

Antibiotic Treatment and Appendectomy for Uncomplicated Acute Appendicitis in Adults and Children: A Systematic Review and Meta-analysis

CITATION

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- Acute appendicitis remains one of the most common causes of an acute abdomen and is the commonest surgical disease among adult and pediatric patients presenting to emergency departments, both in the United States and Europe. Current evidence suggests laparoscopic appendectomy as the gold standard for surgical treatment, with lower incidence of wound infections, postintervention morbidity, shorter hospital stay, and higher quality of life scores when compared with open appendectomy.
- To date, many studies have promoted antibiotic therapy as a safe approach to appendectomy for adults with uncomplicated appendicitis, suggesting success rates as high as 90% at 30 days and 75% at 1 year. More recently, results of nonoperative management (NOM) with antibiotics in children have confirmed that the conservative strategy is a safe and effective alternative to surgery, with 64% to 86% success rates, lower incidence of complications, and no difference in rate of complicated appendicitis compared to appendectomy.
- **Purpose:** The aim of this meta-analysis was to summarize the current available evidence on nonoperative management (NOM) with antibiotics for uncomplicated appendicitis, both in adults and children.
- **Method:** 2019 Meta-analysis / systematic review that comparing ABX therapy vs SURG therapy as primary treatment for uncomplicated appendicitis in adults and children
 - o 20 studies (RCTs, prospective cohorts, retrospective) were included with 3,618 patients.
 - o Measured success rate via complications (adverse effects, post-intervention sequelae), resolutions of symptoms or recurrence, length of hospitalization

RESULTS

- Demonstrated that antibiotic therapy as a primary nonoperative management strategy for uncomplicated appendicitis in both adults and children is:
 - o associated with a treatment failure rate of 27.7% at 1 year follow-up
 - o a lower complication-free treatment success rate compared to appendectomy (67.2% vs 82.3%)
 - o tendency toward a doubled (although not statistically significant) incidence of complicated appendicitis at delayed surgery
- Some advantages to antibiotic therapy over appendectomy with lower rate of postintervention complications and reduced healthcare costs
- All other outcomes that impact the patient experience, including complications following surgery, length of hospitalization, duration of pain, length of sick leave, and length of time off work, did not show any statistically significant difference between the 2 different treatment modalities.
- **OVERALL → Antibiotic therapy could represent a feasible treatment option for image-proven uncomplicated appendicitis, although complication-free treatment success rates are higher with surgical treatment.**

CLINICAL BOTTOM LINE

- In summary, this study provides evidence required for clinicians to provide evidence-based advice to patients with radiologically confirmed uncomplicated appendicitis regarding both antibiotic therapy and surgical appendectomy as primary treatment options.
 - o Patients should be advised that, although limited by a lower efficacy rate compared to surgery, NOM with antibiotics is a safe option for pts patients keen to avoid appendectomy, and that this approach is successful in the majority of cases.