Candidemia Management and Associated Clinical Outcomes in Hospitalized Patients: An Opportunity for Antifungal Stewardship

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Background

- Candidemia is the 4th most common nosocomial bloodstream infection associated with significant morbidity, mortality, and healthcare costs.
- Optimal candidemia management using a multifaceted and multidisciplinary approach is crucial.
- Antifungal stewardship (AFS) efforts together with IDSA candidemia guidelines may play major roles in improving patient care and outcomes.
- Overall adherence rates to AFS recommendations is as low as 40%.
- Institution-specific guidelines for candidemia management do not exist nor is it an automatic infectious diseases (ID) consultation.

Objective

- Evaluate current candidemia management practices and review associated clinical outcomes to identify potential targets for AFS.

Methods

- IRB-approving, retrospective, observational study.
- Patients with positive blood culture for Candida spp. between July 2016-June 2017.
- Exclusions: Candida spp. clinically judged by provider team to be a contaminant; death before positive blood culture; not hospitalized at time of positive culture; admitted or transferred on suboptimal antifungal therapy.
- Descriptive statistics were used to summarize data.

Primary Outcome

- Time to effective therapy: time (hours) from first positive blood culture to start of an antifungal with in vitro susceptibility.

Secondary Outcomes

- Time to clearance of candidemia: time (hours) from specimen collection to first negative blood culture.
- All-cause in-hospital mortality.

Results

Primary Outcome

- Time (h) to effective therapy – Median (IQR) 0.30 (0.12 – 9.95).

Secondary Outcomes

- Time (h) to clearance of candidemia – Median (IQR) 58 (46.4 – 95.6).
- All-cause in-hospital mortality – N (%) 11 (31).

Fluconazole initial choice (N=11) (deemed suboptimal) N (%) 6 (55).

DISTRIBUTION OF CANDIDA ISOLATES

<table>
<thead>
<tr>
<th>Candida Species</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. albicans AND C. glabrata</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>C. dublinensis</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>C. tropicalis</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>C. parapsilosis</td>
<td>17%</td>
<td></td>
</tr>
<tr>
<td>C. glabrata</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>C. lusitaniae</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>36%</td>
<td></td>
</tr>
</tbody>
</table>

EMPIRIC ANTIFUNGAL THERAPY

- Fluconazole 84%
- Voriconazole 8%
- Caspofungin 61%
- Liposomal Amphotericin B 3%

CLINICAL OUTCOMES BASED ON ID CONSULT RECEIVED

- Suboptimal treatment based on national guidelines and/or local standards of practice.

REFERENCES


CDISCOUSLY

Authors of this presentation have the following to disclose concerning possible financial or personal relationships with commerical entities that may have a direct or indirect interest in the subject matter of this presentation.

- Stephanie Shulder: Nothing to disclose
- Travis B. Dick: Nothing to disclose

CONCLUSION

- Most patients were started on effective antifungal therapy once candidemia was identified.
- ID consult patients were more likely to have catheters removed, receive ≥2 weeks of treatment, ophthalmology consults and ECHOs.
- AFS efforts geared towards establishment of institutional guidelines, candidemia treatment bundles, or mandatory ID consult may be considered to improve current practices of candidemia management.