

Prevalence of *Candida* species isolated from positive blood culture, and its Antifungal susceptibility patterns

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Introduction:

Blood infection due to *Candida* species are major cause of morbidity and mortality in hospitalized patients¹. The increased care of *Candida* infection in blood was raised more frequently as pathogens due to risk factors such as excessive consumption of a broad spectrum antibiotics, organ transplant and prolonged hospital stay.

Objective:

To find out the prevalence of *Candida* infections in positive blood culture isolated in Microbiology department at Princess Iman Center, and find out the susceptibility pattern of antifungal drugs.

Materials and Methods:

Retrospective study was done in microbiology laboratory at Princess Iman Center in the period of Jan.2017 till June.2019. All blood bottle cultures were incubated in Bact/Alert incubators from BioMerieux system and Bactec incubator from BD system. The bottles that gave positive alarm after incubation were observed on wet mount preparation and stained Gram stain, and then the suspected result for *Candida* in wet mount and Gram stain are cultured on Sabouraud agar. A total number of 6300 positive blood culture collected and cultured for *Candida* were identified by Vitek2 test protocol (BioMerieux) a suspension of (1.8-2.2) McFarland used for identification and susceptibility test. An YST card specific for *Candida* species identification used, and for susceptibility AST-YS06 card used.

Results:

From the 6300 positive blood culture, a 244 isolates (3.9%) were identified as *Candida*. Out of 244 *Candida* isolates, 76 (31.1%) were *Candida albicans*, followed by *Candida parapsilosis* 54 (22.1%), *Candida tropicalis*

36 (14.8%), *Candida famata* 21 (8.6%), and 57 isolates (23.4%) were confirmed with non significant pathogenic species or environmental contamination.

Candida isolates	Number of Isolates	Percentage
<i>Candida albicans</i>	76	31.1%
<i>Candida parapsilosis</i>	54	22.1%
<i>Candida tropicalis</i>	36	14.8%
<i>Candida famata</i>	21	8.6%
Non pathogenic species	57	23.4%

The susceptibility test was done for these antifungal patterns; Amphotericin B, Flucytosin, Fluconazole, Caspofungin, Micafungin, Voriconazole. Out of 244 isolates, 207 showed sensitive for Amphotericin B, 205 isolates were sensitive for Voriconazole, and 197 isolates were sensitive for Micafungin, and 196 isolates were sensitive for Caspofungin.

Conclusion:

The prevalence of *Candida* species infection from blood culture in this study was slightly increased which may represent the 4th or 5th common causes for blood stream infection, which is a medical concern must be aware from it.

The antifungal which shows good response were Amphotericin B, Voriconazole, Micafungin Caspofungin, therapy must be ordered by a physician according to patient status and route of administration.

References:

1- Vicky Gandhi, Mehul Patel. Int.J.Curr.Microbiol.App.Sci (2017) 6(6):884-892 *Prevalence of Candida Species and its Antifungal Susceptibility Isolated from Blood culture at Tertiary Care Hospital, Ahmedabad, India*