Conclusion. Persisting vaccine hesitancy is concerning in minority communities. Identifying the target population and implementation of innovative methods to improve COVID-19 vaccination acceptance leveraging primary care providers would be a possible solution.

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591. Comparison of Fluconazole to Other Antifungal Agents in Allogeneic Hematopoietic Cell Transplant Recipients: A Meta-Analysis of Randomized Clinical Trials

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Session: P-26. Care Strategies for Transplant Patients

Background. Invasive fungal infections (IFI) are adverse complications of allogeneic and autologous hematopoietic stem cell transplantation (HSCT) with significant mortality and morbidity. Randomized Controlled Trials (RCT) have addressed the optimal anti-fungal prophylaxis regimen. However, the consensus for an anti-fungal prophylaxis regimen has remained elusive. Hence, we performed a meta-analysis of currently available RCTs comparing the efficacy of fluconazole vs. other antifungal agents including voriconazole, micafungin, and itraconazole in the endpoint of preventing IFI.

Methods. Randomized controlled trials were retrieved from PubMed, according to our inclusion criteria. The relative risk (RR), hazard risk (HR), and 95% confidence intervals (CI) were calculated. A random effect or fixed-effect model was used to calculate the pooled HR, based on heterogeneity. All statistical analyses were performed using RevMan software and R Core Team, and all p-values were two-tailed, and the significance level was 0.05.
Results. Ten RCTs were selected involving 2654 pts. Our results showed fluconazole is statistically inferior to other agents that include voriconazole, micafungin, and itraconazole with regards to the endpoint of a lower incidence of IFI (RR: 1.05; 95%CI: 1.02, 1.08; p=0.0002, I²=5%). However, subgroup analysis showed no statistical difference between fluconazole vs. other agents to prevent breakthrough proven IFI (HR: 0.76; 95%CI: 0.47, 1.23; p=0.27, I²=90%). Our subgroup analysis further showed that other agent’s group might have a superior role in preventing aspergillus compared with fluconazole (HR: 0.64; 95%CI: 0.44, 0.94; p=0.02, I²=0%), but no significant advantages over fluconazole for candidiasis (HR: 0.96; 95%CI: 0.45, 2.07; p=0.92, I²=99%).

Successful Rate Without Incidence of IFI

Figure 1. Successful Rate Without Incidence of IFI
Proven IFI vs. Suspected IFI

Figure 2. Proven IFI vs. Suspected IFI
Candidiasis vs. Aspergillus

Figure 3. Candidiasis vs. Aspergillus

Conclusion. This meta-analysis yield data that suggests fluconazole might be inferior to other agents in preventing IFI in all intent to treat patients undergoing HSCT. However, fluconazole is non-inferior in preventing proven IFI and candidiasis IFI based on our results. Thus, we continue to recommend fluconazole in selected patients who require anti-fungal prophylaxis. More RCTs are needed in the future to demonstrate the drug of choice for anti-fungal prophylaxis and address patient selection characteristics.

Disclosures. All Authors: No reported disclosures

Session: P-26. Care Strategies for Transplant Patients

Background. Antimicrobials are widely used in solid organ transplant recipients (SOT). Yet, antimicrobial utilization in the transplant (TP) population is not well characterized. National Healthcare Safety Network antimicrobial use (NHSN-AU) does not provide data specific to SOTs. This study sought to describe inpatient antibiotic use among SOTs up to 1-year post-TP.

Methods. A cross-sectional study was performed of all SOTs who received a TP between January 2015 to December 2016. Demographics, TP type, antibiotic use variables, hospital days, and Clostridioides difficile infection (CDI) are described. Inpatient antibiotic administration was measured for 365 days starting from date of TP surgery. Automated data generated for NHSN-AU reporting was utilized, and SOTs data was abstracted by cross-matching with the transplant database. Transplant-patient days was used as the denominator for metrics. Variables included duration of therapy (DOT), DOT/1000 patient days, antimicrobial free days (inpatient days no antimicrobials were administered), and NHSN-AU reporting targets of anti methicillin resistant S. aureus (MRSA), broad spectrum, and high-risk CDI agents. Data was analyzed using descriptive statistics via Microsoft Excel.

Results. A total of 530 SOTs were analyzed. Baseline characteristics are shown in Table 1. Median age was 61, male gender 64%, median Charlson Comorbidity Index was 5. Kidney TP (43%), liver TP (32%), lung (9%) and heart (8%) were most common TP types. Among these four TP types: Lung TP had the highest DOT (13 days), DOT/1000 patient days (6.6) and ratio of DOT/total patient (1.9) (Table 2). Liver TP had the most antimicrobial free days (34%). Proportionally, anti-MRSA agents use was highest in thoracic TP (lung/heart), broad-spectrum agent use was common in all but kidney TPs, and high-risk CDI agents use was highest among kidney TP (Table 3). A total of 34 SOT had CDI, 76% in kidney/liver TPs.

Table 1. Baseline Demographics of 530 SOT Recipients

| Variable | Value |
|----------|-------|
| Age, year | 61 [52 – 60] |
| Race | 337 (63.6) |
| Private | 154 (29.1) |
| Medicaid | 50 (9.4) |
| Medicare | 284 (53.6) |
| Other | 42 (7.9) |

C. DRUG USE

Table 2. Antimicrobial use by Transplant Type for 530 SOT Recipients

| Organ | Total DOT | DOT, median [IQR] | DOT/1000 Patient Days | DOT / Hospital Days | Antimicrobial Free Days, N (%) |
|-------|-----------|-------------------|------------------------|--------------------|-------------------------------|
| Heart | 3,184 | 5 (I:17) | 3.7 | 1.4 | 713 (51) |
| Kidney | 3,527 | 4 (I:7) | 3.8 | 1.2 | 589 (36.4) |
| Liver | 5,559 | 4 (I:12) | 5.6 | 1.3 | 1,463 (33.9) |
| Lung | 6,743 | 33 (I:56) | 6.6 | 1.9 | 1,384 (33.3) |
| Multivisceral | 2,403 | 7 (I:38) | 2.4 | 1.6 | 377 (21.6) |
| Pancreas | 41 | 4 (I:12) | 0.1 | 0.1 | 29 (53.8) |
| Small Bowel | 1,247 | 12 (I:21) | 1.1 | 1.9 | 130 (20.3) |

Total | 23,782 | 5 (I:17) | 22.8 | 1.5 | 4,104 (28) |

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