

A Retrospective Study Assessing the Appropriateness of the Initial Antibiotic Therapy for Select Intra-Abdominal Infections

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ABSTRACT

Background: The need for antimicrobial stewardship is becoming more prevalent as resistance rates and adverse effects increase throughout the United States. Intra-abdominal infections such as appendicitis, diverticulitis, and cholangitis occur in >300,000 patients annually. They are the second leading cause of mortality in the ICU. Lowering the resistance of causative pathogens and reducing the duration of treatment is becoming critical to the future of patient care¹.

Methods: This study was a single-center retrospective patient case review. We selected 95 patients with appendicitis, diverticulitis, or cholangitis from January 17th 2022 to November 30th 2022. Pediatric patients were excluded from this analysis. Initial antibiotic regimens were compared to the latest IDSA recommendations² to assess appropriateness (primary outcome) and durations of treatment were compared to the results of the STOP-IT trial³ and the DURAPOP trial⁴.

Results: 47/95 (49.47%) patients received appropriate initial therapy. 49 patients had zero risk factors, 27 had one risk factor, 16 had two risk factors, and four had three risk factors. Within these patient subgroups, 7/49, 25/27, 11/16, and 4/4 patients received appropriate therapy, respectively. For the secondary outcome, the average days of therapy was 9.81 days. Overall, 8/95 of patients received therapy for ≤ 4 days, 25/95 received therapy for ≤ 7 days, and 36/95 received therapy for ≤ 8 days.

Conclusion: Appropriate initial antimicrobial therapies were selected about half of the time. Furthermore, duration of treatment was slightly above the most recent recommendations for duration of therapy for intra-abdominal infections. Though a small sample size, this review could be used to optimize initial antimicrobial therapies and order sets while also showing room for improvement in duration of treatment.

