2435. The Impact of Treatment Strategy and Toxin Status on Outcomes of Patients with Clostridioides difficile Infections

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Background. Clostridioides difficile infection (CDI) is an important cause of morbidity and mortality and management continues to evolve. For laboratories that diagnose by detection of toxin gene, it is unclear whether reporting toxin production is additive to patient care. Furthermore, is there still a role for metronidazole (MNZ) given current evidence? We evaluated hospital-to-hospital variability in effect on clinical outcomes. As a result, we performed a study at one institution.

Methods. We conducted two retrospective chart reviews of patients with CDI at two hospitals. The first hospital used a treatment guideline that recommended MNZ as first-line therapy while the second hospital used a guideline that recommended vancomycin (VAN) as first-line therapy. The primary endpoint was cure at 3-months post-treatment. Secondary endpoints were clinical cure, toxin production by GDH, and recurrence.

Conclusions. Patients treated with MNZ were more likely to be cured but were more likely to have toxin production by GDH and had a higher rate of recurrence.

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2436. Real-world Evidence of Fecal Microbiota Transplant Use and Outcomes in Patients with Clostridioides difficile Infection

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Background. Fecal microbiota transplant (FMT) is an investigational, non-antibiotic approach to prevent recurrences in patients with multiple bouts of CDI. In controlled trials, efficacy rates of 62-76% have been reported with single FMT, and up to 90% with multiple FMTs. This study evaluated real-world outcomes in patients with severe or non-severe CDI who received repeated FMTs. All patients were managed with MNZ.

Methods. Data from the Optum OFID 2019:6 (Suppl 2) evidence on the outcome were selected for the final dataset. Data imputation (MICE algorithm) was used to replace missing data points. Two “Reproducible” Artificial Neural Network model (i.e., i patients discharged on another agent) were also evaluated.

Results. A total of 282 patients were included. In the pre-group, 59.1% received metronidazole, 39.6% oral vancomycin, and 1.3% fidaxomicin. In the post-group, fidaxomicin use increased to 52.3% and oral vancomycin was 44.5%. There was a significant improvement in recurrence (30.3% vs 17.1%, P = 0.019). Global cure and CDI upon readmission also improved in the post-group (Table 1). In patients receiving partial courses of fidaxomicin, recurrence (9.3% vs 25%, P = 0.19), global cure (86% vs 75%, P = 0.44), and infection on readmission (28.6% vs 37.5%, P = 0.67) were similar.

Conclusions. Fidaxomicin as first-line agent in high-risk CDI patients decreased recurrence and increased global cure.

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2437. First-line Fidaxomicin Use in High-risk Inpatient Repeated Recurrences

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Background. Fidaxomicin is recommended by the 2018 Infectious Diseases Society of America (IDSA) guidelines as a first-line treatment in adult patients with uncomplicated Clostridioides difficile infection (CDI). Carilion Roanoke Memorial Hospital (CRMH) implemented a clinical decision order set directing providers to initiate fidaxomicin for CDI patients at high risk of recurrence. The purpose of this study was to assess the impact of fidaxomicin (VAN) as first-line therapy for non-severe cases we analyzed cases of CDI in our hospital to assess outcomes of patients on MNZ vs. VAN and with or without toxin production.

Methods. A retrospective chart review of patients with CDI (based on detection of C. difficile toxin gene by PCR) was conducted between November 2017 and August 2018. Comparison of demographics and outcomes was performed in a) cases that were toxin-positive by enzyme immunoassay vs. negative and b) non-severe cases initially managed with MNZ vs. VAN.

Results. 76 patients were included (46 toxin-positive, 30 toxin-negative). Toxin-positive patients were older (mean age 77 vs 62, p = 0.002) but had similar disease severity and initial treatment. A CDI recurrence occurred in 22% vs 0% in the toxin-positive cases (p = 0.006). Any CDI-related complication occurred in 23% of toxin-negative and 35% of toxin-positive cases (ns). After adjusting for toxin status, age, and severity, the odds ratio of the composite outcome of any complication with toxin-positive CDI was not significant (OR 1.45 95% CI 0.45-4.6, p = 0.52).

There were 37 (49%) patients with non-severe CDI (27 MNZ, 10 VAN). Patients treated with VAN had higher stooling/day (63 vs 4.4, p = 0.04) and heart rate (p = 0.02). Initial MNZ use was associated with treatment escalation in 48% of cases compared with 10% in those treated with VAN alone (p = 0.03). CDI-associated mortality was higher in the VAN group (210 vs 0.27, p = 0.017). The rate of other complications was not significantly different.

Conclusion. Although no difference in the composite outcome of any CDI-related complication was detected between toxin-positive vs negative patients, toxin positivity may predict patients at risk for subsequent recurrence. Patients with non-severe CDI did not have increased risk of complications when managed with MNZ, however, they were more likely to require treatment escalation.

Disclosures. All authors: No reported disclosures.