

P150
Profile of Candidemia in a national level HAI Surveillance Network of India

Sharad Srivastav, Mamta Puraswani, Prachi Tewari, Purva Mathur
 AIIMS Jai Prakash Narayan Apex Trauma Center, New Delhi, New Delhi, India

Poster session 2, September 22, 2022, 12:30 PM - 1:30 PM

Background: *Candida* is responsible for roughly 96% of all opportunistic mycoses and is a major cause of bloodstream infections (BSIs). The potential for nosocomial spread of Candidemia infections is a new concern concurrent with the rapid expansion of intensive care facilities for COVID-19 patients. With the pandemic of COVID-19 now moving into 2022, it is understood that critically ill COVID-infected patients in the ICUs are commonly infected with highly resistant bacterial and fungal infections.

Objective: To estimate the incidence rates and compare the epidemiology of candidemia in COVID infected and non-infected patients requiring ICU care.

Methodology: In this 2-year retrospective multicentric study, we present the findings on candidemia from the Healthcare-Associated Infections (HAI) surveillance network which includes 40 hospitals across India and with special emphasis on differ-

ences in the epidemiology of Candidemia in COVID infected and non-infected patients in the pre-COVID (April 2019 to April 2020) and COVID times (April 2020 to April 2021) across this network. We compared the incidence of candidemia between COVID infected and non-infected patients using Poisson regression analysis. Chi-squared (χ^2) test was used to test for differences in variables such as gender and 14-day mortality between the patients and Wilcoxon rank-sum (Mann-Whitney) test was used to compare median between the patients.

Results: A total of 628 patients with candidemia were screened from HAI Surveillance Database where 68 patients are COVID infected and 560 non-infected patients from both pre-COVID and COVID periods. Incidence of *Candida*-associated BSI increased significantly from 1.47 (95% CI, 1.35-1.60) to 3.08 (95% CI, 2.38-3.92) in non-infected and COVID-infected patients respectively, while in CLABSI the rates increased from 2.62 (95% CI, 2.34-2.92) in non-infected to 5.99 (95% CI, 4.30-8.12) in COVID-infected patients. COVID infected patients in the age group (>60 years) were significantly more prone to candidemia compared to non-infected patients. During the COVID period, the maximum time for candidemia to develop (from the time of ICU admission) in COVID-infected patients was shorter (<65 days) than in non-infected patients (>90 days).

Conclusion: We observed an increased incidence of candidemia in hospitalized patients during the COVID period compared with the same during the pre-COVID period.

Table 1. Incidence of Candidemia in COVID Infected and Non-Infected patients in the HAI Network during the Pre-COVID and COVID Periods.

	Total Patients (April-2019 to April-2021)	Non-COVID Patients (April-2019 to April-2021)	COVID Patients (April-2020 to April-2021)	p-value ^a	IRR
Denominators					
Patient Days	401601	380162	21439		
Central Line days	126051	119202	6849		
Number of Cases					
BSI*	626	560	66		
CLABSI*	353	312	41		
Rates per 1000 patients					
BSI rate [95% CI]	1.56[1.44-1.69]	1.47[1.35-1.60]	3.17[2.46-4.02]	<0.001	2.09[1.62-2.70]
CLABSI rate [95% CI]	2.81[2.52-3.12]	2.62[2.34-2.92]	6.13[4.42-8.29]	<0.001	2.29[1.65-3.17]

*Number of CLABSI and BSI cases for *Candida* Organism, ^aPoisson Regression, IRR = Incidence Rate Ratio

Table 2. Demographic data of patients having BSI due to *Candida* spp (N = 557)

	Total Patients (April-2020 to April-2021)	Non-COVID Patients (April-2019 to April-2021)	COVID Patients (April-2020 to April-2021)	p-value*
Total patients	557	503	54	
Gender				
Female	188(33.7)	175(34.8)	13(24.1)	0.113 ^a
Male	369(66.3)	328(65.2)	41(75.9)	
Age				
Median(IQR) ^b	35(5 - 59)	30(2 - 56)	62.5(53 - 67)	<0.001 ^b
Range	(0 - 92)	(0 - 92)	(21 - 82)	
Length of Stay				
Median(IQR)	20(11 - 35)	22(11 - 38)	16(11 - 21)	0.010 ^b
Range	(2 - 339)	(2 - 339)	(3 - 68)	
Duration between ICU admission and Date of event				
Median(IQR)	11(6 - 20)	11(6 - 20)	10(7 - 16)	0.368 ^b
Range	(2 - 425)	(2 - 425)	(2 - 39)	
14-day Attributable Mortality				
BSI	349 (62.7)	329(65.4)	20(37.0)	<0.001 ^a
CLABSI	208(37.3)	174(34.6)	34(62.9)	0.208 ^a

Note: Data are presented as n (%) unless noted otherwise.

^a Chi-square test for Independence

^b Wilcoxon-Mann-Whitney test

*Significance at 95% Confidence level

^bIQR = Interquartile range (25% and 75%)