Surgical Treatment of Crohn’s Disease

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ENORMOUS TOPIC

• Distribution
  – Gastroduodenal
  – Small bowel
  – Colon
  – Rectum
  – Perianal

• Nature of disease
  – Inflammation
  – Abscess
  – Stricture
  – Fistula

Today’s Focus

• Something controversial
  – Procedure choice for Crohn’s Colitis

• Something common that seems small but is very challenging and FRUSTRATING
  – Management of perianal Crohn’s disease

Crohn’s Colitis

• You are referred a 29F with medically refractory Crohn’s colitis
  – What are the surgical options?
  – What are the key factors in surgical decision-making?
Surgical Options

- Extent of resection depends on severity and distribution of disease
  - Total proctocolectomy (TPC)
  - Colectomy with ileorectal anastomosis (IRA)
  - Segmental colectomy
- 50% of patients have rectal sparing

Key Issues/Outcomes

- Avoidance of stoma
- Bowel Function
- Operative complications
- Risk of recurrence/time to recurrence
- Likelihood of re-operation
Bowel Function

- IRA 7 BM/day
- Continence and QOL better in SC

Disease Recurrence

- Segmental resection
  - Recurrence 25-72%, Cumulative 10 year risk 66%
- Subtotal colectomy
  - 37-74% require more surgery

Time to recurrence, by procedure type

- Meta-analysis included 488 patients
- 223 IRA  265 SC
- F/U 5-15 years
  - Tekkis P et al Colorect Dis 2006

Segmental colectomy vs Abdominal colectomy

Fichera A et al. Dis Colon Rectum 2005
**Summary: Crohn’s Colitits**

- Half of patients will have rectal disease and require TPC
- Remaining patients candidates for SC or IPA
- Complex decision-making depends on
  - Disease distribution
  - Patient factors
- Informed decision-making essential
  - Function
  - QOL/bowel function
  - Recurrence

**Management of Perianal Crohn’s**

- 10-15% have isolated anorectal disease
- Cumulative risk 26% at 20 years
- Simple
  - Superficial, low intersphincteric/trans-sphincteric with no extensions/abscesses
Fistula Classification

Management of Perianal Crohn’s

- 10-15% have isolated anorectal disease
- Cumulative risk 26% at 20 years
- Simple
  - Superficial, low intersphincteric/trans-sphincteric with no extensions/abscesses
- Complex
  - High tracts (intersphincteric/trans-sphincteric, suprasphincteric)
  - Involve vagina
  - Associated stricture or proctitis
  - Threatens continence, worse prognosis

Perianal Crohn’s disease

- Risk factors
  - Male sex, proctitis, early onset CD, non-Caucasian
- Differential Diagnosis
  - Cryptoglandular fistula, cancer, radiation, trauma, hidradenitis suppurativa
- Implications
  - Predictor of more disabling disease course
  - Inflammatory->stricturing or penetrating
  - OR: 3.81 (95%CI 1.72-8.67)
What about medical therapy?

Randomized Controlled Trials (RCT) or meta-analyses
Of medical treatments of Crohn’s-related perianal fistulas

<table>
<thead>
<tr>
<th>Drug</th>
<th>Study</th>
<th>Type of study</th>
<th>n</th>
<th>IV</th>
<th>Dx</th>
<th>Placebo</th>
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<tbody>
<tr>
<td>Mesalazine</td>
<td>Tsi et al.</td>
<td>RCT</td>
<td>7</td>
<td>10</td>
<td>0</td>
<td>12.5%</td>
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<tr>
<td>Ciprofloxacin</td>
<td>Tsi et al.</td>
<td>RCT</td>
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<tr>
<td>Azathioprine</td>
<td>Erijpow et al.</td>
<td>Meta-analysis</td>
<td>41</td>
<td>6</td>
<td>-</td>
<td>11%</td>
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<tr>
<td>Tetracycline</td>
<td>Sani et al.</td>
<td>RCT</td>
<td>42</td>
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<tr>
<td>Infliximab</td>
<td>Present</td>
<td>RCT Induction</td>
<td>94</td>
<td>14</td>
<td>55</td>
<td>12%</td>
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<tr>
<td>Infliximab</td>
<td>Assaad et al.</td>
<td>RCT Maintenance</td>
<td>292</td>
<td>54</td>
<td>50</td>
<td>19%</td>
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<tr>
<td>Adalimumab</td>
<td>CHARM</td>
<td>RCT Maintenance</td>
<td>113</td>
<td>50</td>
<td>33</td>
<td>19%</td>
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</table>

Surgery for Crohn's Fistula

- Investigate
  - MRI or ERUS
  - EUA
- Control sepsis
  - I&D, setons
- Lay open
- Glues and plugs
- Advancement flap
- Newer procedures: LIFT
- Diversion
- Proctectomy
Plugs and Glues

Studies of fistula plug for anal fistula

<table>
<thead>
<tr>
<th>Study</th>
<th>FU</th>
<th>Preparation</th>
<th>n</th>
<th>GB n</th>
<th>Success rate (%)</th>
<th>Chronic's success rates (%)</th>
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</thead>
<tbody>
<tr>
<td>O'Connor et al.</td>
<td>16</td>
<td>Variscale</td>
<td>10</td>
<td>20</td>
<td>87.5 (26)</td>
<td>60 (24)</td>
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<tr>
<td>van Hoppum et al.</td>
<td>1</td>
<td>Na</td>
<td>17</td>
<td>1</td>
<td>69 (11)</td>
<td>30 (2)</td>
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<td>Kaj et al.</td>
<td>1.8</td>
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<td>44</td>
<td>14</td>
<td>64.94 (84.5)</td>
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<td>Schuindt et al.</td>
<td>5</td>
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<td>83.82 (81)</td>
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<td>D'Antonio et al.</td>
<td>1.3</td>
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<td>5</td>
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<td>9</td>
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<td>Saad et al.</td>
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<td>Chang et al.</td>
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<td>Na</td>
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<td>64 (76)</td>
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<td>Decre et al.</td>
<td>19</td>
<td>Na</td>
<td>36</td>
<td>3</td>
<td>72 (72)</td>
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Advancement Flaps

- Sphincter preserving
- Higher fistulas
- Contraindications
  - Active proctitis,
  - Extensive cavitating ulceration of the anal canal
**Endorectal Advancement Flap**

**Advancement Flaps**
- Sphincter preserving
- Higher fistulas
- Contraindications
  - Active proctitis,
  - Extensive cavitating ulceration of the anal canal
- Recurrence is common: 50%-57%
- Defunctioning stoma does not improve success

**Perianal Crohn's: Flap**

**Ligation of Intersphincteric Fistula Tract**
- Delineate trans-sphincteric fistula tract
- Dissection in the intersphincteric groove
- Ligation on both proximal and distal sides of tract with absorbable suture
- Division of tract between the ligatures.
- The success of LIFT procedure is reported to be 75%-80%
- Early results and results for CD poorly understood
Defunctioning Stoma

- Failure of local and systemic therapy
- Goal is to improve quality of life
- Most will not have stoma reversed
  - Yamamoto et al. (2000) series of 31 patients
    - 26% went into remission
    - 10% had stoma reversed
  - Hong et al. (2009) series of 21 patients
    - 19% no improvement
    - 29% temporary improvement
    - 33% some sustained improvement
    - 19% remission and stoma closure
    - ***infliximab use did not increase likelihood of stoma closure

Proctectomy

- Definitive therapy
- 10% of patients with complex fistulae
- Gaertner et al. (2007) 50:1754-60
- Difficult perineal wound
  - 30% have delayed healing up to 6 months
  - May need additional debridements/flaps
- Prevention
  - Nutrition, smoking cessation, control sepsis pre-op
  - Intersphincteric dissection
  - Control sepsis
  - Consider flap closure at the time of surgery

Summary: Crohns Perianal Fistula

- Challenging and treatment resistant
- Biologic drugs >>> antibiotics or immunomodulators
- High recurrence with surgery
  - Control sepsis
  - Lay open low fistulas
  - Evidence for plug is contradictory
  - Advancement flaps if tissue is good
  - Add a biologic if you can
  - Proctectomy
  - Seton is always a safe back-up plan