Methods. A multiplex assay targeting C. auris, C. lusitaniae, and C. haemulonii was developed using cultured cells spiked in KEDTA anticoagulated blood from healthy human donors. C. auris isolates received from the CDC were cultured overnight, automated cell counting was used to determine concentration. From this stock, the culture was diluted to a target titer, and inoculated into whole blood, followed by confirmatory plating to confirm cell titer. Four mL spiked blood samples were processed on the T2Dx Instrument.

Results. Sensitive and specific detection of C. auris was achieved direct from blood in less than 4 hours on the T2Dx Instrument. A Limit of Detection (LoD) for C. auris was demonstrated to be ≤10 CFU/mL. T2MR signals of samples spiked with target were approximately 30 times higher than samples with no target present, and no cross reactivity was observed between C. auris, C. haemulonii, C. lusitaniae and C. krusei.

Conclusion. Low concentrations of Candida cells can be detected and identified by T2MR. This prototype assay potentially allows for the rapid screening and identification of patients infected with Candida auris with high specificity and sensitivity, aiding in the hospital management and targeted therapy of this emerging multi-drug resistant pathogen.

Disclosures. B. Manning, T2 Biosystems: Employee and Shareholder, Salary; J. L. Snyder, T2 Biosystems: Employee and Shareholder, Salary; B. Chang, T2 Biosystems: Employee and Shareholder, Salary; C. Wong, T2 Biosystems: Employee and Shareholder, Salary; R. Shivers, T2 Biosystems: Employee and Shareholder, Salary; T. J. Lowery, T2 Biosystems: Employee and Shareholder, Salary

2070. Contribution of the qPCR for the Diagnosis of Pneumocystosis

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Background. Pneumocystis jiroveci pneumonia (PCP) is an opportunistic fungal respiratory infection. The incidence of PCP has decreased among HIV patients, however among non HIV-negative patients on immunosuppressive drugs; an increase in incidence is noted. In this population, the diagnosis of PCP is difficult because the clinical presentation is atypical and the direct examination (DE) of the respiratory secretions is often negative. In this context, detection of Pneumocystis jiroveci DNA in respiratory secretions by real-time quantitative chain reaction (qPCR) should be useful.

Methods. In order to evaluate the usefulness of qPCR, all patients hospitalized in medicine or intensive care unit (ICU) in a university hospital and having a positive qPCR in respiratory secretions were included in a retrospective study conducted between 2013 and 2016. Based on clinical data, respiratory secretions, imaging and treatment, patients were classified into three groups: certain PCP, possible, or colonized patients.

Results. One hundred and fifty patients, including 38 infected with HIV, were included: 75 in medicine and 75 in intensive care. Ninety patients (60%) had broncho-alveolar lavage. The diagnosis of PCP was considered certain or possible for 52 and 77 patients respectively and rejected (colonization) for 21 patients. DE was negative for 78% of non-HIV patients and 29% of HIV patients. Among the 129 patients with PCP, the hospital mortality was 35.9% in ICU and 21.5% in medicine. The median value of qPCR was 76.650 copies/mL among patients with PCP and 3.220 copies/mL among colonized patients (P < 0.001) with no significant difference in type of respiratory specimen or place of hospitalization. The optimal threshold value of qPCR determined from the ROC curve was 10,100 copies/mL with a sensitivity of 76.6% and a specificity of 86%. Specificity was 100% at the threshold of 59,250 copies/mL.

Conclusion. If qPCR alone is imperfect for the differential diagnosis between colonization and infection, it has the merit of guiding the clinician towards the diagnosis of PCP especially for non-HIV patients whose DE of the respiratory secretions is negative.

Disclosures. All authors: No reported disclosures.

2071. Endocarditis Is Not Rare and Is an Independent Predictor of Mortality in Candidaemia

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Background. Candida endocarditis (CE) is a highly fatal manifestation of candidaemia. Currently, CE is considered rare. The objective of this study was to determine the incidence, risk factors and outcome of CE in candidaemia, in order to guide the screening.

Methods. Retrospective chart review of patients with candidaemia from a tertiary center in Australia, admitted between January 2005 and December 2015, was conducted. Clinical characteristics and outcomes of patients with CE and without CE were compared, and logistic regression analyses were performed to identify the risk factors associated with CE and mortality.

Results. Eighty-six patients with candidaemia were identified with mean ± SD age of 52 ± 22 years, comprising 51% males. Candida albicans was the most common species (41%). Echocardiogram was performed in 86% of cases. Eleven patients (13%) had evidence of candidaemia in the hospital-acquired, but patients with CE were more likely to have community-acquired fungaemia (P < 0.001), dissemination to other organs (P < 0.001), and a cardiac prosthesis (P < 0.05). On logistic regression, community-acquired fungaemia (odds ratio OR: 22.3; P < 0.001) and presence of a cardiac prosthesis (odds ratio OR: 4.0; P < 0.05) were predictors of CE. Overall mortality rates for candidaemia were 14% for 30-day and 16% for 90-day. Mortality was much higher in patients with CE (27% for 30-day and 36% for 90-day), and CE was an independent predictor of candidaemia-related mortality (OR: 6.2; P < 0.05 for 30-day; and OR: 8.3; P < 0.05 for 90-day).

Conclusion. CE is not rare in candidaemia, and is associated with very high mortality. Low index of suspicion for CE and early investigation with echocardiogram are indicated, especially in patients with cardiac prosthesis or community-acquired candidaemia.

Disclosures. All authors: No reported disclosures.

2072. Comparison of One vs. Two BACTEC Myco/F Lytic Bottles for Recovery of Fungi and Mycobacteria

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Background. The BACTEC Myco/F Lytic bottle (Becton Dickinson), along with the Wampole Isolator lysis centrifugation tube (Alere) are used to enhance recovery of fungal and mycobacterial organisms from blood. At our institution, one Isolator tube and two Mulflec Lytic bottles are inoculated for each suspected case of fungemia or mycobacteremia. A retrospective analysis of 7518 cultures over 6 years was performed to determine whether one or two Myco/F Lytic bottles were required for optimal recovery of these organisms.

Methods. Blood was collected by a phlebotomy team and distributed into three blood culture receptacles: 2 Myco/F Lytic bottles each with 4 mL of blood and one Isolator tube with 8 mL of blood. The sediment from the processed Isolator tube was inoculated onto Inhibitory Mold Agar, Emmons Sabouraud Dextrose Agar, and the Wampole Isolator lytic bottle. The Myco/F Lytic bottles were incubated for 42 days on the BACTEC FX instrument and the plated media was incubated for 30 days. We compared the recovery of fungal and mycobacterial organisms from one vs. two Myco/F Lytic bottles at our institution from April, 2004 through October, 2010. Myco/F Lytic bottles were randomly assigned as the first or second bottles and additional culture positivity results for the second bottle was compared with that of the first bottle and the Isolator tube together.

Results. 171 (2.3%) cultures were positive with fungal or mycobacterial isolates from a total of 7518 cultures. Among 171 positive cultures, 28 (16.4%) grew only in the second Myco/F Lytic bottle. Among these, 20 were fungi (Histoplasma capsulatum, n = 7, Candida sp., n = 7, filamentous fungi, n = 4, Cryptococcus neoformans, n = 1, other yeast, n = 1), 7 were mycobacterial species (Mycobacterium avium complex, n = 7) and 1 was an aerobic actinomycete (Streptomyces sp). 74/15 (49.6%) of H. capsulatum isolates, 19/18 (99.6%) of M. avium complex isolates and 1/17 (5.9%) of C. neoformans isolates grew in the second Myco/F Lytic bottle only.

Conclusion. The use of two Myco/F Lytic bottles increases the recovery of certain fungal and mycobacterial organisms from blood as compared with one Myco/F Lytic bottle.

Disclosures. All authors: No reported disclosures.

2073. Utility of Serial β-D-Glucan Levels in Patients with High Risk for Invasive Candidiasis: A Potential Tool for Antifungal Stewardship

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Session: 236. Diagnostics - Mycology
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Background. Invasive candidiasis (IC) is a severe infection in which diagnosis is challenging and often made late in the course of infection. Patients with delayed initiation of antifungals have high mortality risk; physicians tend to start empiric therapy at earliest clinical suspicion of IC. Excessive use of antifungals worsens selection pressure for resistance. Thus, alternative ways to aid antifungal stewardship are highly