Is Placement of an Intra-Abdominal Drain Necessary after Hartmann’s Procedure for Perforated Diverticulitis?

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Is Placement of an Intra-Abdominal Drain Necessary after Hartmann’s Procedure for Perforated Diverticulitis?

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Background:
• Placement of intraperitoneal or pelvic drain after colon and rectal resection is addressed in term of affecting the anastomotic healing1.
• Hartmann’s procedure (HP) for perforated diverticulitis is the standard of care in most instances. Intra-abdominal drain placement at the time of initial surgery is common, though no benefit has been proven. To date, there are no studies evaluating the routine use of pelvic drainage after HP. The purpose of this study was to examine the rate of postoperative abscess formation depending on the presence or absence of intra-abdominal drainage.

Methods:
• A retrospective chart review was performed on all patients undergoing HP for perforated diverticulitis between November 2006 and June 2010 at the Lehigh Valley Health Network. The decision for placement of a closed suction drain at the time of initial surgery was at the discretion of the operating surgeon. Postoperative intra-abdominal abscess was diagnosed by computed tomography (CT) in those cases where there was a clinical suspicion. The incidence of postoperative abscess was compared in those patients with a drain versus those without a drain.

Results:
• A total of 113 patients underwent HP during the study period. Forty-five patients had an intra-abdominal drain placed at the time of initial surgery, while 68 patients did not. There was no difference between the two groups with regard to age, sex, BMI, Hinchey classification and other co-morbidities (see Table 1).
• The overall incidence of intra-abdominal abscess in our study group was 7.96% (9/113). In the drainage group, 11.1% (5/45) of patients developed an abscess compared to 5.8% (4/68) in the undrained group (see Table 2) . While the incidence of abscess was higher in the drainage group, the difference was not statistically significant (p=0.478).

Conclusions:
• The incidence of postoperative intra-abdominal abscess after Hartmann’s procedure for perforated diverticulitis was not affected by placement of an intra-abdominal drain. The incidence of abscess was actually higher in our group of patients with a drain, though it was not statistically significant. Routine placement of a drain is not necessary after Hartmann’s procedure and may in fact be detrimental.

References:

Table 1. Some characteristics and risk factors for abscess formation comparing two groups

<table>
<thead>
<tr>
<th>Group with Drain (n=45)</th>
<th>Group without Drain (n=68)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (mean)</td>
<td>61</td>
<td>56</td>
</tr>
<tr>
<td>BMI (mean)</td>
<td>30.4</td>
<td>36.0</td>
</tr>
<tr>
<td>Steroid Use</td>
<td>7 (15.6%)</td>
<td>11 (16.2%)</td>
</tr>
<tr>
<td>COPD</td>
<td>2 (4.4%)</td>
<td>4 (5.9%)</td>
</tr>
<tr>
<td>DM</td>
<td>12 (26.7%)</td>
<td>10 (14.7%)</td>
</tr>
<tr>
<td>Blood Transfusion</td>
<td>6 (13.3%)</td>
<td>4 (5.9%)</td>
</tr>
<tr>
<td>ASA IV</td>
<td>7 (15.6%)</td>
<td>9 (13.2%)</td>
</tr>
<tr>
<td>Hinchey Class IV</td>
<td>3 (6.7%)</td>
<td>8 (11.8%)</td>
</tr>
</tbody>
</table>

Table 2. Frequency of postoperative abscess formation

<table>
<thead>
<tr>
<th>Patients with Drain (n=45)</th>
<th>Patients without Drain (n=68)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postoperative Abscess</td>
<td>5 (11.1%)</td>
<td>4 (5.8%)</td>
</tr>
<tr>
<td>No Abscess</td>
<td>40</td>
<td>64</td>
</tr>
</tbody>
</table>