Trisha Patel et al., J Infect Dis Ther 2018, Volume 6
DOI: 10.4172/2332-0877-C1-039

Antimicrobial Stewardship Program (ASP) eliminates *Clostridium difficile* infections in an oncology hospital

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Clostridium difficile is not only the most common organism to cause hospital acquired infections in the US but the incidence in cancer patients is increasing significantly. Their risk factors for acquiring *Clostridium difficile* infections (CDI) are prolonged hospitalization, chemotherapy, and changes in bowel environment. However, the most common risk is frequent exposure to antibiotics. The centers for disease control and prevention showed the risk of CDI among those exposed to high-risk antibiotics was three times higher compared to persons with low-risk or no antibiotic exposure. This emphasizes the crucial role of ASPs which have created a positive impact on CDI rates in several studies. At a private oncology hospital, ASP and infection control use several strategies to retain low rates of CDI. ASP reviews all patients on antibiotics daily to identify opportunities to optimize therapy. Prospective audit and feedback is then provided to clinicians on any necessary interventions. Educational in-services are also performed for nurses and the medical staff on a regular basis. Additionally, infection control enforces strict hand hygiene for which compliance has consistently been greater than 98%. Due to oncology patients having a higher incidence of baseline diarrhea, a three-component C. difficile test is used at this institution to reduce false positive results. The glutamate dehydrogenase (GDH) antigen and enzyme immunoassay tests for toxins A and B are obtained on all samples. If there is discordance between the tests, then only is a polymerase chain reaction (PCR) test performed. With these combined efforts, there were 0 incidences of CDI over a period of 10 months in 2017 and no more than one incidence per month since January of 2016. However, both incidences in August and September 2017 were false positive results. Therefore, without any clinical infections, the institution had 0 incidences of CDI for one year (table 1).

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Biography

Trisha Patel is the Infectious Diseases/Critical Care Pharmacist at Cancer Treatment Centers of America (CTCA). She completed her Pharmacy Residency with a specialty in critical care at University of Alabama Hospital in Birmingham (UAB). After working at UAB for four years as the Medical ICU Pharmacist, she moved to Philadelphia to work at CTCA. Since acquiring this position, she has assisted Dr. Mashiul Chowdhury in managing all patients on antibiotics as well as to lead their Antimicrobial Stewardship Program.

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