Gram-positive (GP) anaerobic isolates from Phase 3 ABSSSI clinical trials were determined and compared with the microbiologic response for evaluable isolates.

Methods. A total of 84 anaerobic isolates were collected during Phase 3 ABSSSI clinical trials and 9 additional *Bacteroides fragilis* (BF) were collected as part of the 2017 SENTRY surveillance program. The isolates tested included 11 BF, 13 *Clostridium perfringens* (CP), and other species with <10 isolates (table). Isolate identifications were confirmed by molecular methods. Susceptibility testing was performed according to CLSI agar dilution methodology (M11, 2012). Other antimicrobials tested included clindamycin (CD), metronidazole (MTZ), and moxifloxacin (MXF). In addition, the activity of DLX and MXF were compared at standard pH 7.0 and at pH 6.0.

Results. DLX had the lowest $MIC_{50/90}$ values against both GP and GN species and was 32-fold more active than MXF for all organisms. For BF, DLX was 4- to 16-fold more active than the other comparators. For CP, DLX was 32- to 64-fold more active than the 3 comparators. When comparing the activity of DLX and MXF at pH 6 vs. pH 7, DLX had the same $MIC_{50/90}$ values while MXF $MIC_{50/90}$ values were 2-fold less active at the lower pH (Table 1). Of the 84 clinical trial isolates, 21 were recovered from subjects in the microbiologically evaluable at follow-up (MEFU) population. All of the subjects had a favorable microbiological response (presumed eradication) at FU.

Conclusion. DLX demonstrated potent *in vitro* antibacterial activity against anaerobic isolates tested, including BF and CP and was more active than MXF. For all isolates combined, DLX activity was unchanged at lower pH while MXF MIC values increased 2-fold. These data suggest that DLX activity remains potent at a lower pH common at sites of infection.

Table 1. Susceptibilities of DLX and comparators.

Antimicrobial agent	MIC_{50} (mg/L)	MIC_{90} (mg/L)	MIC range (mg/L)	CLSI[a]		
				%S	%I	%R
All [b] (n=93)						
Clindamycin	0.5	>8	≤0.03 to >8	69.9	2.2	28
Metronidazole	1	8	≤0.06 to >32	90.3	0	9.7
Delafloxacin pH 7	≤0.015	0.12	≤0.015 to 2			
Moxifloxacin pH 7	0.5	4	0.12 to >8	88.2	6.5	5.4
Delafloxacin pH 6	≤0.015	0.12	≤0.015 to 1			
Moxifloxacin pH 6	1	8	≤0.06 to >8			
Bacteroides fragilis (n=11)						
Clindamycin	0.5	1	0.25 to >8	90.9	0	9.1
Metronidazole	1	1	0.5 to 1	100	0	0
Delafloxacin pH 7	0.12	1	0.06 to 2			
Moxifloxacin pH 7	0.5	8	0.5 to >8	72.7	0	27.3
Clostridium perfringens (n=13)						
Clindamycin	1	2	0.06 to >8	92.3	0	7.7
Metronidazole	1	2	1 to 4	100	0	0
Delafloxacin pH 7	≤0.015	0.03	≤0.015 to 0.12			
Moxifloxacin pH 7	0.5	0.5	0.25 to 4	92.3	7.7	0

[a]CLSI (2018)

[b] Organisms include: *Anaerococcus octavius* (1), *Bacteroides fragilis* (11), *B. thetaiotaomicron* (6), *B. uniformis* (1), *Bifidobacterium dentium* (1), *Clostridium innocuum* (1), *C. perfringens* (13), *C. sordellii* (2), *C. sporogenes* (1), *C. subterminale* (1), *C. tertium* (1), *Finegoldia magna* (7), *Fusobacterium nucleatum* (7), *Prevotella bivia* (2), *P. buccae* (2), *P. denticola* (6), *P. melaninogenica* (1), *P. nigrescens* (2), *P. oralis* (7), *P. timonensis* (1), unspeciated *Anaerococcus* (1), unspeciated *Clostridium* (1), unspeciated *Fusobacterium* (3), unspeciated *Prevotella* (2), unspeciated *Propionibacterium* (9), unspeciated *Veillonella* (1), *Veillonella atypica* (1), *V. parvula* (1)

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2374. Genomic Characteristics of Recurrent *Staphylococcus aureus* Skin and Soft-Tissue Infection Among US Army Trainees

Kathleen Verratti, BA[1]; Robert Player, MS[1]; Shannon Wood, MD, MPH[2]; Carey Schlett, MPH[3,4]; Emad Elassal, MS[5]; Ellen Forsyth, MS[1]; Michael Ellis, MD[6]; David R. Tribble, MD, DrPH[3]; Eugene Millar, PhD[3,4] and Jason Bennett, MD, MSPH[7,8]; [1]Johns Hopkins Applied Physics Laboratory, Laurel, Maryland, [2]Infectious Diseases, Walter Reed National Military Medical Center, Bethesda, Maryland, [3]Infectious Disease Clinical Research Program, Department of Preventive Medicine and Biostatistics, Uniformed Services University of the Health Sciences, Bethesda, Maryland, [4]Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc., Bethesda, Maryland, [5]International Reagent Resource, American Type Tissue Collection, Manassas, Virginia, [6]University of Toledo College of Medicine and Life Sciences, Toledo, Ohio, [7]Walter Reed Army Institute of Research, Silver Spring, Maryland, [8]Department of Medicine, Uniformed Services University of the Health Sciences, Bethesda, Maryland

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Background. Skin and soft-tissue infections (SSTI) are common among military recruits, and some experience recurrent SSTI (two infections ≥30 days apart) during training. We used whole-genome sequencing (WGS) to assess the relatedness of strains from recurrent *S. aureus* SSTI cases and their close contacts.

Methods. From 2010 to 2014, we prospectively identified SSTI cases among US Army Infantry trainees (Fort Benning, GA), obtaining infection swabs at the time of presentation for all SSTIs and multiple anatomic site colonization swabs at the time of presentation for the first infection. Thereafter, we selected cases of recurrent *S. aureus* SSTI with phenotypically concordant paired isolates (e.g., MRSA-MRSA). We also selected concordant colonization isolates from recurrent cases as well as concordant infection isolates from SSTI cases in the same training class as the recurrent case. Isolates were characterized by WGS. The number of single nucleotide polymorphism (SNP) differences between isolates was calculated. Phylogenetic trees were constructed to identify patterns of intra- vs. extra-host *S. aureus* acquisition among cases of recurrent infection.

Results. We identified 23 cases of recurrent *S. aureus* SSTI with concordant infection isolates (18 MRSA). The median (range) pairwise SNP difference for intrahost infection isolates was 15 (0–3,768); 12 (0–348), MRSA and 310 (3–3,768), MSSA. Nine (39%) were colonized with a concordant strain (5 MRSA), yielding 14 colonization isolates (7 MRSA). The median pairwise SNP difference between intrahost colonization and recurrent infection isolates was 57 (2–3,582); 5 (2–3,582), MRSA and 167 (2–313), MSSA. Infection isolates from 33 proximal cases (27 MRSA) were identified. The median pairwise SNP difference between recurrent infection isolates and that of a proximal case was 24 (1–531); 20 (1–216), MRSA and 307 (286–531), MSSA. Variant analysis showed no difference between the number of putative high impact SNPs between infection ($\mu = 11$, $\sigma = 20$) and colonization ($\mu = 19$, $\sigma = 42$) isolates.

Conclusion. WGS of *S. aureus* from recurrent SSTI suggests patterns of intrahost reinfection as well as intra-host acquisition/infection. Targeted decolonization may prevent recurrent *S. aureus* SSTI.

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2375. Skin and Soft-Tissue Infections in Patients With Obesity or Heart Failure

Claudia Ihm, MD[1]; Jesse Sutton, PharmD[2]; Tristan T. Timbrook, PharmD, MBA, BCPS[3] and Emily Spivak, MD, MHS[4]; [1]Infectious Disease, University of Utah, Salt Lake City, Utah, [2]George E. Wahlen Department of Veterans Affairs Medical Center, Salt Lake City, Utah, [3]University of Utah Health Care, Salt Lake City, Utah, [4]Internal Medicine, University of Utah Health, Salt Lake City, Utah

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Background. Skin and soft-tissue infections (SSTIs) are among the most common infectious diseases-related hospitalizations. Although existing literature supports durations of 5–7 days, treatment durations commonly exceed 10–14 days often driven by perceived lack of resolution and risk of relapse. Obesity and heart failure (HF) have been associated with increased risk for treatment failure of SSTIs. We aimed to evaluate practice patterns for SSTIs in patients with either obesity or HF and whether short durations of therapy (≤ 8 days) are associated with treatment failure.

Methods. We performed a retrospective cohort study at the Salt Lake City VA Medical Center including a subset of inpatients between January 1, 2006 and December 30, 2016 with SSTIs based on international classification of diseases (ICD) coding and either HF or obesity. Charts were manually reviewed to collect demographic, comorbidity, severity of illness, microbiology, and treatment data. Patients who were treated with a short course (≤8 days) vs. a long course (>8 days) of antimicrobial therapy were evaluated. Primary outcome included treatment failure within 30 days defined as extending therapy, changing or adding antimicrobials, reinitiating therapy or drainage of an abscess after the end of the initial treatment course. Secondary outcomes assessed were length of stay, 30-day readmission, and 30-day mortality.

Results. 466 randomly selected charts were reviewed and 130 patients were included. 128 patients (98%) were male. 32% of patients had HF, 87% obesity and 47% diabetes. 5 patients were admitted to the ICU. Median treatment duration was 12 days [IQR 9–15]. 27 (21%) received ≤ 8 days of antibiotics and 103 (79%) received > 8 days. 5/27 (19%) patients in the short treatment group experienced treatment failure vs. 26/103 (25%) in the long treatment group ($P = 0.466$). Median length of stay was 2 days [IQR 2–3] vs. 3 days [IQR 2–5] in the short vs. long treatment group, respectively ($P = 0.002$). There was no difference in 30-day readmission or 30-day mortality between the two groups.

Conclusion. Commonly prescribed antibiotic durations for SSTIs in patients with obesity and/or HF often exceeded 8 days. Short treatment duration does not appear to be associated with treatment failure, highlighting an opportunity for antimicrobial stewardship intervention.

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2376. *In Vitro* Activities of Ceftaroline and Comparator Agents Against Bacterial Pathogens Collected From Patients With Skin and Skin Structure Infections in Latin America: AWARE Surveillance Program 2017

Meredith Hackel, PhD[1]; James Karlowsky, PhD, D(ABMM), F(AAM)[1]; Dan Sahm, PhD[2] and Gregory G. Stone, PhD[3]; [1]IHMA, Inc., Schaumburg, Illinois, [2]International Health Management Associates, Inc., Schaumburg, Illinois, [3]Pfizer, Inc., New York, New York

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Background. The parenteral cephem ceftaroline (CPT) fosamil is approved for the treatment of patients with skin and skin structure infections (SSSIs) caused by *Staphylococcus aureus* (both methicillin-susceptible [MSSA] and methicillin-resistant [MRSA] isolates), β-hemolytic streptococci (*Streptococcus pyogenes*, *Streptococcus agalactiae*), and select species of *Enterobacteriaceae* (*Escherichia coli*, *Klebsiella pneumoniae*, *Klebsiella oxytoca*). Limited data have been published on the *in vitro* activity of CPT against recent clinical isolates cultured from patients with SSSIs in Latin America (LA).

Methods. Standard CLSI broth microdilution MIC determinations (M07) were performed with CPT and comparator agents. MICs were interpreted using current