

Application of T2Candida® test for diagnosis of Candididemia in real Life



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BACKGROUND

An early and appropriated antifungal therapy is clue to improve the clinical outcome of patients with candidemia. T2Candida® Panel (T2 Biosystems) is rapid diagnostic approach (3-5 hours) that enables sensitive and specific detection of 5 *Candida* species (*C. albicans*/*C. tropicalis*, *C. glabrata*/*C. krusei* and *C. parapsilosis*) directly in whole blood. We compared the T2Candida results performed in two institutions with blood culture (BC) results in order to correlate them with the current gold standard in the clinical setting.

METHODS

Samples were obtained from patients with risks factors for candidemia admitted in La Fe University Hospital (Valencia, Spain) and La Paz University Hospital (Madrid, Spain). Informed consent from patients was obtained. Samples evaluated by the T2 Candida panel and BC using BacT/ALERT PLUS® VIRTUOTM were drawn simultaneously. T2Candida results were compared to BC.

RESULTS

Sixty-five samples belonging to 48 patients were evaluated. Forty-eight blood samples were negative by the two methods. Ten and seven T2Candida tests were positive (Table) and invalid, respectively. Three out of five discordant results belonged to the same patient in whom the candidemia episode follow up was performed by T2Candida.

Patient	T2 <i>Candida</i> spp. detected	Blood culture result	Other <i>Candida</i> isolated (samples)
1	<i>C. albicans/tropicalis</i>	Negative	<i>C. albicans</i> (Peritoneal fluid)
2 (1/day 0)	<i>C. parapsilosis</i>	Negative	
2 (2/day +8)	<i>C. parapsilosis</i>	<i>C. parapsilosis</i>	
2 (3/day +10)	<i>C. parapsilosis</i>	<i>C. parapsilosis</i>	
2 (4/day +16)	<i>C. parapsilosis</i>	Negative	
2 (5/day +22)	<i>C. parapsilosis</i>	Negative	
3	<i>C. parapsilosis</i>	<i>C. parapsilosis</i>	<i>C. parapsilosis</i> (Urine & BAS)
4	<i>C. parapsilosis</i>	Negative	
5	<i>C. albicans/ tropicalis-C. parapsilosis</i>	<i>C. albicans</i>	<i>C. albicans</i> (BAS)
6	<i>C. parapsilosis</i>	<i>C. parapsilosis</i>	<i>C. parapsilosis</i> (Urine)

CONCLUSIONS

1. T2Candida® detects five candidemias that were not detected by BC.
2. T2Candida® positive result anticipates the BC in 2-5 days.
3. The mean time to negative results was 3.5-4.5 hours for T2Candida® compared with 120 h for BC.