

Enterobacteriaceae in the PLZ group with a PLZ MIC of 4 µg/mL (6/6) were eradicated at TOC (Table 2). Across 49 patients with concurrent bacteremia, 100% (27/27) and 96% (24/25) of Enterobacteriaceae were cleared from the blood at TOC in the PLZ and MEM groups, respectively.

Conclusion. PLZ demonstrated comparable or higher microbiological eradication rates compared with MEM for common Gram-negative uropathogens, including resistant pathogens. The results support PLZ as a potential treatment option for cUTI, including AP, caused by Enterobacteriaceae with PLZ MICs of ≤4 mg/mL.

Table 1. Per-Pathogen Microbiological Eradication at TOC^a by Resistance Phenotype and Resistance Mechanism (Extended mMITT Population)

Pathogen	PLZ (N = 202) n/N1 (%)	MEM (N = 205) n/N1 (%)	Difference PLZ Minus MEM (95% CI)
Overall	191/215 (88.8)	164/222 (73.9)	15.0 (7.4 to 22.4)
Enterobacteriaceae	189/213 (88.7)	161/217 (74.2)	14.5 (6.9 to 22.0)
AG-NS phenotype ^b	46/60 (76.7)	37/58 (63.8)	12.9 (-4.8 to 29.6)
ESBL phenotype ^c	47/59 (79.7)	47/67 (70.1)	9.5 (-6.9 to 25.0)
AME-gene positive ^d	51/67 (76.1)	49/75 (65.3)	10.8 (-5.3 to 25.9)
<i>aac(6)Ib-cr</i>	29/38 (76.3)	29/41 (70.7)	5.6 (-15.5 to 25.8)
<i>aac(3)-IIa</i>	18/25 (72.0)	21/31 (67.7)	4.3 (-22.0 to 28.7)
β-Lactamase-gene positive ^d	62/80 (77.5)	53/81 (65.4)	12.1 (-2.8 to 26.2)
<i>bla_{CTX-M-15}</i>	39/48 (81.3)	36/50 (72.0)	9.3 (-9.0 to 26.7)
<i>bla_{OXA-1/OXA-30}</i>	31/42 (73.8)	27/40 (67.5)	6.3 (-14.7 to 26.8)

^aMicrobiological eradication defined as a reduction in baseline pathogen from ≥10⁵ CFU to <10⁴ CFU in urine culture.

^bAG-NS defined as nonsusceptible interpretation (intermediate or resistant) to any of amikacin, gentamicin, or tobramycin based on central laboratory MIC testing and Clinical and Laboratory Standards Institute 2016 breakpoints.

^cESBL phenotype defined as MIC ≥2 µg/mL to any of ceftazidime, aztreonam, or ceftriaxone based on central laboratory testing.

^dAll isolates with AG-NS and ESBL phenotypes were sequenced for both AME and ESBL genes. N, number of patients in the specified population; N1, number of uropathogens in the specified category at baseline; n, number of uropathogens eradicated in the specified category.

CFU, colony forming units; CI, confidence interval; ESBL, extended-spectrum β-lactamase; MIC, minimum inhibitory concentration; MIC_{50/90}, minimum inhibitory concentration required to inhibit the growth of 50%/90% of organisms; mMITT, microbiological modified intent-to-treat; NS, nonsusceptible; TOC, test of cure.

Table 2. Per-Pathogen Microbiological Eradication at TOC^a by Baseline PLZ MIC (Extended mMITT Population)

Pathogen	Baseline PLZ MIC (µg/mL)	PLZ (N = 202) n/N1 (%)
Enterobacteriaceae	≤0.06	2/2 (100)
	0.12	23/28 (82.1)
	0.25	60/68 (88.2)
	0.5	61/66 (92.4)
	1	19/21 (90.5)
	2	11/12 (91.7)
	4	6/6 (100)
	8	1/1 (100)
	16	1/1 (100)
	128	1/4 (25.0)
>128	2/2 (100)	

^aMicrobiological eradication defined as a reduction in baseline pathogen from ≥10⁵ CFU to <10⁴ CFU in urine culture.

N, number of patients in the specified population; N1, number of uropathogens in the specified category and MIC value at baseline; n, number of uropathogens eradicated in the specified category and MIC value.

Disclosures. T. R. Keepers, Achaogen, Inc.: Employee, Salary. D. S. Cebrak, Achaogen, Inc.: Employee, Salary. D. J. Cloutier, Achaogen, Inc.: Employee and Shareholder, Salary. A. Komirenko, Achaogen, Inc.: Employee and Shareholder, Salary. L. Connolly, Achaogen, Inc.: Consultant, Consulting fee. K. Krause, Achaogen, Inc.: Employee, Salary.

125. eGISP: Enhanced Surveillance of *Neisseria gonorrhoeae* Antimicrobial Susceptibility in the United States

Laura Quilter, MD, MPH¹; Sancta St. Cyr, MD, MPH¹; Vincent Abitria, BSMT (AMT)²; Andrew Ancharski, MSPH, MPH³; Ilene Bautista, MPH, MLS (ASCP)²; Jose Bazan, D.O.⁴; Karen Carifio, MSA, PhD²; Melissa Ervin, MT (ASCP)²; Rebecca Harrison, RN⁶; Aaron Hoogenboom, MT (ASCP)⁶; Amy Peterson, MPH⁷; Cau Pham, PhD¹; Brandon Snyder, BS¹; Abigail Norris Turner, PhD⁴ and Elizabeth Torrone, PhD, MSPH¹, ¹Centers for Disease Control and Prevention, Division of STD Prevention, Atlanta, Georgia, ²Southern Nevada Public Health Laboratory, Las Vegas, Nevada, ³Philadelphia Department of Public Health, Philadelphia, Pennsylvania, ⁴The Ohio State University College of Medicine, Columbus, Ohio, ⁵Columbus Public Health, Columbus, Ohio, ⁶Kalamazoo County Health and Community Services, Kalamazoo, Michigan, ⁷Michigan Department of Community Health, Lansing, Michigan

Session: 33. What's Hot in UTIs and STIs
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Background. The Gonococcal Isolate Surveillance Project (GISP), which monitors trends in *N. gonorrhoeae* susceptibility among men with gonococcal urethritis in sexually transmitted disease (STD) clinics, has informed treatment recommendations for 3 decades. However, it has been speculated that susceptibility patterns may differ in women, as well as in the pharynx and rectum. We describe preliminary findings from the enhanced GISP (eGISP), which expands surveillance to pharyngeal, rectal, and endocervical isolates.

Methods. In August 2017, select jurisdictions were funded to collect urogenital and extragenital specimens from men and women seen in participating STD clinics. Positive gonorrhea cultures were sent to regional laboratories for antimicrobial susceptibility testing (AST) by agar dilution. Isolates with elevated minimum inhibitory concentration (MIC) to azithromycin (AZI) (MIC ≥2.0 µg/mL), cefixime (CFX) (MIC ≥0.25 µg/mL), and/or ceftriaxone (CRO) (MIC ≥0.125 µg/mL) were designated as Alert isolates. Clinical and epidemiological data were linked to AST results.

Results. From August 2017 to February 2018, 4 clinics in 4 jurisdictions submitted 468 positive gonococcal specimens for AST; 36.1% were from men who have sex with men (MSM), 51.9% from men who have sex with women (MSW), and 12.0% from women. Overall, 71.8% were urethral, 7.9% endocervical, 7.1% rectal, and 13.2% pharyngeal. Seventy-two isolates (15.4%) were Alerts: 97.2% (N = 70) had elevated MICs to AZI, 2.8% (N = 2) had elevated MICs to CFX, and none had elevated MICs to CRO. No isolate had elevated MICs to both AZI and CFX. Among MSM, 15.9% of urogenital isolates and 16.1% of extragenital isolates had an elevated AZI MIC. Among MSW, 11.8% of urogenital isolates and 14.3% of pharyngeal isolates had an elevated AZI MIC. Among women, 24.3% of endocervical isolates and 26.3% of extragenital isolates had an elevated AZI MIC.

Conclusion. Preliminary eGISP data suggest that enhanced surveillance of pharyngeal, rectal, and endocervical isolates is feasible and that elevated MICs to azithromycin are common among males and females. Including isolates from extragenital anatomic sites and women may help strengthen *N. gonorrhoeae* surveillance capacity.

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126. Robust and Persistent Vaginal Colonization with LACTIN-V Vaginal *Lactobacillus crispatus* Probiotic in a Double-Blind, Placebo-Controlled (DBPC) Phase 2b Trial to Prevent Recurrent UTI (rUTI)

Ann Stapleton, MD, FIDSA¹; Aurelio Silvestroni, PhD¹; Pacita Roberts, MS²; Marsha Cox, MS²; Hillary Hayden, PhD²; Mitchell Brittner, PhD²; Samuel Miller, MD¹ and Thomas Hooton, MD, FIDSA³, ¹Medicine, University of Washington, Seattle, Washington, ²University of Washington, Seattle, Washington, ³Medicine, University of Miami, Miami, Florida

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Background. We investigated vaginal colonization using repetitive sequence PCR (repPCR) and 16S rRNA sequencing in a Phase 2b DBPC trial of a *L. crispatus* intra-vaginal suppository probiotic for prevention of rUTI in premenopausal women.

Methods. Twenty-four young women with a history of rUTI and current culture-confirmed symptomatic UTI were enrolled and treated (Visit 0), then randomized (Visit 1) to receive an intravaginal suppository containing *L. crispatus* CTV-05 (LACTIN-V[®], Osel, Inc.) or placebo daily for 5 days, then once weekly for 2 months. Participants were followed up during the 2-month probiotic/placebo intervention (Visits 2 to 4; active intervention) and during 2 months following the intervention (Visits 5 and 6; post-intervention). At each visit, vaginal swabs were collected for repPCR to determine the presence or absence of the probiotic strain and the duration of its presence in the vagina and for 16S rRNA-based sequence analysis to determine relative abundance of any *L. crispatus*.

Results. LACTIN-V vaginal suppository induced selective and sustained colonization in the probiotic but not the placebo recipients, as follows. Pre-intervention: Probiotic *Lactobacillus* strain, not found in vaginal specimens obtained from participants in either arm of study. Active intervention: (1) Probiotic *Lactobacillus* strain, (a) *Probiotic arm*: 100% of participants positive at one or more visits and (b) *Placebo arm*: 0% of participants positive at any time. (2) *L. crispatus* relative abundance, (a) *Probiotic arm*: above 90%, all specimens, all visits and (b) *Placebo arm*: below 15%, all specimens, all visits. Post-intervention: (1) Probiotic *Lactobacillus* strain, (a) *Probiotic arm*: 75% of participants positive at Visit 5, 58% at Visit 6 and (b) *Placebo arm*: 0% of participants positive at Visits 5 and 6. (2) *L. crispatus* relative abundance, (a) *Probiotic arm*: 70% to 100% and (b) *Placebo arm*: below 15%.

Conclusion. LACTIN-V *L. crispatus* vaginal probiotic achieved robust and persistent colonization throughout 2 months of weekly dosing and for 2 months after the last dose in most participants.

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127. Urinary Tract Infection Incidence Is Associated with Recent Environmental Temperatures

Jacob Simmering, PhD¹; Daniel Sewell, PhD, Biostatistics², PhD; Linnea Polgreen, MD³ and Philip M. Polgreen, MD⁴, ¹Computer Science, University of Iowa, College of Liberal Arts and Sciences, Iowa City, Iowa, ²University of Iowa, Iowa City, Iowa, ³Pharmacy Practice and Science, University of Iowa, College of Pharmacy, Iowa City, Iowa and ⁴Internal Medicine, University of Iowa Carver College of Medicine, Iowa City, Iowa

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Background. Urinary tract infections (UTI) are one of the most common infections and the incidence of UTIs is seasonal, peaking in summer months. Relative to other times of the year, incidence of UTIs during the June to September period is approximately 10% greater. Prior work has suggested that a cause of this seasonality may be warmer temperatures during summer months. However, this work focused on inpatients and used average monthly temperatures.

Methods. We identified all UTI cases located in 1 of 397 metropolitan statistical areas (MSA) in the contiguous United States between 2011 and 2016 using the Truven