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Antibiotic therapy versus appendectomy for uncomplicated acute appendicitis

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BACKGROUND: Acute appendicitis is one of the most common surgical emergencies worldwide. Although appendectomy remains the current gold standard, emerging evidence suggests that conservative management with antibiotics is a viable alternative for uncomplicated cases, despite its underutilization in Brazil. This approach may reduce hospital length of stay and surgical complications, albeit carrying a risk of recurrence. **METHODS**: This systematic review was registered in PROSPERO (CRD42026134514 9) and conducted in accordance with the PRISMA 2020 guidelines. A comprehensive search was performed across PubMed, SciELO, LILACS, and the Cochrane Library for studies published between 2006 and 2026. Study selection, managed via the Rayyan platform, was restricted to randomized controlled trials (RCTs) comparing both therapeutic approaches. Studies involving specific populations (pregnant women, immunocompromised patients, the elderly > 60 years, and children < 5 years) or complicated appendicitis (abscesses and perforations) were excluded. Results: A total of 18 RCTs were included from 3,684 retrieved records. The initial success rate of pharmacological treatment ranged from 72.7% to 90.8%. However, recurrence rates were 27.3% at one year and reached 39.1% at five years. The presence of an appendicolith increased the risk of therapeutic failure to 41%. Overall hospital length of stay was comparable between groups (mean of 3 days), although outpatient antibiotic protocols demonstrated a significant reduction to approximately 16 hours. **DISCUSSION**: The pharmacological approach significantly reduces immediate complications (6.5% vs. 24.4% for surgery) and direct hospital costs. Nevertheless, the high recurrence rate - particularly in pediatric populations, where failure rates can exceed 33% - raises concerns regarding the long-term efficacy of conservative management as a definitive treatment. While surgery provides a higher rate of definitive resolution, the risk of recurrence associated with clinical treatment introduces the potential for hospital readmissions. **CONCLUSION**: Non-operative management demonstrates efficacy in achieving initial symptom resolution and reducing immediate complications. Nonetheless, the substantial long-term risk of recurrence necessitates a shared decision-making process between physician and patient, grounded in an individualized assessment of risks and benefits.

KEYWORDS: Appendicitis; Appendectomy; Conservative Treatment; Anti-Bacterial Agents; Systematic Review.

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