When is definitive surgery for peptic ulcer diathesis appropriate and what procedure.

Sandie R Thomson
Head of the Division of Gastroenterology.
University of Cape Town
Andre Laterjet
French anatomist
1877–1947
Becoming increasingly frustrated with the negative response to my work I realized I had to have an animal model and decided to use myself. He did not discuss it with the ethics committee or his wife. When I came home with my biopsy results showing colonization and classic histological damage to my stomach, Adrienne suggested it was time to treat myself. I had proved my point.
Peptic Ulcer Disease - **Paradigm** shift in management

\[ H \text{ pylori} \text{ eradication} \ = \ \text{Surgical vagotomy} \]
The main aim in Peptic Ulcer surgery

- **Is to**
  - treat the life threatening complication

- **Is not**
  - to effect surgical “cure” of the diathesis
    - a vagotomony and drainage procedure
    - gastric resection

Its all about the complications
Peptic Ulcer Epidemiology

Peptic ulcer Complications

Hemorrhage 19.4–57.0 per 100,000
Perforation 3.8–14 per 100,000

PUD admissions

29.9% reduction

222,601 in 1993
156,108 in 2006

Dutch Study

Groenen et al Canadian Journal of Gastroenterology 2009
Developments in treatment modalities
<table>
<thead>
<tr>
<th>Acid suppression</th>
<th>A meta-analyses</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>Reduction in rebleeding</td>
<td>0.727</td>
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<tr>
<td>surgery</td>
<td>0.707</td>
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<td>mortality</td>
<td>1.140</td>
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</table>

Selby et al Alm Pharm Ther 2000
Barkum et al NEJM 2012
Endo Therapy

Inject
- Easy
- Perforate the channel
- Safest
- Adrenaline dose
- Histocryl tricky

Clip
- Contact
- Non Contact
- Easy
- Safe
- Energy setting is key

Burn
- Three types
- Size and prongs
- Release mechanisms
Endoscopic therapies – a meta-analyses (33 trials)

Reduction in:

<table>
<thead>
<tr>
<th></th>
<th>ODDS RATIO</th>
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<tbody>
<tr>
<td>- rebleeding</td>
<td>0.38</td>
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<td>- surgery</td>
<td>0.36</td>
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<td>- mortality</td>
<td>0.55</td>
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</table>

Cooke DJ, Gastroenterology 1992

Bleeding Peptic Ulcer
### Bleeding Peptic Ulcer

**Endoscopic therapy and omeprazole treatment**

<table>
<thead>
<tr>
<th></th>
<th>No</th>
<th>Rebleeding</th>
<th>Surgery</th>
<th>Mortality</th>
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<tr>
<td><strong>Lau et al</strong> <em>(NEJM 2000)</em></td>
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<tr>
<td>Treatment</td>
<td>120</td>
<td>8</td>
<td>3</td>
<td>5</td>
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<tr>
<td>Control</td>
<td>120</td>
<td>27</td>
<td>9</td>
<td>9</td>
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<td><strong>Javid et al</strong> <em>(Am J Med 2001)</em></td>
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<tr>
<td>Treatment</td>
<td>82</td>
<td>6</td>
<td>2</td>
<td>1</td>
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<tr>
<td>Control</td>
<td>84</td>
<td>18</td>
<td>7</td>
<td>2</td>
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</table>

P = < 0.001

NS

NS
prevention of recurrent bleeding

- *H pylori* eradication

<table>
<thead>
<tr>
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<th>Antisecretion therapy (n=41)</th>
<th><em>H pylori</em> eradication (n=84)</th>
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<tbody>
<tr>
<td>Ulcer relapse</td>
<td>13 (31.7%)</td>
<td>6 (7.1%)</td>
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<tr>
<td>Rebleeding</td>
<td>5 (12.1%)</td>
<td>2 (2.3%)</td>
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</tbody>
</table>

Santander et al AJG 1996
January 2004 to December 2009
Forrest Classification 1a to 2b
gastric and duodenal ulceration

227 patients

176 successful

51 failed primary endotherapy

38 second endotherapy

24 successful

8 surgery

14 failed

10 surgery
Bleeding Peptic Ulcer

Less operations

- endoscopic therapies
- acid suppression pH >4 – PPI’s
- endoscopic therapy combined with PPI’s
- *H pylori* eradication
Perforated Peptic Ulcers

- simple patch closure - *H pylori* eradication
  > 90% cure rate
- non-operative treatment – *H pylori* eradication ?
- laparoscopic patch closure ?

On the decline
Simple patch closure

- Open versus laparoscopic repair - randomised trails

Laparoscopic approach:

• Less pain and respiratory infection
• shorter hospital stay
• earlier return to work

Marginal benefits
Trends in Diagnosis and Surgical Management of Patients with Perforated Peptic Ulcer

114 over 6 years
Norway

J Gastrointest Surg 2011
Gastric outlet obstruction

questions

• Does *H pylori* eradication change the natural history?
  - conflicting reports

• Are the results of pyloric dilatation improved by *Hp* eradication?
  - possibly

• Is stenting better than dilatation
  - probabley

• When required - is a definitive operation still necessary?
Technique:
Technique:

Bilateral head-type
Proximal end bare
Covered shaft and distal head

Proximal head-type
Proximal end bare
Covered shaft, no distal head
15 patients have had retrievable SEMS placed since Oct 2010
6 Females, 9 Males
Average age 53.8 yrs (range 27 – 77 yrs)
## Groote Schuur Experience

<table>
<thead>
<tr>
<th></th>
<th>Pathology</th>
<th>Stent removal</th>
<th>Outcome successful</th>
<th>Further Mx</th>
<th>Follow-up</th>
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<tbody>
<tr>
<td>1.</td>
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<td>No</td>
<td>Pyloroplasty</td>
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<td>2.</td>
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<td>No</td>
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<td>3.</td>
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<td>Yes</td>
<td>Yes</td>
<td>-</td>
<td>14/12</td>
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<td>4.</td>
<td>PUD - GOO</td>
<td>Yes</td>
<td>Yes</td>
<td>-</td>
<td>14/12</td>
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<tr>
<td>5.</td>
<td>PUD – GOO</td>
<td>Yes</td>
<td>Yes</td>
<td>-</td>
<td>18/12</td>
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<td>6.</td>
<td>PUD - GOO</td>
<td>Stent stuck</td>
<td>Stent stuck</td>
<td>Pyloroplasty</td>
<td>1/12</td>
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<tr>
<td>7.</td>
<td>PUD - GOO</td>
<td>Yes</td>
<td>No</td>
<td>Pyloroplasty</td>
<td>7/12</td>
</tr>
</tbody>
</table>
Gastric outlet obstruction

Surgical management after *H pylori* eradication

• “burned out ulcers” with fibrosis
  - pyloroplasty (Finney, Jaboulay)
This is the authors' preferred operation for burnt out peptic ulcer with gastric outlet obstruction as it creates a wider posterior and anterior lumen.
Peptic Ulcer Disease Surgery

The recalcitrant ulcer

Surgical management after *H pylori* eradication

Limited excision “pylorectomy”

- Vagotomy & Antrectomy?
Bleeding Peptic Ulcer

Duodenal ulcers

under run vessel - pyloroplasty
Gastric ulcer

- gastroscopy – under run vessel
- excision
- gastrectomy - large ulcers

Distal Feeding Access
Peptic Ulcer Disease Surgery
## Treatment of complicated peptic ulcer

**Practice in United Kingdom – include vagotomy?**

### Survey of 697 surgeons

<table>
<thead>
<tr>
<th></th>
<th>Perforated ulcers</th>
<th>Bleeding ulcers</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>always</td>
<td>0.3 (0.6)</td>
<td>2.6 (2.9)</td>
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<tr>
<td>usual</td>
<td>2.8 (1.2)</td>
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<tr>
<td>occasional</td>
<td>42.8 (46.5)</td>
<td>42.5 (44.1)</td>
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<tr>
<td>never</td>
<td>54.5 (51.8)</td>
<td>39.3 (41.2)</td>
</tr>
</tbody>
</table>

( ) upper GI surgeons

*Gilliam et al Br J Surg 2003*
Role of surgery

• less emergency operations (bleeding ulcers)

• definitive operations - “something of the past”

• mostly - “damage control”/ alleviating obstruction
A Requiem for Vagotomy

- Despite the last ditch efforts of surgeons

“I predict that vagotomy for ulcers will soon go the same way of vagotomy for tabes: made obsolete by the conquest of spiral organisms”

“Perhaps Laterjet is now laughing at us as peptic ulcer surgeons joining the ranks of the unemployed”

John Alexander- Williams  BMJ  1991