Ogilvie’s Syndrome: A Tale of the Gas We Can’t Pass

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Disclosures

- Applied Medical: Honorarium/ speaker
- Covidien: Honorarium/ speaker
- Trans 1: Honorarium/ speaker
Colon Pseudo-obstruction

- Colonic dilation in the absence of mechanical obstruction is indicative
- Hallmark is abdominal distention with or without pain
- Plain abdominal radiographs demonstrate massive colonic dilation, especially of the cecum and right colon
Colon Pseudo-obstruction

- Major General William Ogilvie described 2 cases in 1948 of massive colonic dilation in the absence of mechanical obstruction. Both of his patients suffered from unsuspected malignant disease in the region of the celiac axis and semilunar ganglia.
- Current research supports the theory that Ogilvie syndrome is secondary to large-bowel parasympathetic dysfunction.
- Parasympathetic nervous system increases contractility, whereas the sympathetic nerves decrease motility.

Colon Pseudo-obstruction

- Postoperative state represents a significant risk factor for the development of Ogilvie syndrome.
- 50% to 60% of acute colonic pseudo-obstructions occur after a surgical procedure or trauma.
- Ogilvie syndrome in the postoperative patient is particularly worrisome, because the patient’s abdominal distention may be confused with a simple postoperative ileus.
Ogilvie Syndrome as a Postoperative Complication

- 36 patients with ogilvies
- 70% male
- Mean age 69 years old
- Ave size of cecum diameter 13.4 cm
- 25% had previous CABG surgery
- Spinal/ ortho pxd 44%

Tenofsky et al Arch Surg. 2000

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Table 1. Characterization of 36 Patients With Ogilvie Syndrome by Procedure or Trauma

<table>
<thead>
<tr>
<th>Category</th>
<th>No. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coronary artery bypass grafting</td>
<td>9 (25)</td>
</tr>
<tr>
<td>Other cardiological procedures</td>
<td>3 (8)</td>
</tr>
<tr>
<td>Orthopedic procedures</td>
<td>8 (22)</td>
</tr>
<tr>
<td>Spinal procedures or fractures</td>
<td>8 (22)</td>
</tr>
<tr>
<td>General surgical procedures</td>
<td>5 (14)</td>
</tr>
<tr>
<td>Nonoperative trauma</td>
<td>1 (3)</td>
</tr>
<tr>
<td>Peripheral vascular procedures</td>
<td>2 (6)</td>
</tr>
</tbody>
</table>
Ogilvie Syndrome as a Postoperative Complication

Table 2. Interval Data for Patients With Ogilvie Syndrome

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean ± SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postoperative day of diagnosis (n=38)</td>
<td>5.1 ± 3.6</td>
<td>1-17</td>
</tr>
<tr>
<td>Interval from diagnosis to resolution or death (n=34)</td>
<td>6.6 ± 5.1</td>
<td>1.5-20</td>
</tr>
<tr>
<td>Length of hospital stay, d (n=38)</td>
<td>18.5 ± 12.6</td>
<td>4-58</td>
</tr>
</tbody>
</table>

Tenofsky et al Arch Surg. 2000

Treatment

- NPO
- NG tube
- IV fluids
- Correct electrolytes, or underlying infection
- Reduce narcotics
- Increase ambulation
- Rectal tube
- Gentle enemas
Treatment

- Colonoscopy is successful in about 70 percent of patients with acute colonic pseudo-obstruction, as determined by a reduction in radiographically measured cecal diameter.
- Recurrence rate of approximately 40 percent may be decreased by placement of a decompression tube at the time of the procedure.

Outcome

- NG tube, IVF and enemas was successful in 19 patients (53%).
  - No patients were given neostigmine.
- Thirteen patients underwent colonoscopy, with eventual resolution in all but 3 (77%).
- Twelve (92%) of the 13 patients had successful decompression of the colon after the initial colonoscopy.
- 6 patients (46%) had recurrence of symptoms, necessitating a second decompression.
- Mortality rate for patients diagnosed as having Ogilvie syndrome was 14% (n=5).

Tenofsky et al Arch Surg. 2000
Neostigmine for the Treatment of Acute Colonic Pseudo-Obstruction

Robert J. Ponec, M.D., Michael D. Saunders, M.D., and Michael B. Kimmey, M.D.

Volume 341:137-141 1999 Number 3

21 patients with acute colonic pseudo-obstruction.

- All with a cecal diameter of at least 10 cm, and had had no response to at least 24 hours of conservative treatment

- Randomly assigned 11 to receive 2.0 mg of neostigmine intravenously and 10 to receive intravenous saline

NEJM 1999
# Table 1. Characteristics of the Patients at Base Line.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Neostigmine (N=86)</th>
<th>Placebo (N=100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (y)</td>
<td>61 (24–81)</td>
<td>63 (24–82)</td>
</tr>
<tr>
<td>Sex (M/F)</td>
<td>11 (9 F)</td>
<td>8 (2 F)</td>
</tr>
<tr>
<td>Diameter of pseudo-obstruction (days)*</td>
<td>1 (1–4)</td>
<td>1 (1–10)</td>
</tr>
<tr>
<td>Cecal diameter (cm)†</td>
<td>6.4 (3.1–11.3)</td>
<td>12 (6.3–18.4)</td>
</tr>
<tr>
<td>Diameter of ascending colon (cm)†</td>
<td>12 (6–18)</td>
<td>9 (5–12)</td>
</tr>
<tr>
<td>Diameter of transverse colon (cm)†</td>
<td>12 (6–18)</td>
<td>9 (5–12)</td>
</tr>
</tbody>
</table>

*The duration of pseudo-obstruction was measured from the time of re- duction of diagnostic radiography.
†The diameter was measured on plain radiographs.

# Table 2. Results of Initial Treatment.

<table>
<thead>
<tr>
<th>Result</th>
<th>Neostigmine (N=11)</th>
<th>Placebo (N=10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediate clinical response — no. (%)</td>
<td>10 (91)</td>
<td>0*</td>
</tr>
<tr>
<td>Change in abdominal circumference — cm</td>
<td>Median</td>
<td>Range</td>
</tr>
<tr>
<td>Change in cecal diameter — cm</td>
<td>Median</td>
<td>Range</td>
</tr>
<tr>
<td>Change in diameter of ascending colon — cm</td>
<td>Median</td>
<td>Range</td>
</tr>
<tr>
<td>Change in diameter of transverse colon — cm</td>
<td>Median</td>
<td>Range</td>
</tr>
<tr>
<td>Recurrence of colonic distention — no. (%)</td>
<td>2 (18)</td>
<td>NA</td>
</tr>
</tbody>
</table>

*P<0.001 by Fisher’s exact test.
†P=0.007 by Wilcoxon’s rank-sum test.
‡P=0.03 by Wilcoxon’s rank-sum test.
§P=0.01 by Wilcoxon’s rank-sum test.
¶P<0.001 by Wilcoxon’s rank-sum test.
[NA denotes not applicable.]
Pillsbury Dough Boy had Ogilvie's

Pre & Post Neostigmine

NEJM 1999
Neostigmine for the Treatment of Acute Colonic Pseudo-Obstruction

- Adverse effect of neostigmine treatment was abdominal pain, mild cramping by 9 and as moderate-to-severe cramping by 4
- Symptomatic bradycardia requiring atropine occurred in two patients
- Patients with underlying bradyarrhythmias or those receiving β-adrenergic antagonists may be more susceptible to neostigmine-induced bradycardia
- Recommend cardiac monitoring for 1 hour after dose

Effect of polyethylene glycol electrolyte balanced solution on patients with acute colonic pseudo-obstruction after resolution of colonic dilation: a prospective, randomized, placebo controlled trial

- 30 consecutive patients with Ogilvie's
- Randomised to receive daily 29.5 g of PEG (n = 15) or similar placebo (n = 15)
- Five (33.3%) patients in the placebo group had recurrent cecal dilation compared with none in the PEG group (p = 0.04).

Squoros et al Gut 2006
Ogilvie Syndrome as a Postoperative Complication

Tenofsky et al Arch Surg. 2000