

# EMERGING YEASTS IN A TERTIARY HEALTHCARE SET UP EV0750

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## INTRODUCTION

## RESULTS

## DISCUSSION

### Emerging Organisms

- Newly appeared in a cohort or
- Existed but are increasing in incidence, geographic or host range or
- Recently discovered agents of known diseases
- 10% infectious diseases attributable to emerging organisms
- 50% are bacteria
- 10% are fungi
- Immunocompromised hosts
- Opportunistic pathogens
- Defining emergence is subjective
- Emerging organisms not studied at large
- Article aimed at studying frequency, sources, resistance profiles, and Phenotypic characteristics of emerging yeasts

## METHODS

- 132646 samples processed
- 33836 positive isolates
- Standard isolation techniques
- Vitek 2 automated system
- Non repeat positive cultures interpreted with colony characteristics, cellular morphology, clinical correlates & environmental surveillance
- Frequency of isolation, sources, referring centre, susceptibility profiles And phenotypic characteristics

S. No.	Yeasts (14)	No (87)	Source (s)	Referring centre	Resistance	Susceptibility	Characteristics
1.	<i>Cryptococcus laurentii</i>	20	Pus, Blood	ICU	Azoles	Amphotericin B	Urease -, Germ tube -
2.	<i>Candida haemulonii</i>	15	Blood	ICU	Azoles, Amphotericin B	Echinocandins	Urease -, Germ tube -
	<i>C. famata</i>	15	Blood	Multiple			
	<i>C. rugosa</i>	4	Blood	Int Medicine			
	<i>C. guilliermondii</i>	2	Blood	BMT			
	<i>C. lusitaniae</i>	5	Body fluid	Paediatrics			
	<i>C. utilis</i>	2	Blood	ICU			
	<i>C. zeylanoides</i>	2	Blood	ICU			
	<i>C. sphaerica</i>	3	Blood	ICU			
	<i>C. intermedia</i>	3	Blood	ICU			
3.	<i>Malassezia furfur</i>	2	Misc	ICU	Multisensiti ve	Multisensitive	Urease -, Germ tube -
	<i>Trichosporon asahii</i>	10	Urine	ICU, Burn, Int	Azoles	Amphotericin B	Urease +, Germ tube -
<i>T. inkin</i>	1	Urine	Med				

### Emerging Organisms

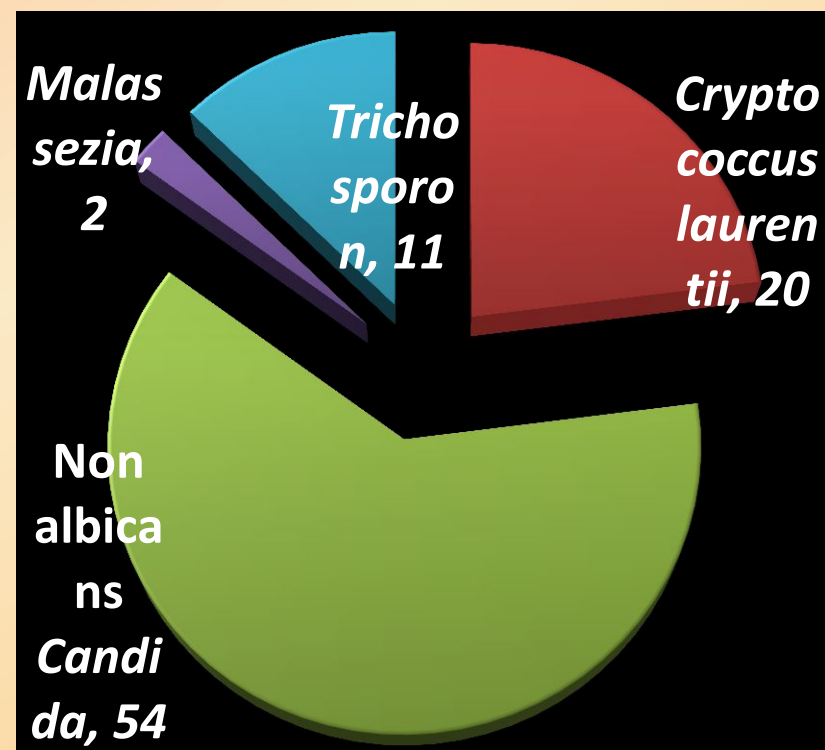
- Most patients - ICU and Medicine
- Fungal opportunistic infections in patients on long term parenteral antibacterials
- Emerging organisms elude laboratory set up
- Processes involved in microbial invasion, colonization, infection, clinical presentation, lab diagnosis, interpretation, treatment are complex and cannot be standardized.

### Laboratory Diagnosis

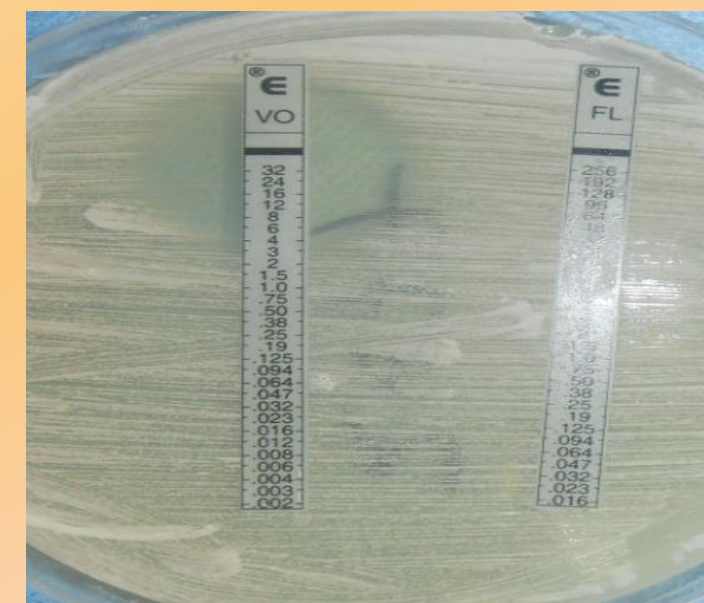
- Difficult to identify
- Inadequate sampling, scanty growth
- Unavailability of selective media
- Likely to be labelled as contaminant
- Unusual resistance patterns
- Automated systems helpful
- Molecular methods have limitations

### Reasons for emergence

- Societal, technological, environmental factors
- Ecological disturbance
- Climate change
- Increased exposure to pathogen reservoirs



*Trichosporon asahii* and *Pseudomonas aeruginosa* on CLED agar from urine sample



*Trichosporon asahii* susceptibility to Voriconazole - E test MIC 3 µg/ml

## CONCLUSION

- Emerging potential pathogens
- Likely to evade standard techniques
- Enhancing lab capacity required
- Ongoing surveillance required
- Biomedical and social interventions
- Effective infection control practices