antifungals. Only 66.7% of patients with a proven or probable IFI survived through 12 weeks, compared with 92.2% of those without ($P = 0.007$). Baseline absolute neutrophil count ≤500 cells/μL and longer duration of neutropenia were significantly associated with development of proven or probable IFIs.

Conclusion. Among patients receiving induction chemotherapy for AML, IFIs due to Candida and mold remain frequent absent antifungal prophylaxis and are associated with worse survival. Our findings support the use of antifungal prophylaxis in this patient population.

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1736. Evaluation of Targeted vs. Universal Antifungal Prophylaxis (AP) for Invasive Fungal Infections (IFI) After Lung Transplant (LTx)

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Background. LTx patients (pt) are at increased risk for IFI. Systemic AP is widely used, but the optimal strategy remains unclear. Our LTx program changed from universal to targeted AP in July 2016; we compared outcomes between the 2 strategies.

Methods. All adult pt who underwent LTx at U. Michigan from July 1, 2014 to December 31, 2017 were studied for 18 mo post-LTx. Universal AP consisted of itraconazole (itra) ± inhaled liposomal amphotericin-B (iAmB) for 6 months. Pt received targeted AP with voriconazole for 3 months if they had a history of pre-LTx *Aspergillus* colonization or invasive pulmonary aspergillosis (IPA); 14 days of a yeast-active azole was given if donor or recipient had *Candida* colonization at the time of LTx. All other pt received no AP. Demographics, LTx characteristics, occurrence of proven/probable IFI defined by EORTC/MSG criteria, and mortality data were recorded.

Results. Of 105 LTx patients, 73 (70%) were men and 84 (80%) received a double LTx. The most common indication for LTx was idiopathic pulmonary fibrosis (38, 36%). Of 59 pt receiving universal AP, 36 (61%) received itra, and 23 (39%) received itra+iAmB; outcomes did not differ between these 2 regimens. Of 46 patients in the targeted AP cohort, 10 (22%) received antifungals based on predefined criteria. Overall, 19 proven/probable IFI occurred: 14 IPA, 3 invasive *Candida* infections, 1 *Cryptococcus* pneumonia, and 1 mold wound infection. IFI occurred in 5 patients (8%) in universal AP group vs. 13 patients (28%) in targeted AP group, $P = .008$. All but 1 IFI in the targeted AP group occurred among pt for whom antifungals were not recommended or given. IPA occurred in 4 patients (7%) in universal AP group and 9 patients (20%) in targeted AP group, $P = 0.05$; *Candida* infections occurred only among patients in the targeted AP cohort. Time to IFI was similar between the 2 AP strategies with the majority occurring <180 days post-LTx (median 109 days). Death occurred in 11 patients (8 in the universal AP cohort and 3 in the targeted AP cohort, $P = .34$); no deaths were related to IFI.

Conclusion. When compared with universal AP, targeted AP strategy was associated with a significant increase in IFI post-LTx. Universal AP for 6 months appears to be more effective than our targeted AP strategy for prevention of IFI post-LTx.

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1737. Impact of Therapeutic Drug Monitoring (TDM) of Azole Prophylaxis in Lung Transplant Recipients on the Development of Positive Fungal Events

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Background. The utility and clinical impact of therapeutic drug monitoring (TDM) of prophylactic azole antifungals in lung transplant recipients is not well described. The objective of this study was to investigate the impact of TDM of azole prophylaxis in lung transplant recipients on the development of positive fungal events.

Methods. A retrospective analysis was performed on 47 lung transplant recipients between 2013 and 2018 at Northwestern Memorial Hospital. A positive fungal event was defined as fungal species on BAL culture and/or positive BAL *Aspergillus* galactomannan (GM) with an index value ≥1.0. Study groups were defined based on attainment of therapeutic trough levels after initiation of oral therapy (therapeutic if posaconazole level ≥0.7 μg/mL or voriconazole ≥1–5.5 μg/mL, subtherapeutic if ≥2 consecutive levels of posaconazole <0.7 μg/mL or voriconazole <1 μg/mL after initial dose increase).

Results. There were no differences in baseline characteristics (Figure 1). There were a total of 11 fungal events with 3 (12.0%) occurring in the therapeutic cohort and 8 (36.4%) in those subtherapeutic ($P = 0.08$). In the 5 patients with a positive GM, the mean index was 2.02 ± 0.95. 7/30 (23.3%) of patients on posaconazole had a fungal event, with 2/7 (28.6%) requiring treatment at the time of event. For patients on voriconazole, 4/17 (23.5%) had a fungal event, with 1/4 (25.0%) requiring treatment. Mean time to fungal event was 164.5 ± 8.9 days vs. 135.9 ± 13.7 days in the therapeutic and subtherapeutic group, respectively ($P = 0.05$).

All patients on posaconazole suspension who experienced a fungal event were subtherapeutic (3/3, 100%) compared with the majority of patients on posaconazole delayed release (DR) tablets who achieved therapeutic levels (17/22, 77.3%). Mean posaconazole trough level observed in the patients receiving DR tablet was 2.15 ± 0.95 μg/mL.

Conclusion. There was an association between two consecutive subtherapeutic azole prophylaxis levels and positive fungal events indicating a role for TDM in lung transplant recipients. Time to fungal event post-transplant was shorter in subtherapeutic patients. As anticipated, the use of posaconazole suspension resulted in subtherapeutic levels. This study presents an opportunity for further research of the impact of TDM on clinical outcomes to optimize patient care.

	Therapeutic (n= 25)	Subtherapeutic (n= 22)
Age, years (mean ± SD)	57.9 ± 11.7	57.3 ± 12.6
Male (n, %)	15 (60.0%)	8 (36.4%)
Underlying lung disease (n, %)		
COPD	7 (28.0%)	7 (31.8%)
CF	3 (12.0%)	1 (4.5%)
Interstitial Lung Disease	6 (24.0%)	9 (40.9%)
Emphysema	1 (4.0%)	0 (0%)
PAH	2 (8.0%)	2 (9.1%)
Other	6 (24.0%)	3 (13.6%)
Type of lung transplant (n, %)		
Single Lung	9 (36.0%)	9 (40.9%)
Double Lung	16 (64.0%)	13 (59.1%)
Induction therapy (n, %)		
Basiliximab with methylprednisolone	19 (76.0%)	18 (81.8%)
Methylprednisolone alone	6 (24.0%)	4 (18.2%)

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1738. Incidence and Outcomes of Hospitalization with Invasive Fungal Infection Among Solid-Organ Transplant Recipients: A Population-Based Cohort Study

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Background. Invasive fungal infection (IFI) in solid-organ transplant (SOT) recipients is associated with significant morbidity and mortality. The long-term probability of post-transplant IFI is poorly understood.

Methods. We conducted a population-based cohort study using linked administrative healthcare databases from Ontario, Canada to determine the incidence rate, 1-, 5- and 10-year cumulative probability of IFI-related hospitalization, and 1-year post-IFI all-cause mortality in SOT recipients from 2002 to 2016. We also examined post-IFI death-censored graft failure in renal transplant patients.

Results. We included 9326 SOT recipients (median follow-up 5.35 years). Overall, the incidence of IFI was 8.3 per 1000 person-years (95% confidence interval [CI]: 7.5–9.1). The 1-year cumulative probability of IFI was 7.4% (95% CI: 5.8–9.3%), 5.4% (95% CI: 3.6–8.1%), 1.8% (95% CI: 1.3–2.5%), 1.2% (95% CI: 0.5–3.2%), and 1.1% (95% CI: 0.9–1.4%) for lung, heart, liver, kidney-pancreas, and kidney-only transplant recipients, respectively. Lung transplant recipients had both the highest incidence rate and the highest 10-year probability of IFI: 43.0 per 1,000 person-years (95% CI: 36.8–50.0) and 26.4% (95% CI: 22.4–30.9%), respectively. Lung transplantation was also associated with the highest 1-year cumulative probability of post-IFI all-cause mortality (40.2%,95% CI: 33.1–48.3%). Among kidney transplant recipients, the 1-year probability of death-censored graft failure after IFI was 9.8% (95% CI: 6.0–15.8%).

Conclusion. The 1-year cumulative probability of IFI varies widely among SOT recipients. Lung transplantation was associated with the highest incidence of IFI with considerable 1-year all-cause mortality. The findings of this study considerably improved our understanding of the long-term probability of post-transplant IFI.

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1739. Epidemiology of Invasive Fungal Infections in Allogenic Hematopoietic Stem Cell Transplant Recipients in Utah

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Background. Invasive fungal infections are a leading cause of death in allo-HSCT (allogenic hematopoietic stem cell transplant) recipients. We describe the epidemiology of IFIs (invasive fungal infections) in allo-HSCT recipients at a single institution in Salt Lake City, Utah between 2006 and 2015.