EV0750
ePoster Viewing
Fungal disease epidemiology & clinical trials

Emerging yeasts in a tertiary healthcare set up

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Background: Emerging organisms are organisms that have newly appeared in a cohort/population or have existed but are rapidly increasing in incidence, geographic or host range. One-tenth of all infectious diseases are attributable to emerging organisms. Operationally defining an organism as emerging is a subjective endeavour. As emerging organisms sporadically affect a relatively small percentage of population, they are not studied at large. This study was aimed at studying the characteristics of emerging yeasts at a tertiary care hospital.

Material/methods: 33836 positive isolates obtained from 132646 processed samples during 2011-14 were included. Identification percentage >85% along with inbuilt standards for identification comparison were considered for final validation through automated systems. Non repeat positive cultures were interpreted in conjunction with colony characteristics, cellular morphology, disc-diffusion antifungal susceptibility patterns, clinical correlates and environmental surveillance. The frequency of isolation, sources, referring centres, susceptibility profiles and phenotypic characteristics were studied. A literature search was done to identify reports on human pathogenicity and yeasts reported fewer than 100 times on PubMed were defined as emerging.

Results: 332 (0.98%) yeasts were isolated from 33836 isolates, of which 174 isolates including 14 yeast species were found emerging. Non-albicans Candidemia was caused by 84 emerging non-albicans Candida isolates comprising ten species in multidisciplinary ICU, NICU and bone marrow transplant centre. Non-albicans Candida species such as *haemulonii, famata, rugosa, guilliermondii, lusitaniae, utilis, zeylanoides, sphaerica, krusei* and *intermedia* were isolated along with *Trichosporon asahii, Trichosporon inkin, Malassezia furfur* and non-noeformans Cryptococcus. All non-albicans Candida species were multidrug resistant and led to frank sepsis in 24 patients. Environmental surveillance was not corroborative.

Conclusions: Emerging yeasts may infect compromised hosts and pose difficulty in management due to inadequate identification and multidrug resistance. Astute efforts directed at identification of emerging organisms and containment of infection are required.

S. No.	Yeasts (14)	No (87)	Source (s)	Referring centre	Resistance	Susceptibility	Characteristics	Pubmed records
1.	*Cryptococcus laurentii (Filobasidiella)*	20	Pus, Blood	ICU	Azoles	Amphotericin B	Urease -, Germ tube -	21
2.	*Candida haemulonii* *C. famata* *C. rugosa* *C. guilliermondii* *C. lusitaniae* *C. utilis* *C. zeylanoides* *C. sphaerica* *C. intermedia*	15 15 4 2 5 2 2 3 3	Blood Blood Blood Blood Body fluid Blood Blood Blood Blood	ICU Multiple Int Medicine BMT Paediatrics ICU ICU ICU ICU	Azoles, Amphotericin B	Echinocandins	Urease -, Germ tube -	10 17 19 40 60 10 6 Nil

	C. krusei	3	Urine	Int Med				
3.	*Malassezia furfur*	2	Misc	ICU	Multisensitive	Multisensitive	Urease -, Germ tube -	166
4.	*Trichosporon asahii* *T. inkin*	10 1	Urine Urine	ICU, Burn, Int Med	Azoles	Amphotericin B	Urease +, Germ tube -	83

Table: Emerging Yeasts

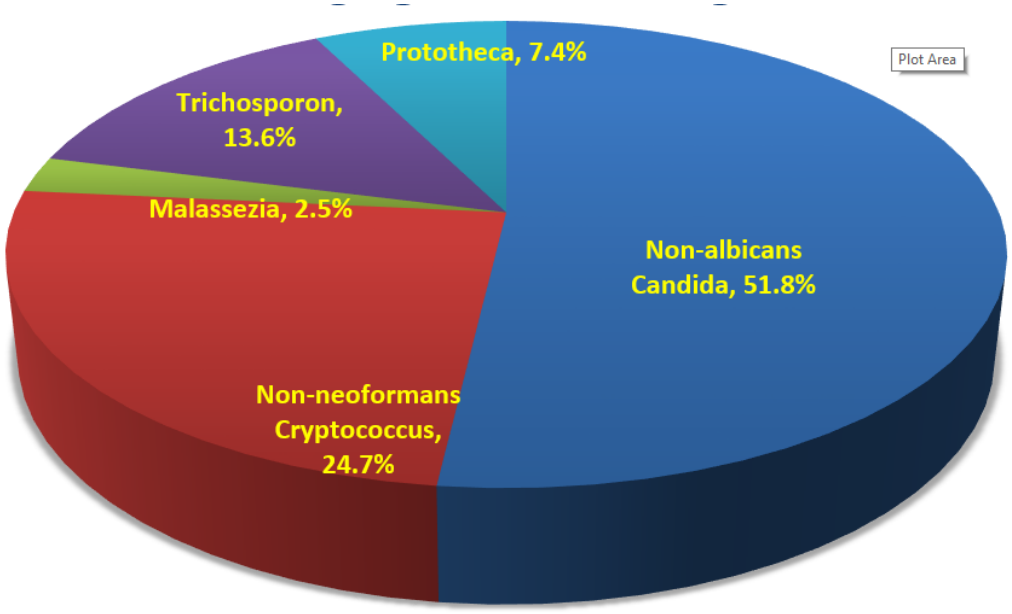

Figure: Distribution of emerging yeasts