Session: 151. Viruses and Bacteria in Immunocompromised Patients
Friday, October 5, 2018: 12:30 PM

Background. Diarrhea is common among hematopoietic stem cell transplant (HSCT) recipients, but the etiology is rarely identified. Multiplexed PCR may increase the detection of diarrheal pathogens, but its role has not been evaluated in this population.

Methods. In June 2016, the FilmArray® Gastrointestinal panel (GI PCR) was implemented at NewYork-Presbyterian Hospital/Weill Cornell Medical Center to diagnose infectious diarrhea, replacing stool culture and other conventional methods. We reviewed all adult patients who received a HSCT at our center from June 2014–May 2015 (pre-GI PCR) and June 2016–March 2017 (post-GI PCR). Clostridium difficile infection was diagnosed by PCR for toxin B gene in both cohorts. Patients were followed for 1 year post-transplant. We compared the percentage of patients with an identified diarrheal pathogen, yield of testing per diarrheal episode, and number and cost of stool tests between cohorts.

Results. We identified 163 HSCT recipients in the pre-GI PCR cohort and 146 in the post-GI PCR cohort. Patients had a median of 2 diarehal episodes during 1-year follow-up in both cohorts. The proportion of patients with at least one identified infectious etiology of diarrhea increased from 21.5% to 34.3% after implementation of the FilmArray® Gastrointestinal panel (IQR: 21.3%–34.0%, P < 0.001). Overall, the yield of identification improved from 7.2% (41/566) to 10.8% (40/370) during 1 year post-transplant. We found an increased number of diarrheal etiologies identified (64/566 compared to 77/370; P = 0.007) and an increased number of distinct pathogens identified (257/566 compared to 287/370; P = 0.022).

Conclusion. The implementation of an expanded multiplexed PCR panel was safe and associated with improved diagnostic yield of diarrheal pathogens compared with traditional stool culture in HSCT recipients. These data support the implementation of multiplex PCR panels for detection of diarrheal pathogens in HSCT recipients.

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