Conclusion. Our analysis suggests that age and household exposure predict higher likelihood of protozoal infection in children with AGE. Classic epidemiologic exposures including travel and recreational water exposure were not predictive. These data could improve appropriate test selection. Future studies are still needed for external validation of this model.

Disclosures. **A. Pavia**, BioFire Dx: Investigator, Research support.

2058. Comparison of Drug Resistance Rates of *Mycobacterium tuberculosis* by the Conventional Drug Susceptibility Test and Sequencing Method

Han-Sung Kim, MD, PhD; Department of Laboratory Medicine, Hallym University Sacred Heart Hospital, Anyang-si, Korea, Republic of (South)

Session: 232. Diagnostics: Resistance Testing
Saturday, October 6, 2018: 12:30 PM

Background. Tuberculosis (TB) is caused by *Mycobacterium tuberculosis* and is among the top 10 causes of death worldwide. Multidrug-resistant TB is increasing, with almost 480,000 new cases. According to drug resistance surveillance data, 3.9% of these are new cases and 21% previously treated TB cases. The aim of this study was to compare the results from the conventional drug susceptibility test (DST) and the sequencing method.

Methods. The study included 122 individuals with TB. Drug susceptibility was tested by the conventional DST and sequencing. We calculated the drug resistance rate of each anti-tuberculosis agent and compared the resistance pattern according to each method.

Results. The resistance rates by conventional DST were 6.3, 9.4, 3.1, 7.0, 0.8, and 4.8% for rifampicin, isoniazid, streptomycin, ethambutol, fluoroquinolones, and pyrazinamide, respectively, in the newly diagnosed group, and 4% for both isoniazid and fluoroquinolones in the previously treated group. The resistance rates by sequencing were 6.3, 9.2, 2.0, and 5.8% for rifampicin, isoniazid, ethambutol, and pyrazinamide, respectively, in the newly diagnosed group and 21.1, 28.6, 5.0, and 13.0% for rifampicin, isoniazid, streptomycin, and pyrazinamide, respectively, in the previously treated group. The concordance rates of isoniazid were 70% for resistance and 95% for susceptibility; rifampicin, 80% for resistance and 98% for susceptibility; ethambutol, 98% for susceptibility; pyrazinamide, 17% for resistance and 96% for susceptibility; streptomycin, 98% for susceptibility; and fluoroquinolones, 98% for susceptibility.

Conclusion. The resistance patterns of rifampicin, isoniazid, and pyrazinamide by both methods were analogous to each other in the newly diagnosed group. In addition, the concordance rates of drug susceptibility were high. Therefore, it is helpful to perform both the conventional DST and sequencing method for more precise detection of drug resistance of *M. tuberculosis.*

Disclosures. **All authors:** No reported disclosures.

2059. Comparative Evaluation of Ceftaroline Susceptibility Methods in Clinical Isolates of Methicillin-Resistant *Staphylococcus aureus* (MRSA): Results from a Multicenter Study

Lina M. Rivas, MSc.[1]; Maria Spencer, MSc.[1]; Cecilia Zumaran, TM.[2]; Marusella Lam, TM.[2]; Francisco Silva, MD.[3]; Marcela Cifuentes, MD.[4]; Pamela Rojas, MD.[5]; Stephanie Braun, MD.[6]; Francisca Valdivieso, MD.[7]; Margareta Mühlhauser, MD.[8]; Mónica Lafourcade, MD.[9]; Luz Fuenzalida, MD.[10]; Victoria Moreno, MD.[10]; Lorena Porte, MD[11]; Rafael Araos, MD, MMSc[12]; Patricia Garcia, MD[13] and Jose M Munita, MD[14]; [1]Clinica Alemana de Santiago, Universidad del Desarrollo School of Medicine, Genomics and Resistant Microbes (GeRM) Group, Chile, Santiago de Chile, Chile, [2]Departamento de Laboratorios Clínicos, Escuela de Medicina, Pontificia Universidad Católica de Chile, Santiago de Chile, Chile, [3]Hospital Clínico Universidad de Chile, Santiago de Chile, Chile, [4]Hospital San Borja Arriarán, Santiago de Chile, Chile, [5]Hospital Padre Hurtado, Santiago de Chile, Chile, [6]Hospital Militar, Santiago de Chile, Chile, [7]Hospital Dr. Luis Calvo Mackenna, Santiago de Chile, Chile, [8]Hospital Dipreca, Santiago de Chile, Chile, [9]Clínica Santa María, Santiago de Chile, Chile, [10]Hospital del Salvador, Santiago de Chile, Chile, [11]Clinica Alemana, Santiago, Chile, [12]Clinica Alemana de Santiago, Universidad del Desarrollo School of Medicine, Genomics and Resistant Microbes (GeRM) Group, Chile, Santiago, Chile, [13]Microbiología Laboratory, Pontificia Universidad Catolica de Chile, Santiago, Chile, [14]Center for Antimicrobial Resistance and Microbial Genomics (CARMiG), University of Texas McGovern Medical School, Houston, Texas

Session: 232. Diagnostics: Resistance Testing
Saturday, October 6, 2018: 12:30 PM

Background. Ceftaroline (CPT) is a last generation cephalosporin with activity against MRSA. Recent data raised concerns regarding routine susceptibility testing in clinical laboratories, suggesting a poor performance for detecting nonsusceptible *S. aureus* (MIC >1 μg/dL) using either disc or gradient strips (Cantón R 2017)

Aim: To evaluate the results of CPT susceptibility testing with Etest® and disk diffusion (Kirby–Bauer technique [KB]) as compared with broth microdilution (BMD), in clinical isolates of MRSA obtained from different hospitals in Santiago, Chile.

Methods. During 2017, we prospectively collected consecutive clinical strains of MRSA recovered from the blood or other sterile sites in ten tertiary-care hospitals in Santiago, Chile. One isolate per patient was obtained. Identification was confirmed by MALDI-TOF and susceptibility testing of all isolates was performed at a central lab. CPT susceptibility was evaluated by BMD and KB following CLSI 2017 directions. Etest was performed as per manufacturer's instructions. Categorical agreement (CA), essential agreement (EA) and very major errors (VME) were evaluated. Susceptibilities were analyzed using CLSI established breakpoints

Results. Forty unique MRSA isolates were tested. Using BMD, the MIC_{50}/MIC_{90} was 2/4 μg/dL, respectively. Moreover, only 18 (45%) isolates were CPT susceptible. Out of the remaining 22 MRSA strains, 8 (20%) were intermediate and 14 (35%) CPT-resistant (CPT-R). Using Etest, the MIC_{50}/MIC_{90} was 1/2 μg/dL, with 31 (78%) isolates being considered susceptible and the remaining catalogued as intermediate. CPT susceptibility using KB catalogued 38 (95%) isolates as susceptible and only 2 as intermediate. No CPT-R strains were found by Etest or KB. The CA was for Etest and KB, respectively; Etest's EA was 80%. Worryingly, out of 14 CPT-R isolates by BMD, 6 were deemed susceptible by Etest and 12 by KB, obtaining VME rates of 43 and 87%, respectively

Conclusion. Performance of both Etest and KB to assess CPT susceptibility in MRSA isolates from Chile was poor, with a unacceptably high proportion of VME, and a CA lower than 50% for both techniques. Correlation of CPT susceptibility with the molecular epidemiology of the isolates is currently being performed

Disclosures. **All authors:** No reported disclosures.

2060. Comparison of Plazomicin MIC Test Strip and Broth Microdilution MIC Results for 125 Enterobacteriaceae

Laura Koeth, BS. (MT, ASCP)[1]; Jeanna Difranco-Fisher, AS[1] and Alisa W. Serio, PhD[2]; [1]Laboratory Specialists, Inc., Westlake, Ohio, [2]Achaogen, Inc., South San Francisco, California

Session: 232. Diagnostics: Resistance Testing
Saturday, October 6, 2018: 12:30 PM

Background. Plazomicin (PLZ) is a next-generation aminoglycoside with in vitro activity against MDR Enterobactericeae, including CRE. PLZ is currently under review at the FDA for the treatment of complicated urinary tract infections, including pyelonephritis, and bloodstream infections due to certain Enterobacteriaceae in patients who have limited or no alternative treatment option. This study was performed to evaluate the performance of a newly developed gradient strip, the plazomicin MIC Test Strip (MTS) from Liofilchem, Roseto degli Abruzzi, Italy compared with the broth microdilution method against relevant Enterobacteriaceae.

Methods. The study isolates included 125 Enterobacteriaceae (12 species as shown in the table), which were chosen to include a range of plazomicin MICs and isolates with known resistant mechanisms. Each isolate was tested for PLZ MIC by broth microdilution (BMD; LSI prepared frozen panels) and by PLZ MTS on 100 mm Mueller Hinton agar (MHA) plates (Becton Dickinson, Sparks, MD) and a subset of 20 strains was also tested on MHA plates from two additional manufacturers (Hardy, Santa Maria, CA and Remel, Lenexa, KA). Quality control (QC) strains (*E. coli* ATCC 25922 and P. aeruginosa ATCC 27853) were tested on each day of testing and results compared with CLSI expected ranges.

Results. As shown in the table, PLZ MTS and BMD results were within ± one doubling dilution (essential agreement) for 99.2% of all study isolates. The category agreement rate was 91.2% (based on proposed susceptible/intermediate/resistant breakpoints of ≤4/8/≥16 μg/mL) and there were no very major or major errors observed. The QC results were within CLSI published ranges. PLZ results for MTS tested on Remel and Hardy MHA for the subset of 20 isolates were similar to BD MHA results (equivalent or 1 dilution lower).

Table. Comparison of Plazomicin MIC Results (Frequency Distribution of Dilution Difference, MTS MIC–BMD MIC)

	Dilution Difference by Organism				
Organism	−2	−1	0	1	2
Citrobacter spp.			1	4	
E. aerogenes		1	3	1	
E. cloacae		1	8	11	
E. coli		4	14	3	
K. oxytoca			4	2	
K. pneumoniae		1	11	9	
M. morganii	1	2	2		
P. mirabilis		4	13	2	
P. vulgaris		3	12		
P. rettgeri		1	1	1	
S. marcescens			4	1	

Conclusion. This initial evaluation of the plazomicin MTS showed good correlation to BMD MIC. Further testing with additional isolates and media at multiple test sites is warranted.

Disclosures. **All authors:** No reported disclosures.

2061. Impact of a Penicillin-Binding Protein 2a Rapid Diagnostic Test on Patients Who Present with *Staphylococcus aureus* Orthopedic Hardware Infections

Jillian Hayes, PharmD[1]; Whitney Nesbitt, PharmD, BCPS[2]; Patty Wright, MD, FIDSA[3]; Matthew Greene, MD[4] and George Nelson, MD[5]; [1]Vanderbilt University Medical Center, Nashville, Tennessee, [2]Pharmacy, Vanderbilt University Medical Center, Nashville, Tennessee, [3]Division of Infectious Diseases, Department of Medicine, Vanderbilt University School of Medicine, Nashville, Tennessee, [4]Infectious Diseases, Vanderbilt University Medical Center, Nashville, Tennessee and [5]Division of Infectious Diseases, Vanderbilt University Medical Center, Nashville, Tennessee