**Background.** *Aerococcus urinae* is an emerging urinary pathogen frequently identified by MALDI-TOF. It is generally susceptible to β-lactams, however, its susceptibility pattern to fluoroquinolones (FQ) remains variable. The goals of this study were to (i) evaluate the performance of the gradient diffusion method (Etest) to determine FQ resistance compared with broth microdilution (BMD) and (ii) to estimate the resistance rate of *A. urinae* toward FQ in Quebec hospitals.

**Methods.** Two hundred seven consecutive isolates of *A. urinae* from urinary tract specimens originating from five hospitals in Quebec and Montreal were identified by MALDI-TOF (Vitek MS and Bruker). All isolates were tested with the BMD and gradient diffusion methods. BMD was carried out in triplicate and was conducted in accordance with CLSI guidelines (M45-A3). Isolates with insufficient growth at 24 hours were re-incubated and evaluated at 48 hours. The gradient diffusion method was carried out using Etest strips on Mueller-Hinton agar with 5% sheep blood.

**Results.** Of the 207 isolates of *A. urinae*, 52 (25%) gave uninterpretable results using the BMD method (insufficient growth = 20; trailing = 32). We obtained the following results for the remaining 155 isolates:

| Antimicrobial   | Susceptible, n (%) | Intermediate, n (%) | Resistant, n (%) |
|-----------------|--------------------|---------------------|-----------------|
| Ciprofloxacin   | 105 (67%)          | 16 (10%)            | 35 (23%)        |
| Levofloxacin    | 114 (71%)          | 6 (4%)              | 33 (22%)        |

**BMD readings were often complicated by noticeably poor growth.** The categorical agreement of the Etest was 83% for ciprofloxacin and 95% for levofloxacin. Four very major errors were identified in a preliminary manner on 11% (4/35) of the ciprofloxacin-resistant isolates and 11% (4/35) of the levofloxacin-resistant isolates. Agar dilution will be done to confirm these results.

**Conclusion.** In our experience, the method recommended by the CLSI for *A. urinae* susceptibility testing of FQ present several problems, including insufficient growth and difficulty of reading. The Etest appears to be a promising method for susceptibility testing of FQ for urinary tract isolates, but will first require a further comparison with agar dilution methods. In our study, the rate of FQ non-susceptibility of *A. urinae* was 27% for levofloxacin and 33% for ciprofloxacin. Therefore, FQ cannot be empirically recommended for the treatment of urinary tract infections caused by *A. urinae*.

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2002. Evaluation of the BioFire® Pneumonia Panel in ICU Patients With Suspected Ventilator-Associated Pneumonia

**Background.** Ventilator-associated pneumonia (VAP) is one of the most commonly encountered hospital-acquired infections worldwide, and one of the major contributors to an over mortality in critically ill patients. Initial empirical antimicrobial therapy is often broad spectrum. Fast identification and quantification of microorganisms is of great importance to enable early effective targeted antimicrobial treatment. This trial compares the performance of the new BioFire Pneumonia Panel (BPP) with quantitative conventional culture (CC) and an independent real-time quantitative molecular-based method (MM), in Intensive Care Unit (ICU) patients with VAP suspicion.

**Methods.** Bronchoalveolar lavage (BAL) specimens from 120 patients with suspected VAP, enrolled at four different French ICUs, during January to November 2013, were run in an ABI 7500 Dx thermocycler (MM). A total of 15 bacterial targets, commonly detected by the three methods, were analysed for concordance according to an agreed threshold for positivity. While every step is fully integrated, from specimen-to-results (BPP), bacterial DNA was extracted from each sample on the NucliSENS easyMAG Platform, and real-time polymerase chain reactions were run in an ABI 7500 Dx thermocycler (MM).

**Results.** A total of 117 different BAL specimens were processed. Positive culture was obtained for 65.8% of BAL, while positive detections were observed in 79.4% with BPP and 75.4% with independent MM. Fourteen different species were detected by the three methods, with majority of the bacteria being *S. aureus*, *P. aeruginosa*, and *H. influenzae*. Overall concordance between BPP and CC was 89.0% (83.1%–94.9%) positive percentage agreement (PPA) and 95.9% (95.0%–96.9%) negative percentage agreement (NPA). Overall concordance between BPP and MM was 97.1% (93.8%–100.3%) PPA and 96.6% (95.6%–97.6%) NPA. Following discrepancy analyses overall performance increased to 95.3% (91.2–99.3%) PPA when comparing BPP to CC.
between Xpert SA and the culture results. M ethicillin resistance was determined using conventional methods (susceptibility testing or detection of altered penicillin binding protein).

Results. When compared with culture for the identification of SA (n = 481), there was an agreement of 95.0% with sensitivity and specificity being 95.6% and 94.8%, respectively. Among those culture-confirmed and Xpert SA positive samples (n = 131), the concordance between Xpert SA and conventional methods for detection of methicillin resistance was 97.0% with sensitivity and specificity being 100% and 96.3%, respectively. Four culture-confirmed methicillin-resistant SA (MSSA) were identified as MRSA by Xpert SA. Among 504 nasal specimens, 23 (4.6%) samples had invalid or instrument failure results. Nasal swabs collected from pediatric patients (≤21 year-old) had a higher invalid/instrument failure rate (5.0%) than those from adults (0%) (P < 0.001).

Conclusion. Xpert SA Nasal Complete assay provides a rapid and sensitive method to detect and differentiate between MSSA and MRSA colonization. The higher invalid rate in pediatric patients and misidentification of MSSA as MRSA by Xpert SA warrant the confirmation by bacterial culture and conventional susceptibility test.

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2005. T-SPOT.® Test for Latent Tuberculosis Infection Diagnosis and Treatment Guidance in Thai Healthcare Professionals

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Session: 228: Diagnostics: Bacteria and Mycobacteria

Saturday, October 6, 2018: 12:30 PM

Background. Data on efficacy of T-SPOT.® Test (T-SPOT) in diagnosing latent tuberculosis infection (LTBI) and guiding isoniazid preventive therapy (IPT) among healthcare professionals (HCP) in tuberculosis (TB)-endemic settings are limited.

Methods. A prospective study was conducted among Thai HCP undergoing T-SPOT in June 2016 (initial screening) and June 2017 (follow-up). Nine-month isoniazid preventive therapy (IPT) was offered among the HCP with positive T-SPOT. The incidence of TB and the rates of conversion and reversion of T-SPOT were evaluated during the 1-year follow-up period (June 2016 to June 2017).

Results. A total of 140 HCP underwent initial T-SPOT; the median age was 27 years (IQR 25–31 years), 89% were female and 23% were T-SPOT-positive. Eighty-nine HCP (64%) had both initial and follow-up T-SPOTs. Among the 89 HCP, the initial and follow-up rates of T-SPOT positivity were 19% (N = 17) and 24% (N = 21), respectively. The conversion and reversion rates were 10% (N = 9) and 6% (N = 5), respectively. All of the nine HCP (100%) with T-SPOT conversion reported significant contacts with patients who had active pulmonary TB without using appropriate personal protection equipment. During the 1-year follow-up period, incidence of TB was significantly higher among HCP with T-SPOT conversion compared with HCP with persistent positive T-SPOT. HCP with T-SPOT reversion and HCP with persistent negative T-SPOT [22 vs. 8 vs. 0 vs. 0 cases/100 person-years; P < 0.001]. Of the 17 HCP with positive initial T-SPOT (84%) completed IPT. The incidence of TB was significantly lower and the T-SPOT reversion rate was significantly higher among HCP completing IPT compared with HCP declining or not completing IPT (0 vs. 11 cases/100 person-years; P < 0.001 and 63% by P = 0.009, respectively).

Conclusion. T-SPOT could be used for diagnosing LTBI, guiding IPT and identifying HCP with subsequent risk for TB. The serial T-SPOT may be used for evaluating IPT efficacy.

Disclosures. All authors: no reported disclosures.

2006. Implementation of the T2 Biosystems T2Bacteria Panel in a Level-One Trauma Center, Safety Net Hospital

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Session: 228: Diagnostics: Bacteria and Mycobacteria

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Background. Rapid detection and identification of sepsis causing pathogens are critical for optimizing antimicrobial therapy to improve patient survival and reduce healthcare costs. The T2Bacteria Panel RUO is a molecular diagnostic allowing detection of Gram-negative Escherichia coli, Klebsiella pneumoniae, Pseudomonas aeruginosa, Acinetobacter baumannii and Gram-positive Staphylococcus aureus and Enterococcus faecium within a few hours. The purpose of our study was to determine the feasibility and efficacy of the T2Bacteria Panel RUO in an Emergency Medicine (ED) and Surgical Intensive Care Unit (SICU) setting.

Methods. An IRB-approved, prospective, observational study was implemented at a Safety-Net, Level One Trauma Center in Denver, Colorado. Patients were enrolled who were at an order for a blood draw from the ED or SICU. Patients who had blood drawn for cultures had a concurrent draw for testing with a T2Bacteria Panel RUO.

Results. Sixty-six patients are included in the present interim analysis. Mean patient age was 51 years (19–84), 36% were female, 46% Caucasian (34% Hispanic/Latino), and 74% of patients were enrolled upon presentation to the ED, 13% from the SICU, and 15% from the wards. 90% of blood sampling (culture and T2Bacteria) was done from peripheral stick while 7% were from the initial stick of a peripheral IV and 3% were acquired from an indwelling catheter. 85% of blood cultures were negative. Of the 56 patients with negative blood culture, 53 had discordant negative T2Bacteria results, providing a specificity of 94.6%. 10 patients had positive blood cultures (15%) for T2Bacteria Panel RUO targets. Interestingly, only five of these (50%) had discordant positive T2Bacteria testing. Examining the discordant samples, all (5) blood culture positive T2Bacteria negative were found to have clinically false-negative blood cultures. T2Bacteria positive samples were distributed as follows: two E. coli, one S. aureus, one K. pneumoniae, and one P. aeruginosa. No detections were made for E. faecium or A. baumannii.

Conclusion. In this interim analysis, T2Bacteria Panel RUO provides feasible rapid diagnostics for ED and surgical ICU settings with a high specificity and much shorter time to result when compared with gold standard blood cultures.

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2007. To Treat or Not to Treat: Does a More Sensitive and Specific Testing Methodology Make the Treatment Decision More Clear?

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Session: 228: Diagnostics: Bacteria and Mycobacteria

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Background. Clostridium difficile infection (CDI) is a leading cause of infectious diarrhea in healthcare settings in the United States. Accurate testing methodology provides guidance to clinicians as to when to treat. Our study was designed to determine whether more sensitive testing methodology implemented in 2013 reduced unnecessary treatment of hospital associated diarrhea (HAD).

Methods. In 2012, patients with HAD were tested with the less sensitive testing method of C. difficile Toxin Assay by ELA. In 2013, a three-step algorithm incorporated C. difficile glutamate dehydrogenase antigen (GDH) in combination with an enzyme-linked immunosorbent immunoassay for Toxin A and B was introduced. Those samples with discrepant results (positive on only one of the two) were considered indeterminate and subjected to the nucleic acid amplification test (NAAT) for CDI genes. In a retrospective chart review of HDAs, we assessed the decision to treat based on the laboratory results available at the time in the pre-algorithmic and post-algorithmic periods. Multiple demographic factors and comorbid conditions were analyzed to provide clues to why the patient may have had continued treatment despite negative assays.

Results. The rate of treated patients despite negative CDI testing in the pre-algorithmic period was 59% (118/444) and 41% (82/209) in the post-algorithmic period (P = 0.0765). A multiple logistic regression analysis was done for all tested factors. The factors that led to treatment despite negative testing in both time periods included: organ transplantation (P = 0.0003), other immunosuppressive conditions (P = 0.0447), prior hx of CDI (P = 0.0021), longer length of stay (P = 0.0105), and hx of hypertension (P = 0.0173).

Conclusion. While there was a downward trend toward holding CDI treatment in those with negative CDI testing as the more sensitive and specific algorithm was introduced it did not reach statistical significance. The higher risk patients were statistically more likely to be treated even if the testing was negative. Further efforts should be made to educate clinicians as to the accuracy of the testing methods so that appropriate antibiotic de-escalation can be achieved even in high-risk patients with diarrhea.

Disclosures. All authors: no reported disclosures.

2008. Effective and Early Diagnosis of Pneumonia in Patients With Acute Leukemia in a Comprehensive Cancer Center: How Can We Improve the Microbiological Diagnosis?

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