Epidemiological characteristics and drug resistance of fungemia: a 10-year data analysis in general hospitals

Yunxi LIU (✉ liuyunxi301@qq.com)

Chinese PLA General Hospital

Yanling Bai

Chinese PLA General Hospital

Zhigang Zheng

Chinese PLA General Hospital

Ting Liu

Chinese PLA General Hospital

Zhongqiang Yan

Chinese PLA General Hospital

Mingmei Du

Chinese PLA General Hospital

Hongwu Yao

Chinese PLA General Hospital

Jijiang Suo

Chinese PLA General Hospital

Research

Keywords: fungi, fungemia, hospital infection, drug resistance, Candida albicans

Posted Date: April 8th, 2021

DOI: <https://doi.org/10.21203/rs.3.rs-399853/v1>

License: © ⓘ This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Abstract

Background: with the increasing use of immunosuppressive agents, broad-spectrum antibiotics and biological agents, the incidence rate of fungemia has been increasing, and the drug resistance has been widely concerned. However, the epidemic trend and drug resistance analysis of fungal bloodstream infection are lack of large sample data. This study intends to analyze the data of fungal bloodstream infection in a large tertiary hospital in the past 10 years, in order to understand its epidemic characteristics and drug resistance, and provide reference for the prevention and treatment of fungal bloodstream infection. Methods: the "hospital infection real-time monitoring system" was used to retrieve the case information of all patients who were hospitalized for more than 48 hours from 2010 to 2019. The diagnosis of all bloodstream fungal infection was confirmed by the full-time staff and clinicians according to the diagnostic standards and the patient's infection situation. The questionnaire was designed to check the cases one by one, and the basic information, infection situation, drug resistance and other related information of patients were registered Software analysis. Results: 680 cases of fungi were detected in 233189 blood samples, the detection rate was 0.29%. 615 bloodstream infections occurred in 598 patients, including 207 catheter-related bloodstream infections. Non *Candida albicans* was the main fungus, accounting for 63.24%. The drug resistance of non *Candida albicans* (to itraconazole, fluconazole, voriconazole, amphotericin B) was higher than that of *Candida albicans*, among which *Candida glabrata* had the highest resistance rate, and no amphotericin B resistance was found. Data analysis showed that the patients with more serious basic diseases, combined with infection of other sites, surgery, long hospital stay, complicated medication, and invasive catheterization were more likely to occur fungemia Conclusion: The detection rate of fungal bloodstream infection has no obvious upward trend in the past 10 years. Non *Candida albicans* is the main detected bacteria. We should pay attention to the drug resistance of non *Candida albicans*. In clinic, we should attach great importance to the patients with hospital acquired fungal bloodstream infection with high risk factors, detect the occurrence trend, species distribution and drug resistance, and reasonably choose antifungal drugs, so as to improve the level of diagnosis and treatment.

Full Text

Due to technical limitations, full-text HTML conversion of this manuscript could not be completed. However, the manuscript can be downloaded and accessed as a PDF.

Figures

Image not available with this version

Figure 1

Figure caption not available

Figure 2

Distribution map of four main fungi detected in blood culture in recent 10 years