Staphylococcus aureus is well known to be associated with atopic dermatitis. Recent studies also report S. aureus presence in lesional skin of squamous cell carcinoma (SCC) and its precursor lesion, actinic keratosis (AK). Therefore, it is of potential clinical interest to monitor skin S. aureus colonization on AK lesions. Fourier transform infrared (FTIR) spectroscopy is a cost-effective, nondestructive, and reagent-free technique for rapid microbial identification. It is based on the use of spectral databases developed with well-characterized strains in conjunction with the application of multivariate statistical analysis to elaborate classification models. In the present cross-lab study, spectral databases containing FTIR spectra of over 1000 staphylococcal isolates obtained from reference and clinical microbiology laboratories across Canada were employed in the FTIR spectroscopic identification of Staphylococcus spp. isolated from AK, SCC and peri-lesional skin of atopic dermatitis. The results support the potential utility of FTIR spectroscopic techniques to monitor skin S. aureus colonization on AK lesions.

Method. FTIR spectra of 51 staphylococcal isolates from AK, SCC and peri-lesional skin were acquired by both attenuated total reflectance (ATR)-FTIR and transfection-FTIR spectroscopy. All isolates had been previously characterized by 16S rRNA sequencing. ATR- and transfection-FTIR spectra were recorded in triplicate from isolated colonies taken from the same agar plate. Identification of the bacteria was based on the similarities of their spectra with those in ATR- and transfection-FTIR spectral databases originating from the Canadian lab.

Results. Among the 51 staphylococcal isolates included in this study, identification of S. aureus (n = 24) with 100% specificity and 100% sensitivity was achieved by both ATR- and transfection-FTIR spectroscopy. Overall, FTIR-based species identification was in 90.2% concordance with 16S rRNA sequencing.

Conclusion. This cross-lab study demonstrates the applicability of Canadian isolate-based ATR- and transfection-FTIR spectral databases for the identification of clinical staphylococcal isolates obtained in Australia. The results support the potential utility of FTIR spectroscopic techniques to monitor skin S. aureus colonization on AK lesions.

Disclosures. All authors: No reported disclosures.

2126. Comparison of Time to Appropriate Antibiotic Between Using Microarray Assay and Mass Spectrometry Technique for Identification of Positive Blood Cultures

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Session: 243. Bacterial Diagnostics Saturday, October 5, 2019: 12:15 PM

Background. Microarray-based, multiplexed, automated molecular method is a rapid diagnosis of bloodstream infections by directly identify bacterial pathogens and antibiotic resistance by detection resistance genes from positive blood culture. Previous studies showed significantly reduce time to organism identification from positive blood culture and antibiotic resistance gene with 97.1% sensitivity and 100% specificity. This study aimed to evaluate time to appropriate antibiotic using Microarray Assay and Mass Spectrometry technique for bacterial identification.

Methods. One hundred and forty-five patients with bloodstream infection in medical ward were enrolled between 1 June 2018 and 31 January 2019. There were 2 study periods (pre-intervention and post-intervention), using MALDI-TOF combined identification.

Results. Among the 51 staphylococcal isolates included in this study, identification of S. aureus (n = 24) with 100% specificity and 100% sensitivity was achieved by both ATR- and transfection-FTIR spectroscopy. Overall, FTIR-based species identification was in 90.2% concordance with 16S rRNA sequencing.

Conclusion. This cross-lab study demonstrates the applicability of Canadian isolate-based ATR- and transfection-FTIR spectral databases for the identification of clinical staphylococcal isolates obtained in Australia. The results support the potential utility of FTIR spectroscopic techniques to monitor skin S. aureus colonization on AK lesions.

Disclosures. All authors: No reported disclosures.

2127. Parental Acceptance of Over-the-Counter (OTC) Testing for Streptococcal Pharyngitis

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Background. Group A Streptococcus (GAS), is currently diagnosed by throat culture or rapid antigen detection test (RADT) by a healthcare provider (HP), usually patients in outpatient (OP) setting. There is current interest in expanding OTC diagnostics (FDA approved for HIV and hepatitis C) to other infectious diseases such as GAS pharyngitis. There are no data on parental acceptance of such a test. Our aim was to determine parental acceptance of expanding OTC diagnostic availability for GAS pharyngitis.

Methods. Caregivers of 3-18 years old in OP primary care pediatric clinics were given a questionnaire: data included demographics (excluding all patient identifiers), interest in buying an OTC GAS test, education level, type of health insurance (HI), comfort level swabbing their child, interest in available support/free hotline with duration of fever prior to presentation, head ache, rash, thrombocytopenia and elevated hepatic transaminases. Diagnosis was mainly based on serology. Treatment varied and 8 cases did not receive any treatment at all. Overall pregnancy outcome was chosen to represent the outcome of pregnancy. There was a trend of OTC test interest among those with private HI vs. Medicaid (P = 0.067). There was a statistically significant association between interest in buying an OTC GAS test and the following variables: high self-swab comfort level and availability of support (P = 0.009 and 0.001, respectively). The majority of participating (73/76 (96%)) did not respond to questions about acceptable pricing.

Conclusion. There was mixed interest in OTC GAS testing among respondents. Neither age nor educational level affected interest. Surprisingly, 96% of respondents declined to select a price they would pay for an OTC GAS test. Greater interest in OTC GAS testing among respondents with private HI suggests those parents are more likely to purchase the kits to avoid an HP visit (and co-payment). Since most respondents were comfortable self-swabbing or unsure, further education including web tutorial and support availability may lead to greater comfort level with such testing.

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