763. Impact of Two-Step Testing Algorithm on Hospital-onset 
Clostridioides difficile Infections and Oral Vancomycin Prescription Practices at an Academic Medical Center
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Session: P-36. HAI: C. difficile

Background. Clostridioides difficile infection (CDI) is one of the leading causes of hospital-onset (HO) infections. Clinically distinguishing true CDI versus colonization with C. difficile is challenging. We implemented a two-step testing algorithm to discriminate true CDI from colonization then evaluated the effect on rate of HO CDI and oral vancomycin.

Methods. In May 2020, a two-step testing algorithm was implemented utilizing C. difficile PCR and enzyme immunoassay (EIA) glutamate dehydrogenase (Figure 1). Rates of HO CDI and use of oral vancomycin was compared in the three quarters preceding and after this intervention (July 2019-March 2020 and July 2020-March 2021, respectively). HO CDI was defined based on National Healthcare Safety Network (NHSN) Laboratory Identified (LabID) event as last positive C. difficile test result performed on a specimen collected >3 calendar days after admission to the facility. HO CDI rates were assessed based on Standardized Infection Ratio (SIR) data and antimicrobial use was reported in days of therapy (DoT)/1000 patient days.

Results. During the pre-intervention period 30 HO CDI cases were reported compared to 9 cases in the post-intervention period (p=0.02) (Figure 2). There was a non-statistically significant reduction in CDI SIR in post-intervention period (0.133 vs. 0.305, p=0.11). Oral vancomycin use was similar in the pre- and post-intervention periods (3.89 vs. 3.84, p=0.96). Fidaxomicin use was rare (< 0.2 DoT/1000 pt days). Of 26 HO C.difficile colonized patients in post-intervention period, 14 (54%) patients received oral vancomycin treatment. Infectious diseases was consulted on 7/14 and recommended discontinuation of treatment in 3 while treatment was continued for other patients based on clinical status and immunocompromising conditions.

Conclusion. We successfully reduced our HO CDI infections and SIR below national average after implementation of two-step testing algorithm for CDI. There was no impact on the rate of oral vancomycin use. We observed at 54% rate of treatment for patients categorized as likely colonization. Provider education and stewardship interventions are necessary to reduce inappropriate use of oral vancomycin in colonized patients.

Disclosures. All Authors: No reported disclosures

Figure 1. Two-Step Testing Algorithm for Diagnosing Clostridioides difficile infection

Figure 2. Comparison of pre- and post-intervention trend in Hospital-onset CDI rate

764. Will the Addition of Probiotics to Patients Receiving Intravenous Antimicrobial Therapy Reduce the Incidence of Healthcare Facility-Onset 
Clostridium difficile Infection? 
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Session: P-36. HAI: C. difficile

Background. Exposure to antimicrobials is a known risk factor for Clostridium difficile infection (CDI). Antimicrobials cause collateral damage by disrupting the natural intestinal microbiota allowing for C. difficile to thrive and production of C. difficile toxins. Probiotics could modulate the onset and course of CDI. However, the data on probiotics for the prevention of CDI is conflicting.

Methods. We conducted an IRB approved retrospective cohort study at a 340-bed community hospital. All hospitalized patients from August 1, 2017 through July 31, 2020 were evaluated for enrollment. Patients were included if they received at least one dose of intravenous (IV) antibiotic and had a length of stay of at least 3 days. Patients were excluded if they were younger than 18 years, or if they had a positive C. difficile polymerase chain reaction test before antibiotics were started. The primary outcome was the incidence of healthcare facility-onset Clostridium difficile infection (HO-CDI). Descriptive statistics were used to analyze demographics data, and the primary outcome of HO-CDI was analyzed using Fisher’s exact test and multiple logistic regression.

Results. A total of 20,257 patients received IV antibiotics during the study time frame. Of these, 2,659 patients received probiotics. Primary outcome of HO-CDI occurred in 46 patients in the IV antibiotics alone cohort (0.26%) and 5 patients in the probiotics plus IV antibiotics cohort (0.19%). The difference in HO-CDI between these two groups was not statistically significant, p=0.677. A multiple logistic regression was performed to see the impact of proton pump inhibitor use, age, ICU admission, Charlson Comorbidity Index, probiotic use and CDI in the past 12 months on the primary outcome. C. difficile infection in prior 12 months [OR 3.37, 95%CI 1.04-10.97] and ICU admission [OR 1.81, 95%CI 1.02-3.19] were associated with higher CDI. The addition of probiotics to patients on IV antibiotics did not exhibit a protective effect [OR 0.72, 95% CI 0.28-1.81].

Conclusion. The addition of probiotics to standard of care was not beneficial in the prevention of HO-CDI. We endorse robust antibiotic stewardship practices as part of the standard of care bundle that institutions should employ to decrease the incidence of HO-CDI.

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765. The Burden of Illness Associated with Recurrent Clostridioides difficile Infection: A Claims-based Analysis 
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