1733. Voriconazole Prophylaxis Following Allogeneic Hematopoietic Stem Cell Transplant: How Much Is Enough, Are Low Voriconazole Levels Associated With Opportunistic Infections, and What Are the Reasons for Discontinuation?

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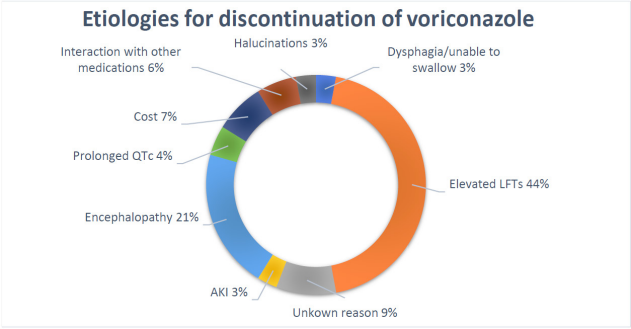
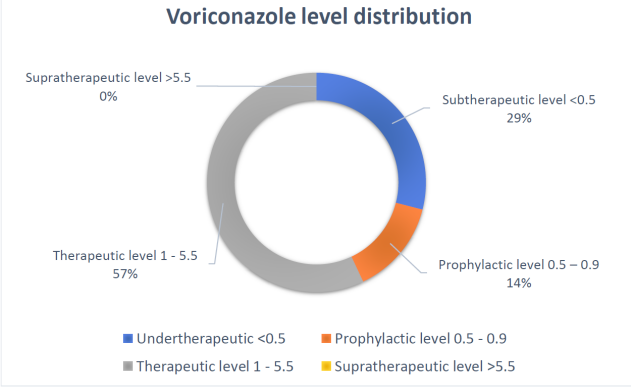
Background. Patients who undergo allogeneic hematopoietic stem cell transplantation (alloHSCT) are at increased risk for invasive fungal infections with associated high morbidity and mortality that necessitates the use of prophylactic antifungals. Voriconazole is commonly used for prophylaxis, but there are no recommendations for therapeutic drug monitoring. The purpose of this study was to characterize voriconazole therapeutic drug monitoring and associated outcomes in this patient population.

Methods. AlloHSCT patients receiving voriconazole prophylaxis at the University of Alabama at Birmingham Hospital between March 2015 and March 2018 were included in the analysis. Serum voriconazole levels (SVL) were evaluated to determine what percentage of patients achieved prophylactic or therapeutic concentrations. Incidence of invasive fungal infections (IFI) and voriconazole discontinuation was also assessed.

Results. Voriconazole prophylaxis was used in 151 of 162 alloHSCT patients, and 120 patients (79%) had SVL drawn correctly (≥4 days after initiation of course). We found that 35 (29%) patients achieved a subtherapeutic level (<0.5 μg/mL), 17 (14%) prophylactic level (0.5 to 1 μg/mL), 68 (57%) therapeutic level (1 to 5.5 μg/mL), and no patients achieved a supratherapeutic level (level ≥5.5 μg/mL). Voriconazole prophylaxis was discontinued early in 60 of 151 patients. Most common etiologies for discontinuation included liver function test abnormalities (44%) and encephalopathy (21%). The average SVL was 1.2 μg/mL in those requiring discontinuation. Four patients (3%) developed an IFI while receiving prophylactic voriconazole, of which only 1 had subtherapeutic level.

Conclusion. Even though approximately one-third of patients achieved a subtherapeutic SVL, there was no correlation with breakthrough IFI. There was also no linear correlation between SVL and risk of adverse effects requiring discontinuation. Our observational data do not support a need for therapeutic drug monitoring in alloHSCT patients receiving prophylactic voriconazole.





Disclosures. **All authors:** No reported disclosures.

1734. Antifungal Prophylaxis in Allogeneic Hematopoietic Stem Cell Transplantation: A Single-Center Experience in Colombia

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Background. Invasive fungal infections (IFI) are significant causes of morbidity and mortality among patients with hematopoietic stem cell transplantation (HSCT). Primary antifungal prophylaxis has lowered the IFI cases however there is no clear guidance regarding which mold active agent is most useful if mold-active prophylaxis. We aim to present the incidence of IFI in patients with allogeneic HSCT, and the impact of primary antifungal prophylaxis regimen.

Methods. Retrospective cohort study. We included patients older than 18 years, with allogeneic HSCT from Fundación Valle del Lili, between January 2008 and April 2017. The patients received antifungal prophylaxis with fluconazole, itraconazole, or posaconazole from conditioning day to +100 post-transplant day. The prophylactic antifungal agent was selected according to the initial diagnosis, transplant type, conditioning regimen and the risk of developing GVHD. All patients received myeloablative conditioning regimens and were hospitalized in laminar airflow rooms during their period with neutropenia. The cases were defined according to the EORTC/MSG Consensus Group. We analyzed patients with probable or confirmed IFI, in the first 120 post-transplant days.

Results. We enrolled a total of 101 patients who received HSCT over the course of the study. The median age was 32 (23–43). Posaconazole prophylaxis was used in 73%, fluconazole in 18% and itraconazole 10% of the patients. The IFI incidence was 3.9% (4 cases) and the median time from HSCT to the diagnosis of IFI was 60 days. The percentages of patients who experienced probable IFI in the itraconazole arm was 22% (2/9 patients) and in the fluconazole arm 11.1% (2/18), there was no infection in the posaconazole group ($P = 0.001$). Donor sources were HLA-matched sibling (42%), Haploidentical (48%), and cord blood (10%). The cumulative incidence of grade I–IV aGVHD was 63.4% and that of grade III–IV aGVHD was 37.5%.

Conclusion. In patients undergoing HSCT posaconazole prevented invasive fungal infections more effectively than did either fluconazole or itraconazole.

Variable	Total	Itraconazole	Fluconazole	Posaconazole	p
	n=101	n=9	n=18	n=74	
Age, median (IQR)	32 (23-43) 17-62	37 (24-46) 22-58	29 (22-42) 18-62	31.5 (23-43) 17-60	0,709
Male, n(%)	52 (51)	6 (66)	5 (27)	41 (55)	0.069
Diagnosis					0,010
ALL	40 (39,6)	2 (22,2)	11 (61,1)	27 (36,5)	
AML	37 (36,6)	1(11,1)	4 (22,2)	32 (43,2)	
NHL	2 (2)	2 (22,2)	0	0	
Medullary failure	13 (13)	2 (22,2)	3 (16,7)	8 (10,8)	
CML	3 (3)	0	0	3 (4,1)	
MDS	1 (1)	0	0	1 (1.4)	
other*	5(5)	2 (22,2)	0	3 (4,1)	
Transplant					0,092
Identical	43 (42,6)	7 (77,7)	6(33,3)	30 (40,5)	
Haploidentical	48 (47,5)	1(11,1)	9 (50)	38 (51,3)	
Cord	10 (9,9)	1(11,1)	3 (16,7)	6 (8,1)	
Accute GVHD	64 (63,4)	6 (66,7)	13 (72,2)	45 (60,8)	0,698
GVHDa grado III-IV	24 (37,5)	5 (83,3)	1 (7,7)	18 (40)	0,006
CMV reactivation	62 (61,4)	4 (44,4)	11 (61,1)	47 (63,5)	0,526
IFI	4	2 (22.2)	2 (11.1)	0	0,001

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1735. Epidemiology of Invasive Fungal Infections During Induction Chemotherapy in Adults With Newly Diagnosed Acute Myeloid Leukemia Without Antifungal Prophylaxis: A Retrospective Cohort Study

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Background. While invasive fungal infections (IFIs) are common in patients with acute myeloid leukemia (AML) undergoing induction chemotherapy, little current data exist on the epidemiology of IFIs in this patient population given widespread use of antifungal prophylaxis. Because our institution does not administer antifungal prophylaxis, we are in a unique position to study the natural history of IFIs in these patients.

Methods. We evaluated the incidence of IFIs using established definitions in adults with AML undergoing induction chemotherapy at Stanford Health Care from 2012 to 2017. We also analyzed incidence of antifungal treatment, impact of IFI diagnosis on survival, and risk factors for IFI development. Patients were followed for up to 12 weeks after beginning induction chemotherapy.

Results. Of 488 patients analyzed, 243 were eligible for inclusion. The median age was 57 (interquartile range 45–65). Men composed 134 (55%) of the patients and 157 (65%) where white. Fifty-four (22%) had antecedent myelodysplastic syndrome; most received a "7 + 3" regimen involving cytarabine and an anthracycline. Thirty-one (13%) developed a proven or probable IFI; 104 (43%) developed a proven, probable, or possible IFI. Most IFIs were due to lower respiratory tract disease. Eighteen identified organisms were Candida, including six *C. albicans*. Eight organisms were mold, including four Aspergillus isolates (all but one *A. fumigatus*) and one isolate each of *Fusarium solani*, *Rhizomucor*, *Rhizopus*, and *Scedosporium apiospermum*/*Pseudallescheria boydii*. One hundred ninety patients (78%) received antifungals during their initial admission and 99 (46%) of patients surviving their initial admission were discharged on