Conclusion. Our in-depth chart review, with attention to misleading symptoms and any documentation of the provider thought process, highlights new factors associated with inappropriate ASB treatment. Patients with even a single SIRS criteria are at risk for unnecessary treatment of ASB; this finding can help design antibiotic stewardship interventions.

Disclosures. Barbara Trautner, MD, PhD, Genentech (Consultant, Research Study Investigator)

74. Evaluation of the Differences in Appropriateness of BioFire® FilmArray® Gastrointestinal Panel Testing between Emergency Department and Inpatient Services

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Session: P-05. Antimicrobial Stewardship: Diagnostics/Diagnostic Stewardship

Background. Use of rapid molecular diagnostic panels in the evaluation of diarrhoea provides increased sensitivity for organism identification and decreased time to results. However, their inappropriate use can lead to unnecessary expenditures and antimicrobial exposures. We aimed to characterize the appropriateness of testing using the BioFire® FilmArray® Gastrointestinal Panel (SFA) in different clinical settings and to describe the impact of SFA results on patient care.

Methods. Retrospective study of adult patients presenting to hospitals part of an integrated health system in Des Moines, Iowa, between July 30 and September 30, 2019, and who had a SFA ordered and collected in the Emergency Department (ED) or an inpatient service. The appropriateness of SFA testing was determined according to adherence to a local algorithm available through the hospital’s intranet (Figure 1). Reason for testing, appropriateness of SFA test, molecular targets identified, and antibiotic expenditures were collected. Results. We identified 257 patients, 111 (43.2%) who had SFA done in the ED and 146 (56.8%) as inpatients. Testing was deemed inappropriate in 46 (41.4%) of ED patients compared to 100 (68.5%) of inpatients (p = 0.0001). Documented indications for SFA are presented in Table 1. Among ED patients testing was most frequently considered inappropriate due to absence of diarrhea on the day of test collection (41.3%), and among inpatients due to the use of SFA for assessment of hospital-onset diarrhea (47.0%) (Table 2). Other, there were 94 (36.6%) positive SFA (Figure 2). Among ED patients, the percentage of positive SFA samples was 30.4% and 50.8% for inappropriate and appropriate testing respectively (p = 0.03), while for inpatients it was 33.0% for inappropriate orders and 30.4% for appropriate orders (p = 0.76). Antibiotics were prescribed to 28.2% and 28.1% of patients tested in the ED and inpatient service respectively.

Table 1. Reasons for considering testing with BioFire® FilmArray® Gastrointestinal Panel inappropriate according to clinical setting

| Clinical indication | ED (n=111) | Inpatient (n=146) |
|---------------------|------------|------------------|
| Hospital-acquired infection | 47 (42.5%) | 87 (59.6%) |
| Patients positive for SFA on another occasion | 31 (28.0%) | 37 (25.4%) |
| Patients with > 1 SIRS criteria | 23 (20.7%) | 22 (15.1%) |
| Patients with an infection other than ASB | 20 (18.0%) | 14 (9.6%) |
| Patients with other risk factors (ACS, ICH, etc.) | 16 (14.4%) | 10 (6.9%) |
| Patients with recent receipt of high-dose steroids within 2 weeks | 15 (13.5%) | 8 (5.5%) |
| Patients with history of organ transplant | 14 (12.6%) | 6 (4.1%) |
| Patients with diabetes mellitus | 13 (11.7%) | 5 (3.4%) |
| Patients with history of stem cell transplantation, hematologic malignancies, or receipt of immunosuppressive therapy | 12 (10.8%) | 2 (1.4%) |

Conclusion. High proportions of inappropriate SFA testing were identified both in the ED and inpatient services, with distinct issues in each site. Characterization of the reasons underlying inappropriate use of SFA can aid in the design of diagnostic stewardship interventions tailored to each clinical setting.

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75. Utility of Fungal Blood Cultures in Portland, Oregon

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Session: P-05. Antimicrobial Stewardship: Diagnostics/Diagnostic Stewardship

Background. Fungal blood cultures (fungal isolators) should be used, if at all, primarily for identification of mold infections. At our institution we noted patients having fungal blood cultures drawn in many other situations, including when the primary team was concerned for candida bloodstream infection. We sought to describe the utility of this practice and of fungal blood cultures in general.

Methods. Retrospectively reviewed the results of fungal blood cultures for 2 years, from 3/1/2019-3/1/2021. We evaluated the number of episodes, culture results, whether there was a had prior bloodstream infection, and risk factors for fungal infection including renal replacement (RRT), ECMO, and immunosuppression (IS). Immunosuppression was defined as chronic systemic steroid use, recent receipt of high dose steroids within 2 weeks, history of organ transplant, history of stem cell transplantation, hematologic malignancies, or receipt of a biologic agent.

Results. 187 fungal blood cultures were drawn in 143 patients - 80 cultures in 70 patients from 3/2019-3/2020 and 107 cultures in 73 patients from 3/2020-3/2021. Only 3 patients had positive fungal blood cultures: 1 (Candida krusei) from 3/2019-3/2020 and 2 (Candida albicans and Cryptococcus neoformans) from 3/2020-3/2021; in all 3 cases the organism also grew from standard blood culture isolators. From 3/2019-3/2020, 1/80 cultures were drawn from an individual on ECMO while 15/80 were cultured from an individual on ECMO while 15/80
were drawn from individuals on RRT, and 32/80 were in a IS individuals. From 3/2020-3/2021, 45/107 cultures were drawn from an individual on ECMO, 24/107 were drawn in an individual on RRT, and 73/107 were drawn in a IS individuals. The majority of individuals in whom a fungal blood culture was drawn during 3/2020-3/2021 were individuals with COVID-19. Upon chart review most of the cultures were drawn due to concern for candidemia.

Results of fungal blood cultures drawn from 3/2019-3/2021 at OHSU

Conclusion. Fungal blood cultures have an extremely low yield at our institution, with a 1.6% positivity rate over a 2 year period, and all of those cultures were detected by standard blood culture isolators. Most of these cultures were drawn in situations where this test has no utility. Furthermore, the test has limited utility to detect dimorphic and mold bloodstream infections. Restriction of this test may limit situations where this test has no utility. Furthermore, the test has limited utility to detection of fungal bloodstream infections. Restriction of this test may limit situations where this test has no utility.

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76. Uncomplicated Urinary Tract Infections in the Multi-resistance Era: Is It Time of Microbiologic Diagnosis? An Observational Study in Buenos Aires City

Sylvia Alvaro of Microbiologic Diagnosis? An Observational Study in Buenos Aires City

77. Opportunity for Improved Use of a Commercially Available Meningitis/Encephalitis Panel in Pediatric Patients

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Session: P-05. Antimicrobial Stewardship: Diagnostics/Diagnostic Stewardship

Background. Uncomplicated urinary tract infection (uUTI) is one of the main causes of antibiotics prescription in outpatient setting. Current recommendations, based on studies from pre-antimicrobial resistance era, suggest that diagnosis of uUTI can be made based on clinical symptoms and that urine analysis leads only to a minimal increase in diagnostic accuracy. We analyzed urine cultures (UC) from patients with clinical diagnosis.

Methods. Prospective and observational study carried out in an Emergency Department during August 2016 to August 2017. Women older than 15 years with 2 or more classic symptoms of uUTI and the absence of vaginal discharge and irritation were included. Those with complicated and recurrent urinary tract infection (UTI) were excluded. Urine cytology and UC were performed in all episodes. A bivariate and multivariate analysis was performed considering the probability of having a positive urine culture according to the different symptomatology variables.

Results. We enrolled 208 patients, with a median age of 25 (14-68 years). Previous UTI 6 (2.9%), previous antibiotic (last 3 months) 20 (9.6%). Inflammatory cytology 173 (83.2%), positive UC 130 (52.4%), cystitis 155 (74.5%). Symptoms: dysuria 154 (74%), frequency 111 (53.4%), fever 78 (37.5%), hematuria 43 (20.7%), hypogastric pain 128 (61.5%), back pain 84 (40.4%). Combinations of 3 or more classic symptoms occurred in 52 (25%) episodes. The most frequent association was dysuria, frequency and tenesmus. No statistically significant association was found either in the bivariate or multivariate analysis in relation to presenting positive UC (Tables 1 and 2).

Table 1. Bivariate analysis for symptoms associated urine culture positive

| Symptoms          | Negative n (%) | Positive n (%) | p      | OR IC (95%) |
|-------------------|----------------|----------------|--------|-------------|
| Dysuria           | 70 (45.5%)     | 84 (54.5%)     | 0.296  | 0.849 (0.615-1.598) |
| Frequency         | 48 (42.3%)     | 63 (56.8%)     | 0.179  | 0.836 (0.841-1.086) |
| Tenesmus          | 51 (52.6%)     | 46 (47.4%)     | 0.179  | 1.197 (0.918-1.560) |
| Fever             | 33 (42.3%)     | 45 (57.7%)     | 0.237  | 0.853 (0.659-1.105) |
| Hematuria         | 23 (53.5%)     | 20 (46.5%)     | 0.386  | 1.16 (0.517-1.646) |
| Hypogastric pain  | 64 (50%)       | 64 (50%)       | 0.380  | 1.125 (0.868-1.458) |
| Back pain         | 39 (46.4%)     | 45 (53.6%)     | 0.781  | 0.963 (0.741-1.252) |
| Combination of >=3 symptoms | 27 (51.9%) | 25 (48.1%) | 0.936  | 0.974 (0.519-1.826) |

Table 2. Multivariate analysis for symptoms associated urine culture positive

| Symptoms          | p      | OR IC (95%) |
|-------------------|--------|-------------|
| Dysuria           | 0.155  | 0.568 (0.280-1.238) |
| Frequency         | 0.166  | 0.669 (0.386-1.189) |
| Tenesmus          | 0.118  | 1.588 (0.889-2.837) |
| Fever             | 0.270  | 0.706 (0.380-1.310) |
| Hematuria         | 0.654  | 1.174 (0.582-2.368) |
| Hypogastric pain  | 0.604  | 1.170 (0.647-2.116) |
| Back pain         | 0.342  | 0.719 (0.364-1.420) |
| Combination of >=3 symptoms | 0.687  | 0.79 (0.264-2.402) |

Conclusion. The results show that almost 50% of the patients with a clinical diagnosis of UTI had a negative urine culture. We consider it necessary to rethink the prescription of antibiotics without microbiological confirmation in the first episode of UTI as a strategy to reduce inappropriate use of antibiotics.

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