Conclusion. Our culture results were exceedingly low in part due to some samples not being collected for fungal culturing and having to send-out the samples. The average age was consistent with the endemic region of Tennessee around 59 the previous 10 years. 2/3 of the patients were tobacco abusers which may have contributed to some impaired ability to clear the fungal spores. Less than half of the patients were elderly, diabetic, immunosuppressed, or intravenous drug users therefore endemic inoculation may still be the main cause.

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

1161. Effectiveness of Posaconazole in the Treatment of Rare Invasive Fungal Infections: A Systematic Literature Review

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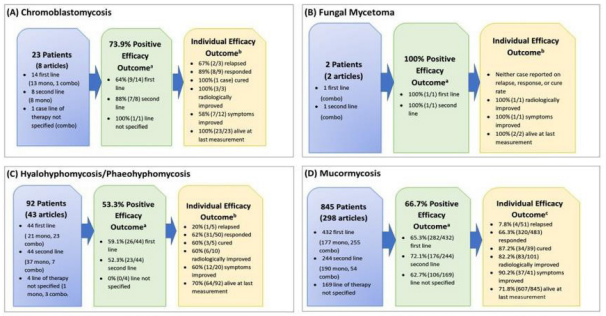
Session: P-52. Medical Mycology

Background. Rare invasive fungal infections (IFIs) such as chromoblastomycosis (CBM), fungal mycetoma (mycetoma), hyalohyphomycosis/phaeohyphomycosis (hyalo/phaeo), and mucormycosis (mucor) cause significant morbidity and mortality in immunocompromised patients. Few effective treatment options are available for these IFIs, therefore we assessed the clinical efficacy of posaconazole, a broad-spectrum triazole antifungal compound with demonstrated activity against IFIs.

Methods. We performed a systemic literature review of Medline and EMBASE to identify studies published from 2005 (year of posaconazole approval) to October 30, 2019, reporting the efficacy/effectiveness of posaconazole monotherapy or combination therapy for treating CBM, mycetoma, hyalo/phaeo, and mucor. Two reviewers screened and extracted data based on predefined PICOS criteria. Effectiveness outcomes included cure, response, relapse, radiologic improvement; mortality and any other effectiveness measures reported. Study quality was assessed using National Institute for Health and Care Excellence-recommended checklists. A narrative descriptive summary was used to summarize study findings.

Results. Of 2612 articles identified, 351 articles (mostly case reports) were included. Positive clinical outcomes with posaconazole therapy were observed in most patients with CBM (73.9%, 17/23), mycetoma (100%, 2/2), hyalo/phaeo (53.3%, 49/92), and mucor (66.7%, 564/845). The population for mycetoma was small; only 2 positive cases (Figure). Overall survival was ~70% or greater across the IFIs examined. Posaconazole efficacy and mortality differed by line of therapy as well as for monotherapy versus combination therapy. Positive response was higher in second line monotherapy than first line monotherapy in CBM and mucor. Higher mortality was observed with combination therapy than monotherapy in hyalo/phaeo and mucor infections (except for first line use in mucor).

Figure. Overall Results of Posaconazole Treatment



[a] Positive response is defined as any reported positive efficacy measure (i.e., no relapse, response, cure, radiological improvement, clinical / symptom improvement, or survived therapy)
[b] Denominator is the number of cases in the literature reporting each individual efficacy outcome. Some cases may have reported multiple efficacy outcomes and are counted in more than one efficacy result.
[c] Negative or no response is defined as reporting of a negative efficacy measure (i.e., no relapse, response, cure, radiological improvement, clinical / symptom improvement, or survived therapy) or no change in efficacy status with treatment.

Conclusion. Despite the rarity of these IFIs, substantial data have been published since posaconazole's initial approval in the year 2005, and the evidence demonstrates that posaconazole is an effective therapeutic option alone or in combination for the treatment of these rare IFIs.

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1162. Engraftment fever (EF) in Pediatric stem cell transplantation (SCT): Risk Factors, Etiology and Outcomes

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Background. Engraftment fever (EF) during stem cell transplantation (SCT) is likely due to non infectious causes like immune reconstitution syndrome (IRS) or engraftment syndrome (ES). Few studies have looked at the rate of infection causing fever during engraftment. There is no good evidence to guide the approach to evaluation and empiric treatment of infections during EF.

Methods. Retrospective record review of pediatric SCT (autologous and allogenic) patients with a diagnosis of febrile neutropenia (FN) during engraftment period (days +7 to +30 post transplant). FN episodes classified as either EF or non-engraftment fever (NEF). EF = new onset fever in temporal relationship to neutrophil recovery (4 days before through 1 day after neutrophil engraftment (ANC >500/mm^3). NEF = fever without signs of neutrophil recovery (ANC < 100/mm^3 without significant rise ±4 days of fever onset). Only first FN during engraftment was included. Episodes meeting neither criteria were excluded.

Results. 112 patients had 115 FN episodes (FNEs) identified: NEF 81 (71.5%); EF 34 (29.5%). In multivariable analysis: Neuroblastoma as underlying diagnosis (odds ratio [OR]=3.2, 95% CI 2.31-6.54, P< 0.01), G-CSF administration before day +7 (OR=2.8, 95% CI 1.92-4.65, P=0.03), absolute monocyte count (AMC) >100/mm^3 at FN presentation (OR=2.9, 95% CI, 1.11 to 7.55, P=0.02), were associated with an increased risk of EF compared with NEF. Most EF episodes (26/34, 76%) had no specific infectious etiology identified; 8 had IFIs (24%) [3 proven, 2 probable, 3 possible). IFI rate was higher in EF than NEF group (24% vs 5%) (OR=4.5, 95% CI, 2.11 to 9.55, P< 0.01. EF episodes were more likely to be admitted to the intensive care unit (OR=2.3, 95% CI, 1.88 to 6.35) and had higher 30-day mortality (OR =4.52, 95% CI, 0.37 to 6.55) than NEF.

Table 3

Table 3. Outcomes associated with Engraftment fever compared with NEF

	NEF		EF						
	N	%	N	%		OR	LCI	UCI	P-value
Total	81	100	34	100	.				
PICU					**0.04**				**0.04**
Yes	17	21.31	13	38.24	.	2.365	0.881	6.352	
No	64	78.69	21	61.76	.	Reference			
Died					**0.001**				**0.001**
Yes	2	2.4	4	11.76		4.528	0.357	6.55	
No	79	97.6	30	88.24	.	Reference			

table 2

Table 2. Infections associated with Engraftment fever compared with NEF

	NEF		EF						
	N	%	N	%		OR	LCI	UCI	P-value
Total	81	100	34	100	.				
fungal					**0.01**				0.01
Yes	6	7.49	8	23.41	.	3.85	1.32	8.228	
No	75	93.5	24	70.59	.	Reference			
fungal_type4					**0.01**				0.01
None	75	67.21	24	70.59	.	Reference			
Possible	4	13.11	3	17.65	.	1.302	0.375	4.522	
Probable	1	9.84	2	5.88	.	0.547	0.093	3.231	
Proven	1	9.84	3	5.88	.	0.58	0.098	3.433	
BSI					**0.03**				0.03
Yes	15	18.03	1	2.94	.	0.138	0.016	1.205	
No	66	81.97	33	97.06	.	Reference			
PNA					**0.04**				0.05
Yes	5	8.2	0	0	.	5.03	2.30	8.49	
No	76	91.8	34	100	.	Reference			
VURTI					**0.01**				0.01
Yes	11	18.03	0	0	.	10.925	4.38	18.21	
No	50	81.97	34	100	.	Reference			

Conclusion. Engraftment fever may have an infectious component. Work-up to exclude IFI and empirical antifungal therapy should be considered especially with prolonged fever and supportive clinical or radiological data. Large multi-center prospective studies are needed to further define infectious complications and determine the approach to engraftment fever. Early detection of IFI in this high-risk group may lead to improved morbidity and mortality.

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1163. Epidemiology of Candidemia: Can Candida Spread from Patient to Patient in the Hospital?

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Background. Candidemia has become an increasingly important infection in recent years. Antifungal drug resistance in non-albicans species of Candida is increasingly common. Recent global emergence of *Candida auris* is a concern, owing to person-to-person transmission and survival on fomites. Our study aimed to determine if hospital transmission of diverse *Candida* species is occurring similar to what is seen