Antibiotic Monotherapy vs Dual-Drug Therapy in Perforated Appendicitis: Single Center Retrospective Review

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# Antibiotic Monotherapy vs Dual-Drug Therapy in Perforated Appendicitis: Single Center Retrospective Review

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## Methods

- Retrospective review of children <18 years old with perforated appendicitis was conducted at a free-standing pediatric hospital. The primary comparison was 30-day postoperative IAA formation.
- We hypothesized there is no difference in the rate of intra-abdominal abscess (IAA) formation in our center.

## Results

### Table 1. Outcomes by antibiotic administration

<table>
<thead>
<tr>
<th>Antibiotic Administration</th>
<th>Intra-abdominal Abscess, % (n)</th>
<th>Emergency Room Visits</th>
<th>Readmissions</th>
<th>Median Post-op Length of Stay, [IQR]*</th>
<th>Intravenous Antibiotic</th>
<th>Wound Complications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceftriaxone &amp; Metronidazole (n=77)</td>
<td>13% (10)</td>
<td>14.3% (11)</td>
<td>9.1% (7)</td>
<td>3.2 [3.1, 3.8]</td>
<td>3.2 [3.1, 3.8]</td>
<td>3.9% (3)</td>
</tr>
<tr>
<td>Piperacillin-Tazobactam (n=40)</td>
<td>20% (8)</td>
<td>27.5% (11)</td>
<td>12.5% (5)</td>
<td>3.3 [3.1, 4.0]</td>
<td>3.3 [3.1, 3.5]</td>
<td>5% (2)</td>
</tr>
</tbody>
</table>

P = 0.32

- Emergency room visits: CM vs PT, P = 0.08
- Readmissions: CM vs PT, P = 0.56
- Median post-op length of stay, [IQR]: CM vs PT, P = 0.11
- Intravenous antibiotic: CM vs PT, P = 0.2
- Wound complications: CM vs PT, P = 0.78

## Conclusions

- This retrospective study suggests that our postoperative dual-drug antibiotic regimen of Ceftriaxone & Metronidazole (CM) is at least equivalent to broad-spectrum, single-drug therapy with Piperacillin-Tazobactam with regards to Intra-abdominal Abscess formation, post-operative ED visits, total hospital length of stay and wound complications.
- Since CM is dosed once daily, is more economical and provides equivalent results, this antibiotic choice will remain the standard of care at our institution.

### Table 2. Multivariate regression analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Odds Ratio (P)</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>1.14 (0.53)</td>
<td>0.753-1.733</td>
</tr>
<tr>
<td>Body mass index</td>
<td>1.00 (0.65)</td>
<td>0.973-1.045</td>
</tr>
<tr>
<td>Symptom duration</td>
<td>1.82 (0.49)</td>
<td>0.338-9.798</td>
</tr>
<tr>
<td>IV antibiotic duration</td>
<td>1.07 (0.84)</td>
<td>0.526-2.192</td>
</tr>
<tr>
<td>Antibiotic choice</td>
<td>1.78 (0.21)</td>
<td>0.72-4.40</td>
</tr>
<tr>
<td>Antibiotic crossover</td>
<td>0.71 (0.92)</td>
<td>0.0006-818.6</td>
</tr>
<tr>
<td>Uninsured</td>
<td>1.49 (0.92)</td>
<td>0.0004-4923.4</td>
</tr>
</tbody>
</table>