</td>
<td>5.8</td>
<td>41%</td>
<td>20%</td>
</tr>
<tr>
<td>Sanfey 84</td>
<td>16</td>
<td>6.8</td>
<td>--</td>
<td>43%</td>
</tr>
<tr>
<td>Longo 88</td>
<td>27</td>
<td>5.5</td>
<td>63%</td>
<td>59%</td>
</tr>
<tr>
<td>Allan 89</td>
<td>29</td>
<td>10</td>
<td>--</td>
<td>66%</td>
</tr>
</tbody>
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Segmental colectomy vs Abdominal colectomy

- Meta-analysis of 6 studies (488 patients)
- 223 IRA  265 SC
- Longer time to recurrence for IRA group by 4.4 years
- No difference in postop complications or need for permanent stoma

Tekkis P et al Colorect Dis 2006

Segmental colectomy/Abdominal colectomy vs Proctocolectomy

- Pt has completion colectomy repair of parastomal hernia and RLQ hernia,
- Ileostomy formation in LUQ
- Continues on Humira with very slow taper of Prednisone to 7mg at this point.

Fichera A et al. Dis Colon Rectum 2005