Background. Candida species are the fourth leading cause of nosocomial bloodstream infections in the United States. Unfortunately, detection, identification and susceptibility testing using standard instrumented blood culture systems and routine microbiological techniques may take 4–10 days. Moreover, sensitivity of routine blood cultures for candidemia is only ~50 to 75%. The T2 Candida Panel (T2CP) is an FDA- approved assay that rapidly detects the presence of five Candida species directly from whole blood in 3–5 hours. We examined mortality and antifungal therapy (AFT) decisions based on positive (pos) results of a T2CP in patients with negative (neg) blood cultures.

Methods. We performed a case series of all patients who had a pos T2CP with concomitant neg blood cultures at our institution from March 1, 2016 to March 1, 2018. If a patient had multiple valid T2CP, only the first pos result was used for analysis. Medical records were reviewed for demographics, comorbidities, risk factors for candida infection, length of stay, use and duration of AFT, and 14-day and in-hospital mortality from the time of the T2CP.

Results. Fifteen patients were identified who met inclusion criteria. Eight patients were immunocompromised: four (26.7%) solid cancer malignancy, three (20%) hematologic malignancy, and one kidney transplant recipient. Post T2CP results by species were as follows: 53.3% C. albicans/C. tropicalis, 40% C. parapsilosis, and 6.7% C. glabrata/C. krusei. Median SOFA, Charlson comorbidity index, and Candida scores were 6, 6, and 9, respectively. Fourteen-day mortality was 40% and in-hospital mortality was 53.3%. Only two patients were on prophylactic AFT due to an underlying hematologic malignancy at the time of T2CP; in both cases, azole AFT was replaced with an echinocandin in response to the pos T2CP. Of the remaining 13 patients who were not on prophylactic AFT, all were started on AFT post pos T2CP result.

Conclusion. Early escalation or initiated AFT therapy based on pos T2CP in severely ill patients who had negative blood cultures. Unfortunately, the population had high severity index scores and high mortality despite initiation or escalation of AFT. We hypothesize that earlier testing and detection of Candida fungemia may lead to faster initiation of AFT and better outcomes.

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2055. Utility of Aspergillus Galactomannan Assay in Allogeneic Stem Cell Transplant Recipients

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Background. Allogeneic hematopoietic stem cell transplantation (HSCT) is a valuable treatment option for patients with some blood/malignant disorders. However, this procedure may be complicated by life-threatening infections, including invasive aspergillosis (IA). Diagnosis of IA is challenging due to nonspecific symptoms that present similar to other infections; and delays in initiation of treatment are associated with poor outcomes. The galactomannan assay (GM) is a widely used test for the early diagnosis of IA and allows for prompt initiation of antifungal therapy. However, a positive (+) GM result requires further workup for a definitive diagnosis. Furthermore, false-positives can lead to unnecessary treatment with expensive and potentially toxic antifungal medications.

Methods. This is a retrospective single-center study of patients >18 years of age post-allogeneic HSCT at UC San Diego Health from January 2015 to December 2016 with GM results reported in the electronic medical record. Data includes patient demographics, GM results up to 100 days post-HSCT, antifungal prophylaxis, further testing performed, diagnosis of possible, probable and proven IA, and outcome of infection.

Results. In total, 108 patients met criteria for enrollment in this study. There were a total of 1,354 GM results, of which only 2.8% (38) were positive (≥1 GM) in 25 patients (23% of all patients). Of these, 20 (80%) were found to be false-positives. In total, 17 of 108 patients were diagnosed with probable IA. Of those, 5 patients had >0 GM, and two had ≥1 GM. In the two with ≥1 GM, IA diagnosis was notably made prior to the GM result. In only three of the seven cases did ≥1 GM screening lead to diagnosis of IA; of these, two patients had acute GVHD and one developed infection during neutropenia, in the first 2 weeks post-HSCT.

Conclusion. Routine GM testing adds to cost and is not a useful predictor of IA infection in the studied population. Studies to determine what populations, if any, would most benefit from routine pre-emptive GM or other fungal screening are needed.

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2056. Trypanosoma cruzi DNA Detection by PCR in Dried Blood Spots Preserved in Filter Paper

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Background. Trypanosoma cruzi is a parasite of the Old World and the New World that causes Chagas disease, the most prevalent parasitic disease in Latin America. T. cruzi has the potential to be transmitted vector-borne or by transfusion. Early diagnosis of Chagas disease is important for appropriate treatment and follow-up. A previous study showed that DNA detection by PCR in dried blood spots preserved in filter paper could be an alternative test for the diagnosis of Chagas disease. The objective of this study was to develop a rapid method of detection of T. cruzi DNA in dried blood spots preserved in filter paper.

Methods. Fixed sections of Whatman filter paper with different concentrations of T. cruzi were prepared (100/ml/10-7/ml) and stored at room temperature, 4 and 24°C in the presence or absence of a desiccant. Samples (8 mm) were taken at 7, 60, 90 and 240 days of preservation. Endpoint PCR, targeting 185 base pair, was used for the detection of T. cruzi DNA directly on the filter paper.

Results. T. cruzi DNA was detected at all sampling times up to the 10-7/ml concentration independently of the storage. The effect of humidity was observed at 240 days preservation with the observation of faded bands in agarose gels. For the 10-7/ml concentration, T. cruzi DNA was detected only at 7 days regardless of preservation. When comparing T. cruzi DNA detection using increasing sections of filter paper (8, 16 and 24 mm), T. cruzi DNA was detected in all areas tested in the concentration of 10-7parasites/ml and only when using 24 mm for the concentration of 1 parasite/ml. DNA detected in filter paper allowed detection of T. cruzi DNA by endpoint PCR in the different conservation conditions up to 8 months. The detection of parasite DNA was improved by increasing the area of paper tested. The preservation of blood on filter paper would provide a safe transport of samples in remote areas to distant specialized laboratories to perform diagnosis using molecular techniques.

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