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Original article

Mycological and Clinical Profile of Candidemia in Intensive Care Unit Patients

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Short Running Title: Candidemia in the Intensive Care

Abstract

Objective: To analyze the clinical features, risk factors, species distribution, and antifungal susceptibility of *Candida* bloodstream infections in intensive care unit patients in the context of rising invasive candidiasis and the shift from *Candida albicans* to non-albicans *Candida* species with higher antifungal resistance, emphasizing the need for monitoring local epidemiology to guide appropriate antifungal therapy.

Material and Methods: Blood cultures from patients with a strong clinical suspicion of sepsis were included. Blood culture isolates were identified, and antifungal susceptibility testing of *Candida* isolates was performed. Demographic characteristics, comorbid conditions, clinical parameters, and patient outcomes, including duration of hospital stay and 30-day mortality, were recorded and analyzed.

Results: Out of 4,112 blood cultures, 1,183 (28.8%) were culture positive. The mean time to positivity was 16.4 ± 1.8 hours. *Candida* spp. were isolated from 27 (2.3%) patients, with NAC species predominating. Diabetes mellitus, corticosteroid use, and indwelling medical devices were significantly associated with *Candida* BSI. Hospital and ICU stay duration were significantly higher in patients with *Candida* BSI compared to bacterial BSI. Fluconazole resistance was observed in 18.5% of isolates. The *C. parapsilosis* complex demonstrated high minimum inhibitory concentrations to echinocandins.

Conclusion: *Candida* is an important cause of bloodstream infections in ICU patients. The emergence of non-albicans *Candida* with reduced fluconazole susceptibility and elevated echinocandin MICs in *C. parapsilosis* complex highlights the need for continuous surveillance and judicious antifungal use.

Keywords: antifungal, bloodstream infections, *Candida*, Fluconazole, intensive care unit

Introduction

Bloodstream infections (BSI) are a prime concern in patients in the intensive care unit (ICU), as they are associated with high morbidity and mortality, long hospital stays, and incremental

healthcare costs.¹ Several factors, like heightened severity of illness, presence of invasive devices, aggressive therapy, and immunosuppressed conditions, increase the risk of BSI in ICU patients.²

Bloodstream infections (BSIs) occur in approximately 5–15% of all patients within the first month of ICU admission, the third most common infection in ICU patients, with a reported incidence of 5–19 per 1,000 patient-days. These infections are a common cause (35–50%) of organ failure and serve as a crucial marker of adverse outcomes.³

Myriads of pathogens, including several bacterial and a few fungal species, can cause BSI in ICU patients. Enterobacterales like *Klebsiella pneumoniae* and *E. coli*, non-fermenters like *Pseudomonas aeruginosa* and *Acinetobacter* spp, and *Staphylococcus aureus* are common bacterial pathogens isolated from BSI in ICU patients.⁴

In recent years, the incidence of fungal BSI in ICU patients has increased, particularly due to *Candida* spp.⁵ *Candida* spp. is reported as the fourth most common cause of healthcare-associated BSI in ICU patients. The incidence rates vary between 0.22 and 4.1% in developing countries and between 0.024 and 0.684% in developed countries.⁵

Although not very uncommon, fungal BSI in ICU patients is often either misdiagnosed or underdiagnosed due to non-specific/overlapping clinical and radiological features, and a lack of precise laboratory techniques.⁶ As knowledge of species distribution, antifungal susceptibility pattern, and risk factors is crucial for prompt initiation of the appropriate antifungal therapy, the present study analyzed the clinical features, risk factors, and species distribution of *Candida* BSI in ICU patients. Additionally, the antifungal susceptibility profile of *Candida* isolates was also studied.

Material and Methods

The present study was a descriptive cross-sectional study conducted in the Department of Microbiology over a period of two years (May 2023–April 2025) after obtaining approval from the Institutional Ethics Committee. The committee reviewed and approved the study protocol under approval number 452/2022–2023, ensuring compliance with ethical standards.

Blood cultures were from patients who met the following inclusion criteria (i) adult patients (age > 18 years) (ii) > 48 hours admission to the intensive care unit (ICU) (iii) strong clinical suspicion

of sepsis. Sepsis was diagnosed on the basis of the Systemic Inflammatory Response Syndrome (SIRS) criteria.⁷

Blood cultures satisfying the inclusion criteria were processed as per the guidelines of the Clinical and Laboratory Standards Institute (CLSI).⁸ All blood culture bottles were incubated for 5 days in the BacT/ALERT 3D 60 system. The flow chart of blood culture processing is shown in Figure 1. The 'time to positivity (TTP)' was noted, defined as the time between the collection of blood culture from the patient and the positive signal indicated by the BacT/ALERT 3D 60 system.

The blood cultures upon flash positive were Gram stained in order to study the type of pathogen (yeast or bacteria) and the selection of media. When yeasts were seen in the Gram-stained smear and prepared from the content of the blood culture vial, the content was aseptically aspirated from the vial and inoculated on blood agar and Sabouraud dextrose agar (SDA). Blood agar and chocolate agar were inoculated when Gram-stained smears demonstrated Gram-positive cocci, whereas the contents of the vials demonstrating Gram-negative bacilli upon Gram staining, MacConkey agar, and blood agar plates were inoculated.

For the identification and antimicrobial susceptibility testing of bacterial pathogens, VITEK[®] 2 Compact System (version 9.02, bioMérieux, France) was used. Yeasts were identified by preliminary tests. Colonies from Sabouraud dextrose agar (SDA) were subcultured on HiCrome Candida differential agar, and a germ tube test was performed. Further species identification was carried out using the VITEK[®] 2 Compact System (version 9.02, bioMérieux, France). Matrix-Assisted Laser Desorption/Ionization Time-of-Flight Mass Spectrometry (MALDI-TOF MS) was specifically used for the identification of *Candida auris* and isolates that remained unidentified by the VITEK[®] system.

Antifungal susceptibility testing of *Candida* isolates was performed by Ezy MIC test (Hi Media Lab Pvt. Ltd.) on Mueller-Hinton agar with 2% glucose and methylene blue (0.5 µg/mL). The antifungal agents tested are shown in Table 1.

Table 1: Antifungal agents tested.

C. albicans ATCC 90028 and *C. parapsilosis* ATCC 22019 were used for quality control. Interpretative criteria for azoles were those recommended by the Clinical and Laboratory

Standards Institute (CLSI).⁹ Due to the lack of defined breakpoints for amphotericin B and echinocandins, interpretative values based on the studies of other researchers were used.^{10,11}

Demographic characteristics, comorbid conditions, and the clinical parameters of the patients included in the study were obtained from the case sheets. Additionally, patients' outcome measurements, including duration of hospital stay and 30-day mortality, were recorded and analyzed. The data obtained from the study were entered into the Microsoft[®] Excel spreadsheet program for initial organization, and statistical analysis was performed using SPSS Version 29.0 (IBM Corp., Armonk, NY, USA).

Figure 1. The flow chart of blood culture processing

Results

A total of 4,112 blood cultures were received from clinically suspected cases of sepsis. Of these, 1,183 showed growth of microorganisms (culture -positive). Therefore, the rate of blood culture positivity was 28.8%.

The mean TTP was 16.4±1.8 hours (range 12.8-72 hours). Within 24-36 hours of incubation, 39.9% of blood cultures were positive, whereas 16.6 % of blood cultures had TTP of <16 hours. The distribution of TTP in episodes of BSI is shown in Figure 2.

Figure 2. Distribution of time to positivity in cases of bloodstream infections

The microbiological profile of blood cultures is shown in Figure 3. The positive blood cultures comprised bacterial pathogens from 1,156 (97.7%) patients and *Candida* isolates from 27 (2.3%) patients. *Candida* was the sixth most common pathogen from blood cultures.

Gram-negative bacilli (75.4%) predominated among bacterial pathogens, which consisted of Enterobacterales from 597 cases and non-fermenters from 275 cases. *Klebsiella pneumoniae* was the most common Gram-negative bacillus (GNB). *Coagulase-negative Staphylococci* (CoNS) were the most common Gram-positive cocci (GPC). Among 27 isolates of *Candida* spp., 23 (85.2%) were non-*albicans* *Candida* species, whereas 4 (14.8%) were identified as *C. albicans*.

Figure 3. Microbiological profile from blood cultures

The species-wise distribution of *Candida* spp. is shown in Table 2. Among the non-albicans *Candida* (NAC) isolates, *C. tropicalis* was the most frequently isolated species (8 isolates, 29.6%), followed by *C. parapsilosis* complex (6 isolates, 22.2%). *C. glabrata* (currently known as *Nakaseomyces glabratus*) and *C. auris* (currently known as *Candidozyma auris*) were each isolated from 4 patients (14.8%). *C. krusei* (currently known as *Pichia kudriavzevii*) was isolated from a single patient (3.7%).

Table 2: Species-wise distribution of *Candida* isolates from blood cultures

Comparisons of demographic and clinical characteristics of patients with bacterial and *Candida* BSI are shown in Table 3. Risk factors like diabetes mellitus, use of corticosteroid ($p < 0.0001$, Chi-square test), and the presence of invasive medical devices ($p < 0.0001$, Chi-square test) were significantly associated with *Candida* BSI. Length of both hospital and ICU stay was significantly higher in patients with *Candida* BSI compared to patients with bacterial BSI.

Table 3: Demographic and clinical features of patients with bacterial and *Candida* BSI

(IQR-Interquartile Range, mmHg-millimeters of mercury, BSI-blood Stream infection, ICU-Intensive care unit)

The antifungal susceptibility profile of *Candida* isolates is shown in Table 4. Fluconazole resistance was observed in 18.5% of *Candida* spp. A total of 5 NAC spp. were resistant to fluconazole. These included 2 isolates of *C. tropicalis*, 2 isolates of *C. parapsilosis* complex, and 1 isolate of *C. glabrata*. No isolates demonstrated resistance to itraconazole, amphotericin, and echinocandins. *C. parapsilosis* complex showed higher minimum inhibitory concentration (MIC) to all three echinocandins.

Table 4: Antifungal susceptibility profile of *Candida* isolates

(MIC -Minimum Inhibitory Concentration, n-numbers, S- Susceptible, SDD- Susceptible Dose Dependent, I-Intermediate, R-Resistant) footnote for *Candida auris* and *Candida krusei*

Discussion

BSI, especially in the ICU, presents as a challenge to the treating physician, as these infections complicate clinical outcomes. The epidemiology of BSI is sharply changing to emergent treatment-resistant bacterial strains and increased incidence of fungal pathogens. Although many studies describe the pathogens and their characteristics from BSI, scarce data are available from the suburban and rural areas of developing countries.¹²

This study investigated the clinical profile, risk factors, and species trends of *Candida* BSI in ICU patients. In this study, the overall rate of blood culture positivity was 28.8%. Several contextual factors are known to affect the rate of positivity of blood cultures, including blood culture practices like the use of automated blood culture systems, the volume of blood cultured, transportation time, concomitant antimicrobial therapy, and the type of sample obtained (venepuncture or through a catheter).¹³

With advancements in blood culture techniques, particularly the advanced automated continuous monitoring systems, the TTP of blood cultures has been substantially reduced.¹⁴ In this study, the mean TTP was 16.4 ± 1.8 hours (range 12.8-72 hours). Within 24-36 hours of incubation, 39.9% of blood cultures were positive, whereas 16.6 % of blood cultures had a TTP of <16 hours. The TTP of blood cultures is reported to be of clinical significance, as it provides information regarding the microbial load in the blood; hence, it can be utilized as a valuable tool to assess the severity of infection. Additionally, it provides valuable insights for therapeutic decisions.¹⁵

The rate of *Candida* BSI in this study was 2.3%, and *Candida* was the sixth pathogen isolated from BSI in ICU patients. *Candida* ranks 4th among the various causes of BSI in the USA, whereas European studies have reported *Candida* as the 7th most common cause of BSI. With few single-centric and no multi-centric studies, the scenario of *Candida* BSI is still largely unclear in India.¹⁶

Inconsistent with recent studies, the increased isolation of NAC spp. from cases of BSI was also noted in the current study. This finding highlights the importance of the species identification of *Candida* isolates, as there is a shift towards NAC spp. NAC spp. usually demonstrate a varying degree of resistance to commonly used antifungal agents.^{10, 11}

In accordance with other Indian studies, *C. tropicalis* was the predominant isolate from BSI.^{10, 11, 16} In contrast with the study by Bhattacharjee¹⁶, where *C. parapsilosis* complex was not isolated from BSI, in this study, *C. parapsilosis* complex was the second most common NAC spp. isolated from

BSI. In line with other Indian studies, the incidence of *C. krusei* BSI was low. In this study, *C. auris* was reported in 4 cases.

When the risk factors for Candida and bacterial BSI were compared, it was noted that diabetes mellitus, use of corticosteroids, and the presence of invasive medical devices were significantly associated with Candida BSI. Similar findings were reported by Kim et al.¹⁷

The duration of hospital and ICU stay was significantly higher in patients with Candida BSI as compared to bacterial BSI. A similar observation was noted by Schroeder *et al.* The 30-day mortality was significantly high in patients with Candida BSI after culture positivity. Several factors are known to increase mortality rates in Candida BSI. These include a history of cardiovascular disease, malignancy, and the duration of antifungal treatment.¹⁸

Fluconazole resistance was noted in a total of 5 (18.5%) Candida spp. Fluconazole resistance was not observed in *C. albicans*. All fluconazole-resistant isolates were NAC spp., like *C. tropicalis*, *C. parapsilosis* complex, and *C. glabrata*. NAC species were often either innately resistant to fluconazole or acquired resistance during the course of therapy.^{10, 11} Although no resistance to echinocandins was observed, *C. parapsilosis* demonstrated a high resistance to all three echinocandins; a similar finding was noted in the study of Deorukhkar *et al.* In *C. parapsilosis* complex, decreased susceptibility to echinocandins is attributed to polymorphism in the *fksl* gene, and prolonged exposure may lead to the emergence of resistant strains. Therefore, echinocandins should be used cautiously in patients infected, or suspected to be infected, with *C. parapsilosis* complex.

Conclusion

Candida is among the leading causes of bloodstream infections in ICU patients. The emergence of non-*albicans* Candida has raised concerns, as they often demonstrate reduced susceptibility to fluconazole, the most common antifungal drug used for both the prophylaxis and treatment of candidiasis. As *C. parapsilosis* complex demonstrates high minimum inhibitory concentration to echinocandins, this study emphasizes the need for the judicious use of echinocandin antifungal agents in patients infected with *C. parapsilosis* complex.

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Conflicts of interest: None.

References

1. Bassetti M, Righi E, Carnelutti A. Bloodstream infections in the intensive care unit. *Virulence* 2016;7:267-79.
2. Munro C, Zilberberg MD, Shorr AF. Bloodstream Infection in the Intensive Care Unit: Evolving Epidemiology and Microbiology. *Antibiotics* 2024;13:123.
3. Kallel H, Houcke S, Resiere D, Roy M, Claire M, Cyrille M et al., Epidemiology and prognosis of intensive care unit-acquired bloodstream infection. *Am J Trop Med Hyg* 2020;103:508-14.
4. Timsit JF, Ruppé E, Barbier F, Tabah A, Bassetti M. Bloodstream infections in critically ill patients: an expert statement. *Intensive Care Med* 2020;46:266-84.
5. Xiao G, Liao W, Zhang Y, Luo X, Zhang C, Li G, Yang Y, Xu Y. Analysis of fungal bloodstream infection in intensive care units in the Meizhou region of China: species distribution and resistance and the risk factors for patient mortality. *BMC Infect Dis* 2020;20:599.
6. Azim A, Ahmed A. Diagnosis and management of invasive fungal diseases in non-neutropenic ICU patients, with focus on candidiasis and aspergillosis: a comprehensive review. *Front Cell Infect Microbiol* 2024;14:1256158.
7. Gauer R, Forbes D, Boyer N. Sepsis: Diagnosis and Management. *Am Fam Physician* 2020;101:409-18.
8. CLSI. Clinical Laboratory Standards Institute; Wayne, PA: 2007. Principles and procedures for blood culture; approved guideline-1st edition. CLSI document M47-A.
9. Clinical and Laboratory Standards Institute CLSI. 2017. CLSI standard M27. In Reference method for broth dilution antifungal susceptibility testing of yeasts, 4th ed. Wayne, PA.
10. Deorukhkar SC, Saini S, Mathew S. Nonalbicans Candida infection: an emerging threat. *Interdiscip Perspect Infect Dis* 2014;2014:615958.

11. Deorukhkar SC, Saini S. Echinocandin Susceptibility Profile of Fluconazole Resistant *Candida* Species Isolated from Blood Stream Infections. *Infect Disord Drug Targets* 2016; 16:63-8.
12. Cui Y, Yi C, Zhang C, Yang C, Wang X, Chen W, Peng Y, Dai J. Risk factors for bloodstream infection among patients admitted to an intensive care unit of a tertiary hospital of Shanghai, China. *Scientific Reports*. 2024; 1:12765.
13. Deress T, Belay G, Ayenew G, Ferede W, Worku M, Feleke T, et al. Bacterial etiology and antimicrobial resistance in bloodstream infections at the University of Gondar Comprehensive Specialized Hospital: a cross-sectional study. *Front Microbiol* 2025;16:1518051.
14. Lambregts MMC, Bernards AT, van der Beek MT, Visser LG, de Boer MG (2019) Time to positivity of blood cultures supports early re-evaluation of empiric broad-spectrum antimicrobial therapy. *PLoS One* 2019;14:e0208819.
15. Maffezzoli P, Kestler M, Burillo A, Corcione S, De Rosa FG, Muñoz P, Bouza E. Diagnostic and prognostic value of time to positivity in blood cultures. An opinion paper. *Rev Esp Quimioter* 2025;38:8-20.
16. Bhattacharjee P. Epidemiology and antifungal susceptibility of *Candida* species in a tertiary care hospital, Kolkata, India. *Curr Med Mycol* 2016;2:20-27.
17. Kim SH, Yoon YK, Kim MJ, Sohn JW. Risk factors for and clinical implications of mixed *Candida*/bacterial bloodstream infections. *Clin Microbiol Infect* 2013;19:62-8.
18. Schroeder M, Weber T, Denker T, Winterland S, Wichmann D, Rohde H et al. Epidemiology, clinical characteristics, and outcome of candidemia in critically ill patients in Germany: a single-center retrospective 10-year analysis. *Ann Intensive Care* 2020;10:142.

Table 1: Antifungal agents tested

Azoles	Polyenes	Echinocandins
Fluconazole (range 0.016–256 µg/ml) Itraconazole (range 0.002–32 µg/ml)	Amphotericin B (range 0.002–32 µg/ml)	Anidulafungin (range 0.002–32 µg/ml) Caspofungin (range 0.002–32 µg/ml) Micafungin (range 0.002–32 µg/ml)

(µg/mL-micrograms per milliliter)

Table 2: Species-wise distribution of Candida isolates from blood cultures

Candida spp.	N (%)
<i>C. albicans</i>	04 (14.8)
<u>Non-albicans Candida spp.</u>	<u>23 (85.2)</u>
<i>C. tropicalis</i>	08 (29.6)
<i>C. parapsilosis complex</i>	06 (22.2)
<i>C. glabrata</i>	04 (14.8)
<i>C. auris</i>	04 (14.8)
<i>C. krusei</i>	01 (3.7)

(C.-Candida, %- Percentage)

Table 3: Demographic and clinical features of patients with bacterial and Candida BSI

Parameter	Bacterial BSI (N=1156)	Candida BSI (N=27)	Chi-Square test P value
Demographic features			
Age in years, (median, IQR)	49.8 (19-71)	51.4 (32-78)	-
Male gender	897 (77.6)	25 (92.6)	-
Risk factors			
Diabetes mellitus (%)	239 (20.7%)	23 (85.2)	<0.00001**

History of corticosteroid therapy (6 months prior) (%)	349 (30.2)	21 (77.8)	<0.00001**
Neutropenia (%)	631 (54.6)	20 (74.1)	<0.00001**
Malignancy (%)	192 (16.6)	3 (11.2)	>0.05
Recent surgical intervention (%)	141 (12.1)	3 (11.2)	3 (11.2)
Invasive medical devices (%)	781 (67.6)	27 (100)	Not done
Dialysis (%)	56 (4.8)	2 (7.4)	>0.05
Clinical characteristics			
Fever (temperature>38.5°C)	791 (68.4%)	15 (62.9)	>0.05
Systolic blood pressure (mmHg) (median, IQR)	130 (110-150)	130 (110-150)	-
Pulse (bpm) (median, IQR)	102 (89-116)	102 (89-116)	-
Outcome			
ICU stay after positive blood culture (days) (median, IQR)	8.5 (4.5-16)	10.6 (5-21)	<0.00001**
Total hospital days after positive blood culture (days) (median, IQR)	17.5 (6.8-31.5)	28.4 (16-30)	<0.00001**
30-day mortality	246 (21.3)	08 (29.6)	<0.05*

(IQR-Interquartile Range, mmHg-millimeters of mercury, BSI-blood Stream infection, ICU-Intensive care unit)

Table 4: Antifungal susceptibility profile of Candida isolates

Candida Spp	Antifungal agent	MIC 90 (µg/ml)	MIC 50 (µg/ml)	S (%)	SDD (%)	I (%)	R (%)
<i>C. albicans</i> (n=4)	Fluconazole	0.032	0.032	4 (100)	-	-	-
	Itraconazole	0.004	0.004	4 (100)	-	-	-
	Amphotericin B	0.008	0.008	4 (100)	-	-	-
	Caspofungin	0.004	0.004	4 (100)	-	-	-
	Anidulafungin	0.004	0.004	4 (100)	-	-	-
	Micafungin	0.004	0.004	4 (100)	-	-	-
<i>C. tropicalis</i> (n=8)	Fluconazole	0.25	0.128	6 (75.0)	-	-	2 (25.0)
	Itraconazole	0.032	0.016	8 (100)	-	-	-

	Amphotericin B	0.016	0.016	8(100)	-	-	-
	Caspofungin	0.004	0.004	8 (100)	-	-	-
	Anidulafungin	0.004	0.004	8 (100)	-	-	-
	Micafungin	0.004	0.004	8 (100)	-	-	-
<i>C. parapsilosis</i> complex (n=6)	Fluconazole	0.25	0.5	4(66.7)	-	-	2 (33.3)
	Itraconazole	0.032	0.064	6 (100)	-	-	-
	Amphotericin B	0.016	0.016	6 (100)	-	-	-
	Caspofungin	0.5	0.5	6 (100)	-	-	-
	Anidulafungin	0.5	0.5	6 (100)	-	-	-
	Micafungin	0.5	0.5	6 (100)	-	-	-
<i>C. glabrata</i> (n=4)	Fluconazole	0.5	0.5	3 (75.0)	-	-	1 (25.0)
	Itraconazole	0.032	0.064	4(100)	-	-	-
	Amphotericin B	0.008	0.008	4 (100)	-	-	-
	Caspofungin	0.016	0.016	4 (100)	-	-	-
	Anidulafungin	0.016	0.016	4(100)	-	-	-
	Micafungin	0.016	0.016	4 (100)	-	-	-
<i>C. auris</i> (n=4)	Fluconazole	Intrinsically resistant					
	Itraconazole	-	-	4(100)	-	-	-
	Amphotericin B	-	-	4 (100)	-	-	-
	Caspofungin	-	-	4 (100)	-	-	-
	Anidulafungin	-	-	4 (100)	-	-	-
	Micafungin	-	-	4 (100)	-	-	-
<i>C. krusei</i> (n=1)	Fluconazole	Intrinsically resistant					
	Itraconazole			1 (100)			
	Amphotericin B	-	-	1 (100)	-	-	-
	Caspofungin	-	-	-	-	-	-
	Anidulafungin	-	-	-	-	-	-
	Micafungin	-	-	-	-	-	-

(MIC -Minimum Inhibitory Concentration, n-numbers, S- Susceptible, SDD- Susceptible Dose Dependent, I-Intermediate, R-Resistant) footnote for *Candida auris* and *Candida krusei*

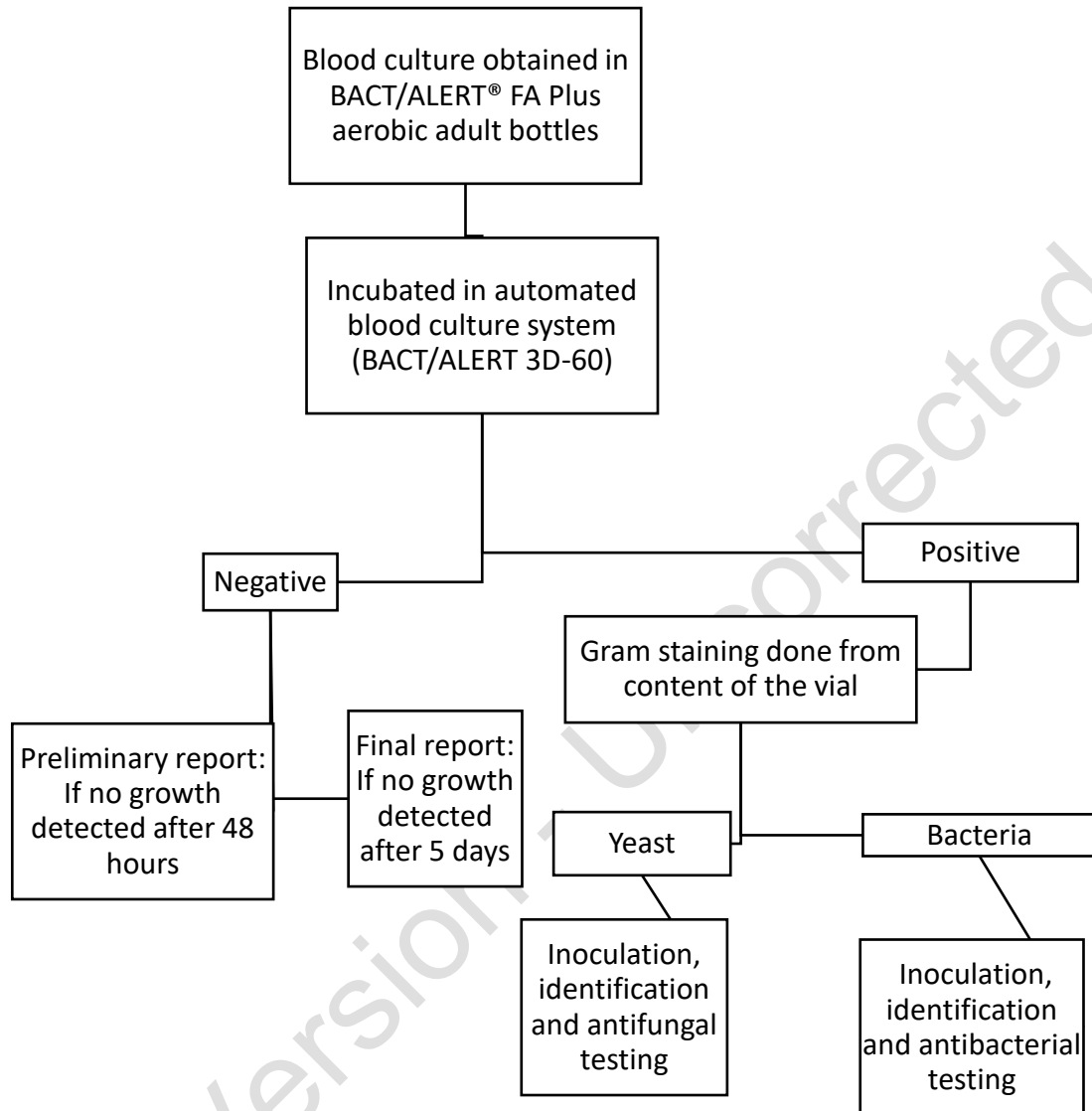


Figure 1. The flow chart of blood culture processing

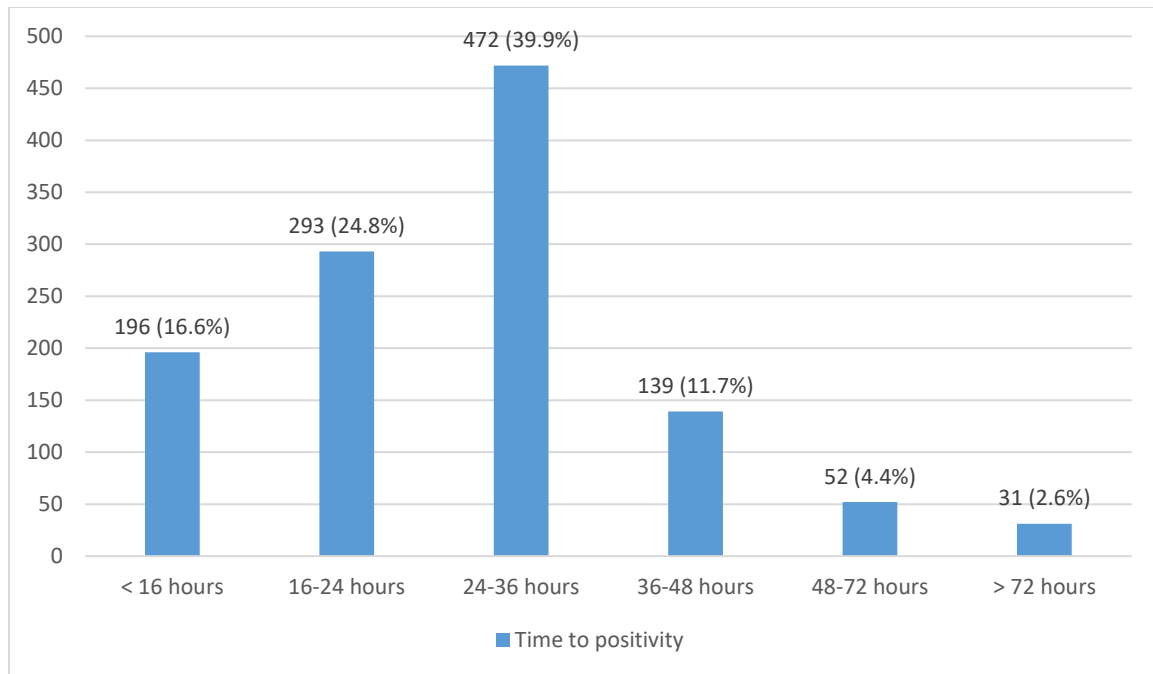


Figure 2. Distribution of time to positivity in cases of bloodstream infections

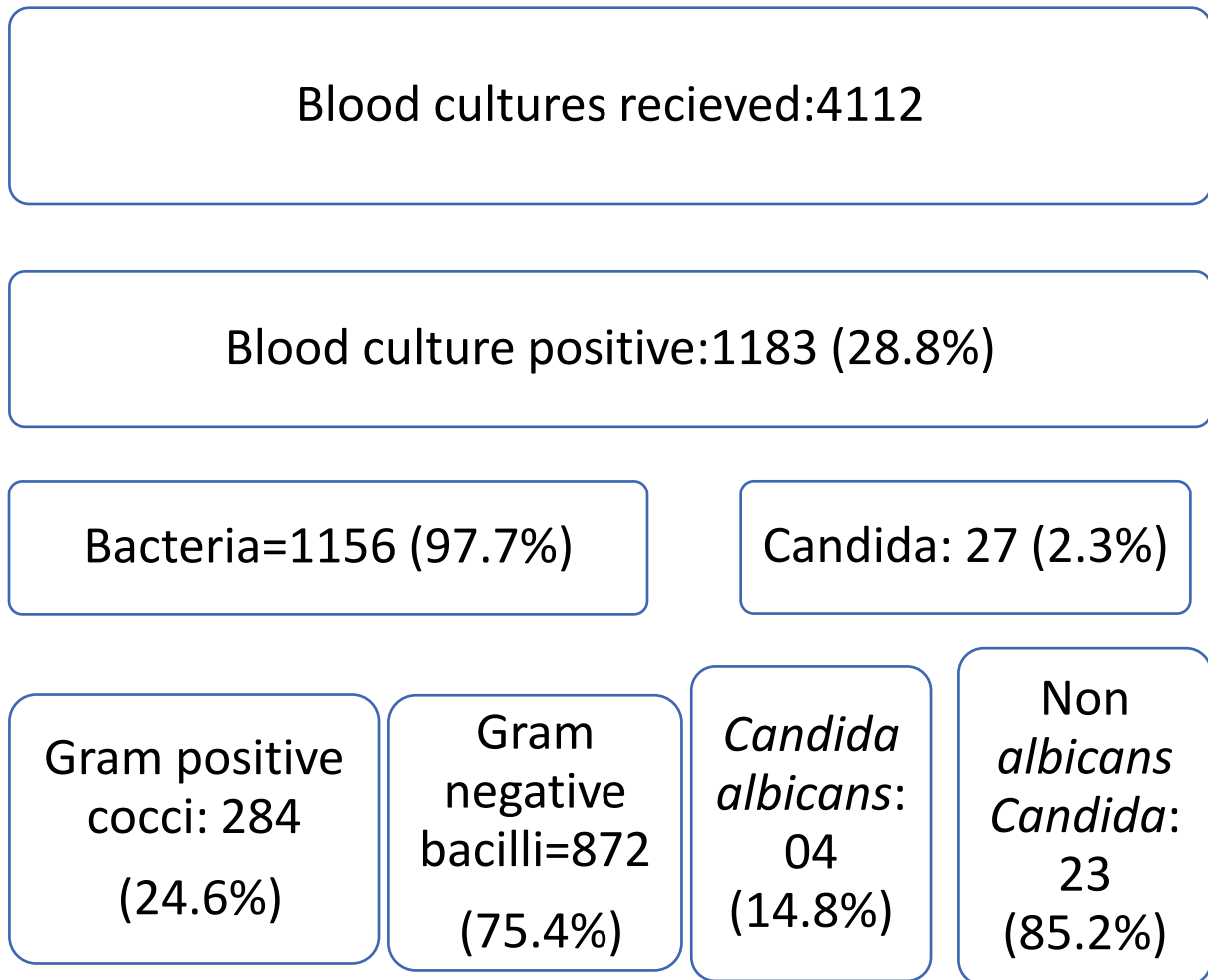


Figure 3. Microbiological profile from the blood cultures