

# Antifungal Prescribing During Initial Implementation of Candidemia

## Early Detection and Species Identification Testing with T2Candida Panel

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### Background

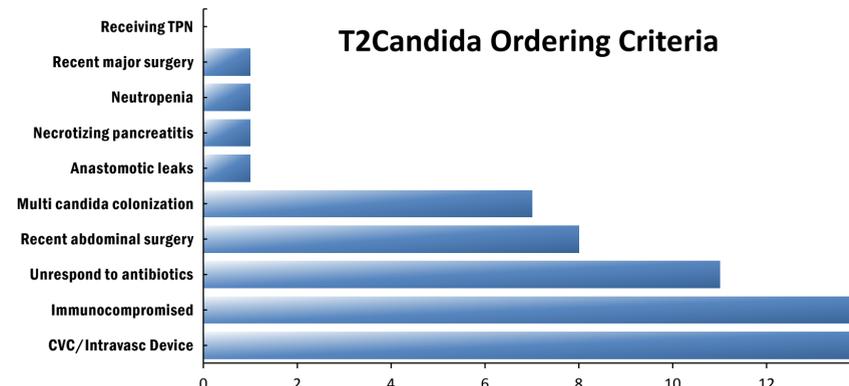
- Prescribing of antifungal agents in invasive fungal diseases, though a less prevalent hospital issue compared to bacterial infections, must be a focus of an antimicrobial stewardship program (ASP) due to their toxicity, interactions, cost, and emerging resistance.
- In this review, antifungal prescribing was examined during the initial implementation of the T2Candida Panel (T2) for early detection and species identification of candidemia.

### Methods

- We included inpatients where a T2Candida Panel was ordered during the first 61 days of the introduction at our 373-bed community hospital.
- Invasive fungal disease risk factors, antifungal therapy management, T2 results, concurrent blood culture results, and time to test results were obtained through chart review.

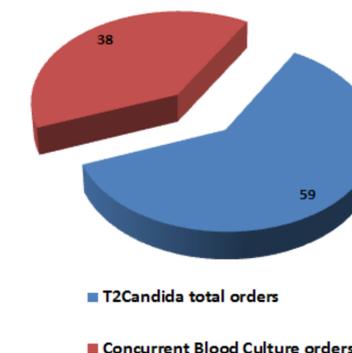
### Results

- Valid T2 results were reported in 59 patients.
- 98% (58/59) of patients met hospital criteria for T2 in at-risk patients. Concomitant blood cultures were ordered on 38/59 (64%) patients.
- Antifungals had been prescribed for 11/59 patients (18.6%) prior to T2 ordering for empiric treatment of invasive fungal disease.
- T2 resulted in 3 to 5 hours, and was available in the hospital reporting system in an average of 6.3 hours.



- Of the 59 T2 results, 6/59 (10%) were positive, 5/6 (83%) *C.albicans/C.tropicalis*, 1/6 (17%) *C.parapsilosis*. Of the patients with positive T2 results none had been prescribed antifungal therapy prior to the test.
- Appropriate antifungal therapy with either micafungin or fluconazole was ordered in positive T2 patients within 6 hours of hospital system reporting for 5/6 (83%) and within 9 hours in 1/6 (17%).
- All positive T2 patients had had concomitant blood cultures drawn with 3/6 (50%) reported as positive and those cultures reported *C.albicans* in agreement with their T2 results.
- Of the 53 patients with negative T2 results, none had subsequent positive fungal blood culture results and 8 had been on antifungals. Of those 8 patients, antifungal therapy was discontinued in accordance to clinical status.

Patient #	T2Candida species	Regular blood culture species	Antifungal started < 6 hrs	Antifungal started < 9 hrs	Antifungal start based on T2Candida results
1	<i>C.albicans/C.tropicalis</i>	<i>C.albicans</i>	✓		micafungin
2	<i>C.parapsilosis</i>	Negative	✓		fluconazole
3	<i>C.albicans/C.tropicalis</i>	Negative	✓		fluconazole
4	<i>C.albicans/C.tropicalis</i>	Negative	✓		fluconazole
5	<i>C.albicans/C.tropicalis</i>	<i>C.albicans</i>		✓	fluconazole
6	<i>C.albicans/C.tropicalis</i>	<i>C.albicans</i>	✓		fluconazole



### Conclusion

- Early detection and identification of systemic fungal infection resulted in focused and appropriate antifungal therapy.
- An ASP can contribute to the optimal drug management of invasive fungal diseases by monitoring current prescribing practices supported by new rapid diagnostic technologies.

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