1139. Novel Formulation SUBA-Itraconazole Prophylaxis in Patients With Hematological Malignancy or Undergoing Allogeneic Stem Cell Transplantation: Follow-up Survival Data
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Session: 134. Fungi and Parasites in Immunocompromised Patients
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Background. Despite the advantageous spectrum of activity of itraconazole, it is rarely used as a prophylactic agent due to limited bioavailability and intolerance of the conventional formulation. After the development of a new formulation SUBA-itraconazole (SUPER BioAvailability), we undertook a study to assess therapeutic levels, safety, tolerability, and IFI rates of this novel formulation when compared with the conventional itraconazole liquid in patients undergoing allogeneic hematopoietic stem cell transplantation or in hematological malignancy patients.
Methods. Following a single-centre, prospective study of SUBA-itraconazole 200 mg BID vs. conventional liquid itraconazole 200 mg BID, the SUBA-itraconazole group was assessed 1-year post-allogeneic stem cell transplant for incidence of IFI and survival.
Results. A total of 29 patients (29 SUBA-itraconazole and 30 liquid itraconazole) were assessed. Therapeutic concentrations were achieved significantly more quickly in the SUBA-itraconazole group; median of 6 days vs. 14 (P < 0.0001). At day 10, therapeutic concentrations were achieved in 69% of the SUBA-itraconazole group vs. 21% (P < 0.0001). The mean trough serum concentrations at steady state of SUBA-itraconazole were significantly higher, with less interpatient variability (1,577 ng/mL, CV 35%) vs. (1,218 ng/mL, CV 60%) (P < 0.001). There were 2 (7.5%) treatment failures in the SUBA-itraconazole group, both due to cessation of therapy for mucositis, compared with 7 (23.3%) treatment failures in the liquid-itraconazole group, due to subtherapeutic levels (five), mucositis (one), and gastrointestinal intolerance (one) (P = 0.096). There was one confirmed IFI in the SUBA-itraconazole treatment failure group defined by a blood culture that yielded yeast; however, this was the center responsible for mucositis. No other probable or possible IFIs were observed. After 1 year post-allogeneic stem cell transplant in the SUBA-itraconazole group, there were two deaths (10%) due to disease progression and no further IFIs were reported.
Conclusion. The use of the SUBA-itraconazole formulation was a safe and effective prophylactic agent. It was associated with more rapid attainment of therapeutic levels with less interpatient variability when compared with conventional liquid itraconazole.
Disclosures. J. Lindsay, Mayne Pharma: Consultant, Consulting fee.
1140. GATA2 Mutations Are Frequently Identified Among Patients With Myeloid Malignancies Who Develop Invasive Aspergillosis
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Background. Patients with myeloid malignancies are at risk of invasive aspergillosis (IA), a cause of significant morbidity and mortality. Identification of patients at higher risk for IA may help optimize prophylactic or preemptive treatment decisions. Molecular genetic testing used to risk-stratify and guide therapy for hematologic malignancies may also have applicability toward predicting infectious outcomes. The purpose of this study was to identify these mutations that may increase risk for IA among patients with myeloid malignancies.
Methods. We identified patients cared for at Dana-Farber/Brigham and Women's Cancer Center between March 1, 2015 and January 31, 2018 who were diagnosed with probable or proven IA during the treatment of myeloid malignancies including acute myeloid leukemia (AML) or myelodysplastic syndrome (MDS). We reviewed pathogenic mutations detected by the Rapid Hemen Panel (RHP), a clinical targeted next-generation sequencing panel of 95 recurrently mutated genes in hematologic malignancies.
Results. Twenty-four patients with myeloid malignancy (AML 20, MDS 4) were diagnosed with IA, 20 of whom (AML 17, MDS 3) had undergone genetic testing with the RHP at the time of their cancer diagnosis. We found that three of 20 patients (15%) had a pathogenic mutation in GATA2. All were missense mutations with statistical significance using randomly selected genes. These data suggest that personalized genetic analyses of patients with underlying hematologic malignancy may also be useful for assessment of infectious risk.
Disclosures. All authors: No reported disclosures.
1114. Microbial Assessment of Healthcare-Associated Pathogens on Various Environmental Sites in Patient Rooms After Terminal Room Disinfection
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Background. Hospital room environmental surfaces can be contaminated with healthcare-associated pathogens even if terminal room cleaning/disinfection is implemented. We examined the microbiological burden on hospital room environmental sites after standard or enhanced terminal room disinfection.
Methods. Microbial data from the Benefits of Enhanced Terminal Room Disinfection Study were utilized. All patient rooms were randomly assigned to standard disinfection (Quaternary ammonium [Quat]) or an enhanced disinfection (Quat/ultraviolet light [UV-C], Bleach, or Bleach/UV-C). Microbiological samples were obtained using Rosac plates (25 cm 2 plate) from 8 of 10 hospital room sites, including bed rail, over-bed table, supply/medicine cart, chair, side counter, linen hamper lid, sink, toilet seat, shower floor, and bathroom floor. The number of colony forming units (CFU) of four target epidemiologically important pathogens (EIP), including multidrug-resistant Acinetobacter, Cladstridium difficile, methicillin-resistant Staphylococcus aureus, and vancomycin-resistant enterococci, was counted. A total of 3,680 samples from 736 environmental sites in all 92 patient rooms (21 standard rooms and 71 enhanced rooms) were analyzed.
Results. Overall, the frequency of all environmental sites positive for EIP was 11% (84/736) in all rooms, 21% (36/168) in standard rooms, and 8% (48/568) in enhanced rooms (P < 0.001) (Figure 1). Environmental sites, other than the toilet seat, in terminal rooms were likely to be more frequently contaminated with EIP than in enhanced rooms (P = 0.013 for overbed table, P = 0.010 for bed rail, and P > 0.05 for other sites each). Mean CFU of EIP per room was 19.2 in all rooms, 60.8 in standard rooms, and 6.9 in enhanced rooms (P = 0.006) (Figure 2). All sites in standard rooms tended to have higher mean counts than in enhanced rooms (P = 0.001 for bed rail, P = 0.012 for overbed table, P = 0.005 for other sites each).
Conclusion. Our results demonstrate that an enhanced terminal room disinfection reduced microbial burden of healthcare-associated pathogens on environmental sites better than standard room disinfection. Environmental hygiene of touchable surfaces after terminal room cleaning using Quat needs to be improved.