

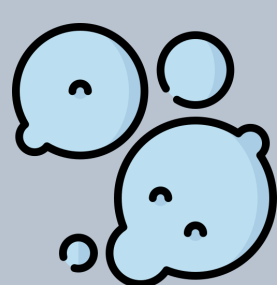
Creation and Internal Validation of a Clinical Predictive Model for Fluconazole Resistance in Patients with Candida Bloodstream Infection

FLUCO OR ECHINO?

Fluconazole is recommended as the first-line therapy by IDSA guidelines in patients with a low risk of fluconazole resistance (FR).



Studies have shown that FR rates for all candida BSI are ca. 6-7%.



However, there is no approved systemic method to predict low FR risk in candida BSI. Past clinical predictive tools also suffer from several limitations.

Additionally, antifungal susceptibility tests are time-consuming and many hospitals outsource the test.

DEMOGRAPHICS

This was a retrospective study in a single center in America involving adults with candidemia (1/2013 - 4/2019).



N = 539

	FS (467)	FR (72)
Median age (yo)	58	55
Female	42.6%	44.4%
Diabetes mellitus	44.5%	44.4%
CKD	38.9%	31.9%
Lymphoma	8.3%	15.2%
BM/stem cell trx	10.5%	43.0%
SOT	5.5%	5.1%
Chemotherapy	17.3%	51.3%
Neutropenia	16.7%	45.8%
Hem malignancy	17.9%	56.9%

FS = fluconazole sensitive, FR = fluconazole resistant, BM = bone marrow, trx = transplant, SOT = solid organ transplantation, hem =hematological

Increased risk for azole resistance is associated with:

- Older age (highest risk between 40-45 years of age)
- History of bone marrow or stem cell transplant
- Myelodysplastic syndrome
- Previous bacterial BSI (in the past year)
- Receipt of azole therapy within 1 year

Variables	Adjusted OR (95% CI)
Bone marrow or stem cell transplant	2.81 (1.41-5.63)
Myelodysplastic syndrome	3.09 (1.13-8.44)
Bacterial blood stream infection	2.02 (1.13-3.63)
Prior azole use	5.42 (2.90-10.1)

TAKE HOME MESSAGE

Timely and effective antifungal therapy is critical in the management of candidemia to minimize morbidity and mortality. Fluconazole is an attractive primary or early step-down regimen when Candida isolates are susceptible due to low cost, oral formulations and decreased healthcare burden.

Identification of patients at low risk of fluc-R Candida BSI using the model would support the initial use of fluconazole, thereby reducing the need for prolonged use of echinocandins.