P0087
Poster Session I
Confronting fungal infections

IMPACT OF PRIOR VORICONAZOLE EXPOSURE ON FREQUENCY OF MIXED FUNGAL INFECTIONS IN PATIENTS WITH INVASIVE MUCORMYCOSIS

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Table 1. Comparisons of cases between Pure *Mucorales* and Mixed IFI`s

Variable	Pure *Mucorales* (n=75)	Mixed (n=26)	*P* Value
At-Risk Group			0.454
SOT	11 / 75 (15%)	6 / 26 (23%)	
SCT	12 / 75 (16%)	6 / 26 (23%)	
H/O	39 / 75 (52%)	9 / 26 (35%)	
Other	13 / 75 (17%)	5 / 26 (19%)	
IM Site			0.166
Rhino/Orbital/Cerebral	17 / 75 (23%)	5 / 26 (19%)	
Pulmonary/Lung	29 / 75 (39%)	16 / 26 (62%)	
Abdominal/Other	17 / 75 (23%)	4 / 26 (15%)	
Multiple Sites	12 / 75 (16%)	1 / 26 (4%)	
Certainty of IM			0.066
Definite	62 / 75 (83%)	17 / 26 (65%)	
Probable	13 / 75 (17%)	9 / 26 (35%)	
Prior antifungal use	47 / 75 (63%)	23 / 26 (88%)	0.014
Antifungal Exposure			0.745*
Non-active against filamentous fungi	19 / 47 (40%)	7 / 23 (30%)	
Active against *Aspergillus* but not *Mucorales*	26 / 47 (55%)	15 / 23 (65%)	
Active against both *Aspergillus* and *Mucorales*	2 / 47 (4%)	1 / 23 (4%)	
Surgical debridement	48 / 75 (64%)	13 / 26 (50%)	0.208
Neutropenic at diagnosis of IM	29 / 74 (39%)	8 / 26 (31%)	0.444
Post-Dx Treatment (by 14 day conditional analysis):			0.566*
0-6 days of therapy	11 / 52 (21%)	7 / 22 (32%)	
AMB alone	27 / 52 (52%)	9 / 22 (41%)	
AMB in combination w/ CASPO and/or POSA	13 / 52 (25%)	5 / 22 (23%)	
CASPO/POSA/VORI combinations w/o AMB	1 / 52 (2%)	1 / 22 (5%)	
Deaths, # events (K-M)+			
At 30-day follow-up	25 (34%)	5 (21%)	0.207
At 90-day follow-up	34 (47%)	7 (29%)	0.136
At 1-yr follow-up	43 (59%)	12 (51%)	0.295

Abbreviations: AMB = Amphotericin product, CASPO = caspofungin, IM = invasive mucormycosis, POSA = posaconazole, VORI = voriconazole

Objectives: To assess the incidence of invasive mucormycosis (IM) with or without other invasive filamentous fungal infections (IFI), stratified by at-risk groups, in the era of voriconazole use and compare it to patients who developed IM prior to voriconazole availability

Methods: We reviewed all cases of IM from 1995 to 2011. Cases of IM were categorized as 'mixed' if one or more other fungi were isolated or identified from the same specimen in which *Mucorales* was found. We divided these into 2 eras: E1 from 1995-2003 before voriconazole, E2 from 2004-2011 when voriconazole was available. We defined 4 at-risk groups: solid organ transplant patients (SOT); stem cell transplant patients (SCT); non-transplant patients with hematologic or oncologic disorders (H/O); non-transplant, non-H/O patients. We compared clinical, mycologic, treatment, and outcome data between era`s and between pure IM and mixed IFI`s groups.

Results: We identified 101 IM cases (79 proven, 22 probable) in study period; 30 cases were in E1 and 71 cases in E2. No significant differences were noted in age (p=0.83), gender (p=0.47), or rates of pure IM vs. mixed IFI`s (p=0.12), between E1 and E2. When combining the frequency across eras, 75 cases were pure *Mucorales* while 23 had *Mucorales* in combination with *Aspergillus* spp. and 3 had *Mucorales* in combination with *Alternaria*.

Between E1 and E2, there were significant differences in prior use of any antifungal agent (50% vs. 74%, p=0.02); and in the spectrum of prior antifungal used (yeast only, 80% vs. 25%; molds but not *Mucorales*, 7% vs. 73%; molds including *Mucorales*, 13% vs. 2%; p<. 001). Despite significant differences between E1 and E2 in the rates of prior antifungal exposure, in the type of antifungal used, the distribution of cases across these categories of pure versus mixed IFI`s was not significantly different between eras (p=0.12)

No significant differences were noted in the rates neutropenia (p=0.44), or of surgical debridement between the two groups (p=0.2).

When comparing 90-day survival curves for pure *Mucorales* versus mixed IFI`s (*Mucorales* and *Aspergillus* or *Alternaria*), there was a trend towards better survival in the mixed group (p=0.136).

Conclusions: Prior exposure to voriconazole does not change the frequency of mixed IFI`s versus *Mucorales* only, in patients with IM. A high level of suspicion for mixed IFI`s or IM is required, as empiric therapy with voriconazole for presumed IA can significantly delay start of appropriate therapy for IM or mixed IFI.