121. Evaluation of Multifaceted Antimicrobial Stewardship in Optimizing Antimicrobial Use in Intraabdominal Infection at a Community Hospital

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Background. Treatment of intraabdominal infections (IAI) commonly involves broad spectrum antimicrobials based on the severity and etiology of infections as well as the underlying medical conditions. However, the overuse of broad-spectrum agents has driven selection for Gram-negative and positive resistance, as well as collateral consequences such as Clostridium difficile colitis. We sought to evaluate the utilization of a pharmacy-driven multifaceted antimicrobial stewardship (AMS) intervention to optimize empiric antimicrobial therapy by risk stratification among IAI patients and reduce the number of antibiotic treatment days.

Methods. This is a single-center case observation study in hospitalized adult IAI patients on antimicrobial therapy from Dec 2019-Feb 2020 compared to patients from Dec 2020-Feb 2021 after initiation of AMS with daily prospective audit and feedback. The composite primary outcome is reduction of antibiotic treatment days and de-escalation from broad spectrum antibiotics (fluoroquinolones, piperacillin/tazobactam, and carbapenems) to cephalosporins.

Results. We identified 40 patients each in the baseline (pre-AMS group) and post-AMS group via electronic medical record. Baseline characteristics were well-matched between groups. The majority of patients were diagnosed with community-acquired IAI such as appendicitis, diverticulitis, and cholecystitis. Fluoroquinolone use at empiric therapy was significantly lower in the post-AMS group vs. pre-AMS group (2.5% vs. 25%; p < 0.001), while non-Pseudomonas cephalosporin use was increased (25% post-AMS vs. 0% pre-AMS; p < 0.001). Oral fluoroquinolone use at discharge was significantly decreased in the post-AMS group (p < 0.001). Antibiotic treatment days remained unchanged. There was no statistical difference between the two groups in 30-day mortality, 30-day readmission, relapse, and C. difficile colitis.

Conclusion. A multifaceted antimicrobial therapy intervention successfully reduced the use of fluoroquinolones in patients with community-acquired IAI during hospitalization and discharge. No differences in mortality, readmission, or relapse rates were observed.

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