Surgical bypass as a long term solution

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Crohn’s disease

In 1932 Chron, Oppenheimer and Ginzburg from Mt Sinai published on a series of patients with ”terminal ileitis” operated by dr Berg.

Later the name was changed to regional enteritis
In the beginning curative surgery with wide resection margins and lymphatic clearance was considered the best treatment option.

Surgery was burdened by mortality and high morbidity rates.

Bypass surgery was quicker, easier, and with less initial morbidity and became popular in the 40ties and 50ties.
Figure 55.43  The cumulative risk of recurrence: bypass compared with excision. The chance of requiring a second definitive operation each year after the primary procedure. O, Bypass; ●, excision.

(Alexander Williams)
Table 55.4  Indications for reoperation: bypass compared with resection.

<table>
<thead>
<tr>
<th></th>
<th>Side-to-side bypass (n = 21)</th>
<th>Resection and end-to-end anastomosis (n = 89)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fistula</td>
<td>33</td>
<td>5</td>
</tr>
<tr>
<td>Abscess</td>
<td>29</td>
<td>5</td>
</tr>
<tr>
<td>Recurrence</td>
<td>24</td>
<td>42</td>
</tr>
<tr>
<td>Mean interval in years between initial operation and reoperation</td>
<td>4.1</td>
<td>59</td>
</tr>
</tbody>
</table>

Drawbacks of by passing Crohn’s disease

- earlier recurrences
- more difficult recurrences with fistula and sepsis
- bacterial overgrowth, nutritional problems
- long term cancer risk
Cancer in bypassed bowel segments
Gastroduodenal Crohn’s disease

-reported in 0.5 – 4 % of patients with CD

-approximately 1/3 will need surgical treatment

-most often inaccessible to resection, resections carry a fourfold increase in complication rates compared with:

-gastroduodenostomy - the operation of choice
(a strictureplasty may be considered)
Indications for surgery for gastroduodenal Crohn's disease, n=37
Lahey Clinic data (From Nugent & Roy 1989)

<table>
<thead>
<tr>
<th>Indication</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obstruction</td>
<td>23</td>
<td>70</td>
</tr>
<tr>
<td>Pain</td>
<td>9</td>
<td>27</td>
</tr>
<tr>
<td>Hemorrhage</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>
Consequences of bypassing ileum

Diarrohea

Kidney and gallbladder stones

Depletion of water and electrolytes

Malnutrition
Too much fat in the colon will prevent oxalate to bind to calcium

The fat has a greater affinity to calcium than oxalic acid

As a consequence oxalate will instead be excreted in the urine. With a high concentration the risk of stone formation increases
Loss of less than 1 meter terminal ileum

Bile salt induced diarrhea

B12 deficiency
Loss of more than 1 meter

Steatorrhea

Kidney stone formation

Beware of B12  fat soluble vitamins and  Mg , Zn
What to do

loperamide

drink and eat separately

vitamin B 12

cholestyramine

strict fat reduced diet (high calorie)

supplement minerals and other vitamins
Surgical bypass was the operation of yesterday

What's today's and tomorrow's surgery for Crohn's disease?
Stricturoplasty
Nonconventional stricturoplasty in Crohn’s disease
In summary

Surgical bypasses are generally not a good solution in CD

The exemption is in gastroduodenal disease

Beware of and treat the sequelaes after bypass – resection

Modern nonconventional strictureplasties might be the way forward