Conclusion. Patients receiving chemotherapy for AL remain at risk for IFI despite the use of antifungal prophylaxis. In our study, prophylaxis with posaconazole suspension was found to be an independent risk factor for breakthrough IFI. Mortality was high among patients with breakthrough IFI.

Disclosures. All authors: No reported disclosures.

972. Asymptomatic Carriage of Clostridium difficile and Risk of Subsequent Infection
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Session: 126: Healthcare Epidemiology: The PoopPager and Other Novel Perspectives on C. difficile in the Healthcare Setting
Friday, October 5, 2018: 10:30 AM

Background. C. difficile is one of the most common healthcare-associated infections in the United States. Studies of patients with asymptomatic carriage of toxigenic C. difficile have reported conflicting results on the risk of subsequent C. difficile infection (CDI). Older studies suggest that the risk was low and colonization may be protective. Subsequent studies indicate that asymptomatic carriers have a 6-fold greater risk of developing CDI. The aims of our study were to assess the burden of asymptomatic C. difficile carriage and risk of subsequent CDI.

Methods. Adult inpatients at NorthShore University HealthSystem, Illinois hospitals between August 1, 2017 and February 28, 2018 were eligible for the study. Focused admission screening of patients at high risk of C. difficile carriage was performed: (1) history of CDI or colonization, (2) prior hospitalization past 2 months, or (3) admission from a long-term care facility. A rectal collection was collected and tested using the cobas Cdiff Test (Roche) real-time PCR. The development of hospital-onset CDI (HO-CDI) in colonized patients was monitored prospectively for at least 2 months. HO-CDI testing of colonized patients was performed using the Cepheid GeneXpert C. difficile real-time PCR. HO-CDI was defined as patients hospitalized for at least 72 hours with 3 or more episodes of diarrhea/24 hours, in the absence of other potential causes of diarrhea. Patient demographics were collected using a standardized form and data analyzed using VassarStats.

Results. There were 6,104 patients enrolled in the study and 528 (8.7%) were positive on admission for toxigenic C. difficile carriage. The mean age of colonized patients was 75.5 years (range 24–103) and 56.4% (298 patients) were females. Of 528 colonized patients, 21 (4%) had a positive CDI test. A total of 7 patients (1.3%) developed HO-CDI. Mean time to positive HO-CDI was 46.1 days (range 5–120 days). Of 507 patients that were negative for C. difficile carriage on admission, 14 (0.3%) patients developed HO-CDI. The relative risk of HO-CDI was 5.28 (95% CI: 2.14–13.03, P = 0.05).

Conclusion. We found that 8.7% of at-risk admissions were asymptomatic toxigenic C. difficile carriers. While only 1.3% developed HO-CDI, asymptomatic carriers had a 5 times higher risk of subsequent CDI compared with non-carriers.

Disclosures. All authors: No reported disclosures.

973. Inter-facility Patient Sharing and Clostridium difficile Incidence in the Ontario Hospital Network: A 13-Year Longitudinal Cohort Study of 116 Hospitals
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Friday, October 5, 2018: 10:30 AM

Background. Inter-facility patient movement plays an important role in the dissemination of antimicrobial resistance and C. difficile infection (CDI) throughout healthcare systems. However, the relative performance of different patient sharing metrics for predicting CDI incidence is not known. We compared 3 different measures of inter-facility patient sharing included: (1) ‘importation’—the rate of patients with a history of CDI in the prior 90 days were excluded from the risk set but not from patient sharing metrics. Poisson regression models with facility-level random effects were used to predict incident CDI (CDC-10 = A047.1 identified from Discharge Abstract Database records) across Ontario hospitals (N_stay = 116) between April 1, 2003 to March 31, 2016. Patients with a stay of <3 days and those with a history of CDI in the prior 90 days were excluded from the risk set. (2) admission from a long-term care facility; (3) ‘case importation’—equal to importation weighted by the incidence of CDI in the previous facility; and (3) ‘case importation’—importation of patients with a history of CDI.

Methods. A retrospective cohort analysis was used to predict incident CDI (CDC-10 = A047.1 identified from Discharge Abstract Database records) across Ontario hospitals (N_stay = 116) between April 1, 2003 to March 31, 2016. Patients with a stay of <3 days and those with a history of CDI in the prior 90 days were excluded from the risk set. (2) admission from a long-term care facility. A retrospective cohort analysis was used to predict incident CDI (CDC-10 = A047.1 identified from Discharge Abstract Database records) across Ontario hospitals (N_stay = 116) between April 1, 2003 to March 31, 2016. Patients with a stay of <3 days and those with a history of CDI in the prior 90 days were excluded from the risk set. (2) admission from a long-term care facility. A retrospective cohort analysis was used to predict incident CDI (CDC-10 = A047.1 identified from Discharge Abstract Database records) across Ontario hospitals (N_stay = 116) between April 1, 2003 to March 31, 2016. Patients with a stay of <3 days and those with a history of CDI in the prior 90 days were excluded from the risk set. (2) admission from a long-term care facility.

Results. Over the 13-year period, we observed 58,427 cases of health-care-associated C. difficile (CDI) among 12,750,000 admissions. Facility CDI incidence ranged from 2.9 to 19.6 per 1,000 admissions (6.8-fold range). Patient sharing metrics were strongly related to facility CDI incidence (figure). In models adjusting for facility risk factors, all 3 measures still explained an important portion of inter-facility variation in CDI incidence: importation (PCV = 5%, P = 0.01), incidence-weighted importation (PCV = 15%, P < 0.001), and "case importation" (PCV = 48%, P < 0.001).

Conclusion. We observed a substantial variation in facility CDI incidence that was explained by linkages between acute care facilities, especially linkage to other facilities with a high incidence of CDI. Facility infection prevention staff should consider incorporating the facility CDI incidence into risk stratification assessments of patient transfers.