Antibiotics for Appendicitis: When are they needed?

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Disclosure

I do not have any relevant financial relationship with commercial interest to disclose.
Learning Objectives

Analyze evidence for use and timing of antibiotics in the management of appendicitis.
Pathophysiology

- Luminal obstruction
- Subsequent localized venous ischemia
- Mucosal disruption
- Invasive bacterial infection
- Localized inflammation
- Progress to necrosis and possible gangrene and perforation
Appendicitis classification

Early appendicitis

Advanced appendicitis

Appendicular mass or intra abdominal abscess
Appendectomy standard treatment for all types

Antibiotics indicated for perforated appendicitis

What is the role of antibiotics in management of early appendicitis?
Prophylactic antibiotics + Surgical management for Early appendicitis

- **Antibiotics** effective in preventing post op. complication
- A single prophylactic dose of (BS) **antibiotics** as soon as the diagnosis established and at least 30 min before the incision.

Meta analysis study (539 children).

AU : United Kingdom National Surgical Research Collaborative, Bhangu
Antibiotics as Non operative treatment (NOT) for Early appendicitis

May be an option for selected patients depend on care giver preference with:

- Abdominal pain for <48 hours
- WBC \( \leq 18,000/\text{micro L} \)
- Normal CRP
- No appendicolith present on imaging
- Appendix diameter \( \leq 1.1 \text{ cm} \) on imaging
- No concern for rupture based upon clinical findings
(NOT) For early appendicitis

<table>
<thead>
<tr>
<th></th>
<th>Meta analysis -1</th>
<th>Meta analysis -2</th>
<th>Study -3</th>
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</thead>
<tbody>
<tr>
<td><strong>No.of patients</strong></td>
<td>413</td>
<td>168</td>
<td>197</td>
</tr>
<tr>
<td><strong>(NOT)success</strong></td>
<td>88-99%</td>
<td>73- 91%</td>
<td>87%</td>
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<tr>
<td><strong>F/U period</strong></td>
<td>8wks -4 yrs.</td>
<td>1 m- 1 yr.</td>
<td>18 m</td>
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<td><strong>Recurrence</strong></td>
<td>15%</td>
<td>22%</td>
<td>NA</td>
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</tbody>
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Huang L, et al. JAMA Pediatric. 2017
Antibiotic protocols (NOT) for Early appendicitis

vary widely but typically include:
1-2 days inpatient iv (BS)antibiotics until resolution of symptoms followed by oral antibiotics as outpatient.
Ø Early appendicitis in children needs appendectomy.
Ø A single prophylactic dose of a broad spectrum antibiotic before operation is recommended.
Ø NOT may be appropriate in selected patients with features of early appendicitis.


Thank you