Superior Mesenteric Vein Injury during Right Hemicolecotony
A Cautionary Tale
SUNY – Downstate
Case Conference
February 16, 2012
ED Presentation

- HPI: 70 yo F c 3 d h/o worsening abdominal distention and pain.
- PMH: HTN, CHF.
- PSH: neg.
- Meds: ASA, HCTZ.
- ROS: Colonoscopy 5 yrs prior – neg.
Exam

- VS: 101.4 119 139/85 20
- Mild distress
- Ab distended, tympanic, tender, peritoneal signs.
Labs

- CBC 8.3 / 11.8 / 37.9 / 440
- BMP 140 / 3.7 / 101 / 28 / 25 / 1.1 / 121
- AST 20 / ALT 15 / TB 0.6
Operative Plan

- Emergent exploratory laparotomy.
- Extended right hemicolecction.
- Hypotensive before start of case requiring vasopressors.
Operative Findings

- Fecal spillage.
- Rent in distended cecum.
- Firm, circumferential mass at distal transverse colon.
- All tissues were edematous and friable.
Operative Course

• Right and transverse colon mobilized.
• Specimen eviscerated prior to division of transverse mesocolon.
• Significant venous bleeding recognized at base of transverse mesocolon.
  – Isolated, clamped, and transected.
Operative Course

- Small bowel with immediate color change and edema, mesenteric vascular engorgement.
- Resection of specimen was completed.
- Vascular consult obtained.
  - Inspected ligated vessel ends for possible repair.
  - Deemed inoperable due to friable condition of tissues, coagulopathy, and original pathology.
Operative Course

• Additional length of nonviable small bowel resection.
• Remaining small bowel was edematous, congested, and hyperemic.
• Vacuum pack was placed.
Perioperative Course

- Transferred to SICU.
- Postop Labs
  - ABG 7.2 / 29 / 184 / 99 / -13
  - CBC 12.8 / 5 / 15 / 88
- Hemodynamically unstable.
  - 4U PRBC, 2U FFP, 1 U Platelets.
  - Aggressive IVF resuscitation.
  - Escalating doses of vasopressors.
Perioperative Course

• Bedside washout POD1.
  – Necrotic bowel.
• OR for ex lap.
  – Entire small bowel necrotic.
  – Vacuum pack reapplied.
• Return to SICU.
• Made DNR.
• Expired following AM (POD2).
Questions
SMV Injuries

- Rare.
- Literature comprised of small case series of blunt and penetrating trauma (1-40 Pts).
- Literature review over 47 years, only 401 cases.
Surgical Management

- Primary venorrhapy.
- Ligation.
- PTFE.
- RSVG.
- Exposure.
- Control.
Repair or Ligation

• Repair
  – Survival 63%
  – Fewer injuries

• Ligation
  – Survival 40%
  – More injuries.

Preop Risk Factors for Mortality

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Mortality</th>
<th>RR</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>&gt; 55</td>
<td>69%</td>
<td>1.98</td>
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<tr>
<td>&lt; 55</td>
<td>35%</td>
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<tr>
<td>ED SBP</td>
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<td>&lt; 100</td>
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<td>2.03</td>
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<tr>
<td>&gt; 100</td>
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<tr>
<td>Mechanism</td>
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<tr>
<td>Penetrating</td>
<td>41%</td>
<td>1.10</td>
<td>0.63</td>
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<tr>
<td>Blunt</td>
<td>37%</td>
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# Intraop Risk Factors for Mortality

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<th>Risk Factor</th>
<th>Mortality</th>
<th>RR</th>
<th>p Value</th>
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<tr>
<td>Shock</td>
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<tr>
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<tr>
<td>N</td>
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<tr>
<td>Acidosis</td>
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<td>53.2%</td>
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<tr>
<td>N</td>
<td>20.7%</td>
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<tr>
<td>Coagulopathy</td>
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<tr>
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<td>2.52</td>
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<td>N</td>
<td>21.7%</td>
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<td>SMV Management</td>
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<tr>
<td>Repair</td>
<td>40.0%</td>
<td>0.9</td>
<td>0.916</td>
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<td>Ligation</td>
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Take-Aways

• In the setting of trauma, ligation may yield equivalent mortality as repair.

• Ligation should be selected for hemodynamically unstable patients with large numbers of associated wounds.
References

