

In pediatric and adult patients with appendicitis, does exclusive treatment with antibiotics result in a decreased likelihood of appendiceal rupture along with a shorter hospital stay than laparoscopic appendectomy?

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Abstract

Appendicitis affects on average 233 per 100,000 people in the United States and is common within adult and pediatric populations. Laparoscopic appendectomy is the mainstay for treatment, but recently there has been an emergence of using solely antibiotics instead. The purpose of this analysis is to determine if antibiotic therapy alone for acute appendicitis decreases the rate of appendiceal rupture along with a shorter hospital stay in both the pediatric and adult populations in comparison to appendectomy. Research was conducted using PubMed, Google Scholar, and Ovid. Keywords searched were "Appendicitis", "Appendectomy", and "Antibiotics." Inclusion criteria were human subjects, valid consent, randomized control trials, and comparative studies. All articles ≥ 10 years old, systematic reviews, and/or meta-analyses were excluded. A total of 20 articles met our inclusion criteria. There were 6,656 total patients with an average age of 15 for pediatrics and 36.2 for adults and a male predominance. Studies found that IV and oral antibiotic therapy over appendectomy reduces the rate of appendiceal rupture in adult (6.6% vs. 12.2%) and pediatric (4.2% vs. 7.8%) populations. Length of hospital stay was only found to be shorter in adults receiving antibiotics in comparison to appendectomy (2.86 vs. 3.48 days) but not in pediatrics (3.4 vs. 3.2 days). Combination IV and oral antibiotics is more effective than appendectomy for uncomplicated appendicitis and can reduce surgical interventions and become the mainstay of therapy. Further research should focus on the best antibiotic regimen, duration of therapy, and pediatric populations.

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