INTRODUCTION

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

RESULTS

<table>
<thead>
<tr>
<th>No.</th>
<th>Yeasts (14)</th>
<th>Source(s)</th>
<th>Referring centre</th>
<th>Resistance</th>
<th>Susceptibility</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Cryptococcus laurentii</td>
<td>20</td>
<td>Pus, Blood</td>
<td>ICU</td>
<td>Azoles</td>
<td>Amphotericin B</td>
</tr>
<tr>
<td>2.</td>
<td>Candida haemulonii</td>
<td>15</td>
<td>Blood</td>
<td>ICU</td>
<td>Multiple</td>
<td>Azoles, Amphotericin B</td>
</tr>
<tr>
<td></td>
<td>C. famata</td>
<td>15</td>
<td>Blood</td>
<td>Multiple</td>
<td>Int Medicine</td>
<td>BMT</td>
</tr>
<tr>
<td></td>
<td>C. rugosa</td>
<td>4</td>
<td>Blood</td>
<td>ICU</td>
<td>Int Medicine</td>
<td>BMT</td>
</tr>
<tr>
<td></td>
<td>C. guilliermondii</td>
<td>2</td>
<td>Body fluid</td>
<td>ICU</td>
<td>Int Medicine</td>
<td>BMT</td>
</tr>
<tr>
<td></td>
<td>C. lusitaniae</td>
<td>5</td>
<td>Blood</td>
<td>ICU</td>
<td>Int Medicine</td>
<td>BMT</td>
</tr>
<tr>
<td></td>
<td>C. utilis</td>
<td>2</td>
<td>Blood</td>
<td>ICU</td>
<td>Int Medicine</td>
<td>BMT</td>
</tr>
<tr>
<td></td>
<td>C. zeylanoides</td>
<td>2</td>
<td>Blood</td>
<td>ICU</td>
<td>Int Medicine</td>
<td>BMT</td>
</tr>
<tr>
<td></td>
<td>C. sphaerica</td>
<td>3</td>
<td>Blood</td>
<td>ICU</td>
<td>Int Medicine</td>
<td>BMT</td>
</tr>
<tr>
<td></td>
<td>C. intermedia</td>
<td>3</td>
<td>Blood</td>
<td>ICU</td>
<td>Int Medicine</td>
<td>BMT</td>
</tr>
<tr>
<td></td>
<td>C. krusei</td>
<td>3</td>
<td>Urine</td>
<td>Int Med</td>
<td>Multisensitive</td>
<td>Multisensitive</td>
</tr>
<tr>
<td>3.</td>
<td>Malassezia furfur</td>
<td>2</td>
<td>Misc</td>
<td>ICU</td>
<td>Multisensitive</td>
<td>Multisensitive</td>
</tr>
<tr>
<td>4.</td>
<td>Trichosporon asahii</td>
<td>10</td>
<td>Urine</td>
<td>ICU, Burn, Int Med</td>
<td>Azoles</td>
<td>Amphotericin B</td>
</tr>
<tr>
<td></td>
<td>T. inkin</td>
<td>1</td>
<td>Urine</td>
<td>ICU, Burn, Int Med</td>
<td>Azoles</td>
<td>Amphotericin B</td>
</tr>
</tbody>
</table>

DISCUSSION

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

CONCLUSION

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