

Simplified Guide to Diagnosis and Treatment of Invasive Fungal Infections in Immunocompromised Patients

Yeasts (Unicellular)			Dimorphics (Endemic fungi) Histoplasma Blastomycosis Coccidioidomycosis Para-coccidioidomycosis Sporothrix	Molds (Multicellular)	
Non-albicans candida	Candida albicans	Cryptococcus		Aspergillus	Mucor and other molds
★ Fluconazole					
			Itraconazole ★		
				Voriconazole ★	
Posaconazole					
Isavuconazole					
★ Fungins					
Amphotericin					
1,3 B-glucan			?	1,3 B-glucan	
					Galactomannan

★ = best use

Notes on 1,3 Beta-Glucan:

1. Pneumocystis Carinii(PCP) is a yeast that is not depicted on this chart that will cause an elevated 1,3 beta glucan level
2. Cryptococcus and Mucor species do not express 1,3 beta glucan
3. False positive beta glucan elevations can occur with IVIG, albumin, and beta lactamase inhibitors

***Amphotericin** is effective against *almost* all invasive fungal infections with the following rare exceptions (don't memorize)

-Yeast: *Candida lusitanae* (susceptible to -fungins),

-Dimorphic: *Chromoblastomycosis* (susceptible to itraconazole)

-Molds:

-*A. terreus*, an uncommon aspergillus species (susceptible to voriconazole),

-*Scedosporium* (effective therapy unclear)

-Some *Fusarium* species (effective therapy unclear)

Common Clinically Significant Toxicities by Class				Azole to Azole comparisons	
	-Azoles	-Fungins	Amphotericin		
Hepatotoxicity	+++	+	+	Hepatotoxicity	Vori slightly worse than Posa and Isa
Nephrotoxicity	-	-	++	Visual Effects	Vori worse than others. But usually self-limited
Cyp450 interactions	+++	-	-	Qt Prolongation	Vori worse than others. Isa may shorten Qt
Qt prolongation	+	-	-	Pseudohyperaldosteronism	Posa worse than others

Disclaimer: This handout is for teaching purposes only. It is not intended for direct translation into clinical practice. Consult an updated reference before making any treatment decision. The opinions are the author's own and do not reflect the viewpoints of the infectious disease or hematology/oncology divisions of BIDMC.