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613.ACUTE MYELOID LEUKEMIAS: CLINICAL AND EPIDEMIOLOGICAL

Prognostic Risk Factors for Patients with Candida Tropicalis Fungemia Infections and Hematological Malignancies

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Background: Candidemia is one of the most common nosocomial infections, contributing significantly to morbidity and mortality. The most commonly reported non-albicans Candida species is Candida tropicalis, which is currently spreading around the world. Clinical studies have suggested a particular susceptibility to C. tropicalis infection among patients with hematological malignancies, particularly leukemia.
Methods: We retrospectively analyzed 106 patients with both hematological malignancies and invasive candidiasis. Patient age, sex, medical history (basic disease and medication history), length of hospital stay, laboratory test results, and other clinical features were recorded. Drug sensitivity information was available for 90 of the 106 patients. Then we used logistic regression and some machine learning models to identify the prognostic factors related to patient death.
Findings: Of 106 patients, 35 (33.1%) died within one month after being diagnosed. Most patients (105/106) were diagnosed with C. tropicalis fungemia in the myelosuppressive phase, and were mainly concentrated in the first (35/106, 33%) and second (18/106, 17%) chemotherapy courses. Drug sensitivity information was available for 90 of the 106 patients. Resistance to voriconazole and fluconazole were observed in 52 and 51 patients, respectively. In addition, 73.3% of the patients were resistant to itraconazole. Multivariate logistic regression showed that the use of amphotericin B(OR=0.295 ,95% CI 0.100-0.877), sex(OR=0.263 ,95% CI 0.082-0.847), duration of fever before diagnosis(OR=4.053 ,95% CI 1.281-12.825), combined bacterial infection(OR=5.309 ,95% CI 1.701-16.573), decannulation(OR=0.0922 ,95% CI 0.013-0.636), and serum creatinine levels(OR=1.020 ,95% CI 1.001-1.038) were determined to be predictors of death($p < 0.05$). The random forest model, with an AUC value of 0.793, which showed the best performance of five machine learning models, suggested that serum creatinine level was the most important prognostic factor for candidemia.
Conclusion: In this study, we finded that the main predictors of death were found to be the use of amphotericin B, sex, duration of fever before diagnosis, combined bacterial infection, decannulation, and serum creatinine levels.

Disclosures No relevant conflicts of interest to declare.

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