corresponding blood cultures, time to de-escalation, and duration of therapy (DOT) were collected.

**Results.** Patients mean age 60 years, 54% were male. Candidemia risk factors included: 28% immunocompromised (cancer, chemotherapy, chronic steroids, febrile neutropenia), 26% renal failure, 19% malnutrition/TPN, 14% CVC/PICC line and 11% intra-abdominal infection/surgery; 78% of the patients were in the ICU. 9% of T2 tests were positive. The resulting species were as follows: *C. albicans/tropicalis, 47% C. parapsilosis 41% and 12% C. glabrata/krusei*. Of the patients with a positive T2 result only 24% had a positive corresponding blood culture while those with positive blood cul-
ture results 94.9% were T2 positive. Negative T2 tests resulted in discontinuation of antifungal therapy in 23% and avoid antifungal therapy initiation in 41% of patients, but 36% of patient's antifungal regimens were not discontinued despite a negative T2 result. Average time to de-escalation was 40.8 hours. Negative T2 results decreased average duration of therapy of micafungin by 2.1 days.

**Conclusion.** T2 Candida Panel demonstrated greater sensitivity and faster to detect Candidaemia compared with blood cultures. Despite the test's rapid nature and high sensitivity, time to de-escalation remains at 2 days suggesting variations in physi-
cians' utilization of T2 test results.

**Disclosures.** All authors: No reported disclosures.

---

**2067. Relationship of T2 Candida Panel to Disease Severity, Mortality and Time to Therapy in Patients with Candidemia**

Orlando DTURNER, MD; Justin F.HAYES, MD; Todd P.MCCARTY, MD; Mala MANNING, MD; Craig JHOESELY, MD and Peter PSGPAPPAS, MD;
Division of Infectious Diseases, University of Alabama at Birmingham, Birmingham, Alabama, 
Birmingham VA Medical Center, Birmingham, Alabama, 
University of Alabama at Birmingham, Birmingham, Alabama, 
Division of Infectious Disease, University of Alabama at Birmingham, Birmingham, Alabama,

**Session:** 236. Diagnostics - Mycology

**Saturday, October 7, 2017: 12:30 PM**

**Background.** Candidaemia is a common hospital-acquired infection that is associ-
ated with high mortality. Diagnosis via blood cultures (BC) is limited by poor sensitiv-
ity (50%) and slow turnaround time (2–5 days). T2Candida (T2C) is a newly available 
fast test using magnetic resonance that can detect 5 species of Candida from whole 
blood in < 6 hours with a sensitivity of 91.1%.

**Methods.** We performed a retrospective analysis of all cases of candidemia detected by BC and/or T2C during 2016 at UAB Medical Center. The test was targeted to ICU patients who had higher risk criteria for candidemia. We collected APACHE II scores at the time of BC or T2C test collection as a surrogate for severity of illness. Other outcomes included 30-day mortality and time to initiation of therapy (TTT).

**Results.** We identified 139 patients with candidemia, defined as a positive BC (BC+) and/or positive T2C (T2C+). Performance of a single test led to diagnosis in 103 patients (74%). On initial diagnosis if both a BC and T2C were performed within a 24-hour interval, patients were grouped based on the results of both tests. 36 patients (26%) had both tests performed: 8/36 (22%) were concordant (BC+/T2C+) and 28/36 (78%) discordant. 23/28 patients (82%) with discordance were BC+/T2C- and the remaining 5 were BC+/T2C+. The difference in APACHE II scores and 30-day mortality of BC+ patients (13.6, 0.36) and T2C+ patients (16.4, 0.64) were not significant (P-values 0.06 and 0.29, respectively); the difference in TTT between BC+ patients (1.6 day) and T2C+ patients (0.1 day) was statistically signif-

**Conclusion.** T2C demonstrated excellent sensitivity (88.6%) in a ‘real world’ setting 
focused in the ICU. We observed a significant reduction in TTT associated with 
the T2C assay, but did not observe an improvement in survival with earlier therapy 
for candidemia defined as a BC+/T2C+. Patients with T2C+ had higher APACHE II scores suggesting biased testing towards sicker patients. We cannot explain the large number of discordant results (BC+/T2C+, BC+/T2C-), but hypothesize that T2C+ may be a more 
sensitive marker for invasive candidiasis/candidemia. These data strongly endorse the need for a large, prospective, multicenter study exploring the use of T2C vs. standard 
care in the diagnosis and management of this disorder.

---

**2068. High-volume Sputum Culture for the Diagnosis of Pulmonary Aspergillosis**

Pascalis VERRIGLIA, MD, MSc; Caroline Moore, PhD; Ruta Rautemaa-Richardson, PhD, FRCPATH; Malcolm Richardson, PhD, FRCPATH; 
University Hospital of South Manchester, University of Manchester, Manchester, United Kingdom, 
Mycology Reference Centre, Manchester, United Kingdom

**Session:** 236. Diagnostics - Mycology

**Saturday, October 7, 2017: 12:30 PM**

**Background.** Improved diagnostics are needed for the management of inva-
sive fungal infections. Standard sputum cultures have a low yield in the detection 
of mold. Conventionally only a fraction of the specimen is cultured. We studied the 
performance of high-volume cultures (HVCs) where the entire specimen is plated on 
Sabouraud agar (SA).

**Methods.** Specimens were collected at our centre from January 2015 through February 2017. For conventional culture, sputum was homogenized by mixing with an equal volume of 0.1% dithiothreitol solution and diluted 500-fold in sterile water. Ten μL of the diluted specimen was cultured on SA (2 plates) and incubated at 37°C and 45°C for up to 5 days. For HVC, the entire undiluted specimen (up to 1 mL) was 
cultured on SA (2 up to 2 plates) and incubated at 30°C for up to 14 days.

**Results.** We studied 306 paired specimens that were collected for both conven-
tional culture and HVC on the same day. A total of 139 patients with positive cultures had the following conditions: chronic pulmonary aspergillosis (58%), allergic bronchopulmonary aspergillosis/severe asthma with fungal sensitization (27%), Aspergillus bronchitis (9%), cystic fibrosis/bronchiectasis (6%).

Aspergillosis was recovered by HVC in 114 specimens that had no mold growth 
by conventional culture. The same Aspergillus species was recovered by both HVC 
and conventional culture in 50 paired specimens. For 142 specimens there was no 
Aspergillosis growth by HVC (Penicillium spp. grew in 4). For two of the negative 
HVC specimens *A. fumigatus* grew by conventional culture. The following species were 
recovered by HVC: *A. fumigatus* (80%), A. niger (10%), A. flavus (3%), other (7%). 
Susceptibility testing (EUCAST standard) was performed for 127 isolates of *A. fumigat-
us*. Rates of antifungal resistance were as follows: itraconazole 28%, voriconazole 19%, 
posaconazole 28%, isavuconazole 32%, amphotericin B 8%. Pan-azole resistance was detected in 17%. If HVCs were not performed, resistance to at least one of the antifun-
gals would have been missed in 7 (47%) of cases.

**Conclusion.** The recovery rate of Aspergillus spp. is significantly higher for HVCs compared with conventional cultures and this can impact patient care. HVCs can be 
performed in any microbiology laboratory without the need for additional tools.

**Disclosures.** R. Rautemaa-Richardson, Ph. D., Pfizer, Astellas, Gilead Sciences, MSD, 
Basilea: Consultant, Speaker honorarium; M. Richardson, Pfizer, Astellas, Gilead 
Sciences, MSD, Basilea and Pulumcide: Consultant, Speaker honorarium

---

**2069. Automated Detection of Candida auris Direct from Whole Blood by T2MR**

Brendan MANNING, Ph. D.; Jessica S. SNYDER, Ph. D.; Benjamin CHANG, BSc; 
Cathy WONG, BSc; Trisha HIGA, BSc; Robert SHIVERS, Ph. D. and Thomas J. LOWEY, 
Ph. D.; T2 Biosystems Inc., Lexington, Massachusetts

**Session:** 236. Diagnostics - Mycology

**Saturday, October 7, 2017: 12:30 PM**

**Background.** Candida auris is now recognized worldwide as a virulent 
pathogen that is difficult to manage, resulting in high mortality rates. The major-
ity of *C. auris* isolates have exhibited resistance to one or more antifungal 
agents. Nosocomial infections caused by *C. auris* are growing due to the increasing rate 
of colonization and environmental causes. The diagnostic tests available for the iden-
tification of *C. auris* are limited to date. Additionally, microbiological cultures and 
subsequent identification of Candida species require 2–5 days, and have a sensitiv-
ity of approximately 50%. Accurate diagnosis of a *C. auris* infection is also ham-
pered by misidentification of *C. auris* as other species, commonly *C. haemulonii* and 
Saccharomyces cerevisiae.*

Here we evaluate the use of the T2MR platform for the highly sensitive, rapid 
species level identification of *C. auris*, *C. lusitaniae* and *C. haemulonii* in whole blood 
samples.