Methods. We did a retrospective review of all adult patients with positive *Coxiella burnetii* serology at Mayo Clinic, Rochester from 1st January 2012 to 31st December 2018. Centers for Disease Control and Prevention (CDC) case definition and classification were used to group the patients into confirmed and probable acute Q fever, and confirmed and probable chronic/persistent Q fever. Data on demographics, clinical presentation, comorbid conditions, exposure history, risk factors associated with progression, serology, treatment and outcomes were collected.

Results. We found 266 patients with positive titres of *Coxiella* IgG or IgM greater than 1:16, of which 49 patients met the CDC case definition for Q fever. Median age at presentation was 62 years. 45/49 (91. 8%) were men, while 4/49 (8%) were women. 20/49 (40. 8%) patients presented with acute Q fever of which 5 (25%) patients progressed to persistent infection. 29/49 (59%) patients presented with persistent Q fever of which 4 patients could recall symptoms suggestive of acute Q fever. The most common presentation of acute Q fever was acute febrile illness (65%). Endocarditis (11/29) was the most common presentation of chronic/persistent Q fever. Of the 5 patients with acute Q fever that progressed to persistent infection, 3/5(60%) progressed despite being on doxycycline and hydroxychloroquine. 8/29 patients with persistent Q fever had serological resolution at last follow-up. 2/4(50%) deaths were attributable to Q fever.

Conclusion. Minority of the patients tested met the case definition. 25% of patients with acute disease progressed to chronic Q fever out of which 60%(3/5) progressed despite prophylaxis. Endocarditis and vascular infections were the most common chronic cases. Interestingly we found 4 cases of MPGN in association with Q fever. Prosthetic valves are the most important risk factors for progression ($P = 0.02$). Serological cure often lags behind clinical cure (27% vs. 68% in persistent infection)(Table 4).

Variable	Acute Q fever (n=20)	Persistent Q fever (n=29)	P value
Age (median)	60	62	0.4391
Gender(men)	18(90%)	27(93%)	1.00
Median duration of symptoms (weeks)	4 (3 to 8)	40(18-52)	0.0001
Immunosuppression	3 (15%)	6 (21%)	0.7199
Steroids	2 (10%)	5 (17%)	0.6848
Targeted therapy	1(5%)	1(3.45%)	1.00
Diabetes mellitus	4(20%)	5(17.4%)	1.00
Chronic Kidney Disease	4(20%)	9(31%)	0.51
Active malignancy	4(20%)	3(10.34%)	0.42
Transplant	1(5%)	2(6.9%)	1.00
Risk factors for progression	7 (35%)	20 (70%)	0.0234
Prosthetic valves	1 (5%)	10 (34%)	0.0175
Vascular graft	2(10%)	7(24%)	0.277
Vascular aneurysm	2(10%)	7(24.14%)	0.277
MPGN	1(5%)	3(10%)	0.63

Table 1: Differences in baseline characteristics, comorbidities and underlying risk factors between acute and persistent Q fever patients.

Clinical presentation	Acute Q fever
• Fever	13/20(65%)
• Chills	14/20(70%)
• Night sweats	12/20(60%0
• Pneumonia	1/20(5%)
• Hepatitis	2/20(10%)
• Meningoencephalitis	1/20(5%)
• MPGN	1/20(5%)
• Lymphadenitis	1/20(5%)
Clinical presentation	**Chronic/persistent Q fever**
• Endocarditis	11/29(38%)
• Vascular graft infection	5/29(17%)
• Vascular aneurysm infection	4/29(13.7%)
• Osteomyelitis	3/29(10%)
• Possible lymphoma associated with Q fever	1/29(3.4%)
• Prosthetic knee joint infection	1/29(3.4%)
• MPGN	3/29(10%)
• Granulomatous hepatitis	2/29(6.8%)
• Recurrence of prosthetic valve endocarditis in transplanted heart.	1/29(3.4%)
Exposure to *Coxiella burnetii*	
• Contact with farm animals	27/49 (55%)
• Abbatoir workers	1/49 (2%)
• Laboratory personnel/agricultural researchers	1/49(2%)
• Living close to farms/contaminated dust	11/49 (22%)
• Unpasteurized dairy products	1/49(2%)
• No known exposure	17/49 (34%)

Table 2: Common clinical presentations and exposures in acute and persistent Q fever infections. Some of the patients had overlapping symptoms.

Variable	Acute Q fever only(n=15)	Acute Q fever progressing to persistent Q fever(n=5)	p-value
Age(median)	61(54-66)	59(40-62)	0.27
Immunosuppression	3(20%)	0	0.53
Chronic Kidney Disease	4(26.67%)	0	0.53
Active malignancy	4(26.67%)	0	0.53
Phase II IgG at presentation(median)	1:2048(1:256 to 1:16000)	1:4096(1:2048 to 1:10240)	0.2107
Phase I IgG at presentation (median)	1:16(1:16 to 1:256)	1:64(1:16 to 1:10240)	0.19
TTE at baseline	5(33%)	3(60%)	0.34
TEE at baseline	7(46%)	3(60%)	1.00
Risk factors for progression	5(33%)	2(40%)	1.00
Prosthetic valves	0	1(20%)	0.25
Vascular graft	0	2(40%)	0.05
Vascular aneurysm	1(6%)	1(20%)	0.44
Duration of treatment(days)	18(14 to 28.5)	16(14 to 503)	0.40
Prophylaxis with dual therapy	3(20%)	3(60%)	0.13

Table 3: Differences in baseline characteristics, comorbidities, underlying risk factors between patients with acute Q fever alone versus those who progress to persistent phase of infection.

Outcome	Acute Q fever	Persistent Q fever
Serological resolution	-	8/29(27.5%)
Clinical resolution	19/20 (95%)	20/29(69%)
Recurrence	0	3/29(10.3%)
Lost to follow up	1/20(5%)	7/29(24%)
Progression to persistent Q fever infection.	5/20(25%)	-
Death	0	2/29(7%)

Table 4: Outcome data. Serological resolution is defined as 4 fold decrease in phase I IgG titres or a decrease in phase I IgG to <1:400 and is used for patients with persistent Q fever. There are no clear guidelines on serological resolution in acute Q fever.

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

212. Outcomes of Adults with Uncomplicated Staphylococcus aureus Bacteremia Receiving Short-Course Vs. Prolonged-Course Antibiotic Therapy in a Multicenter, Propensity Score–Matched Cohort

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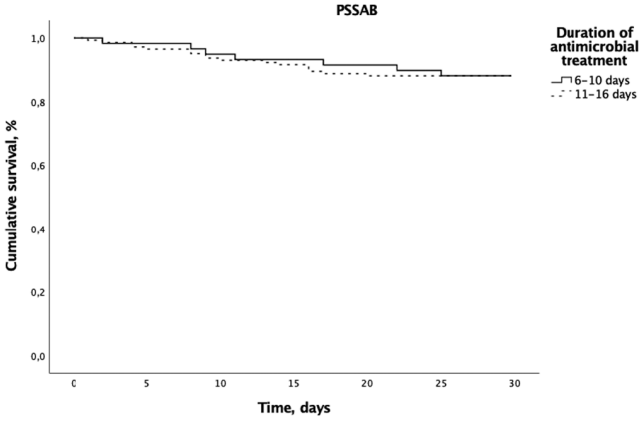
Background. The recommended duration of antibiotic treatment for uncomplicated *Staphylococcus aureus* bloodstream infections is 14 days. We compared the outcomes of patients receiving short-course (6–10 days) vs. prolonged-course (11–16 days) antibiotic therapy for *S. aureus* bacteremia (SAB).

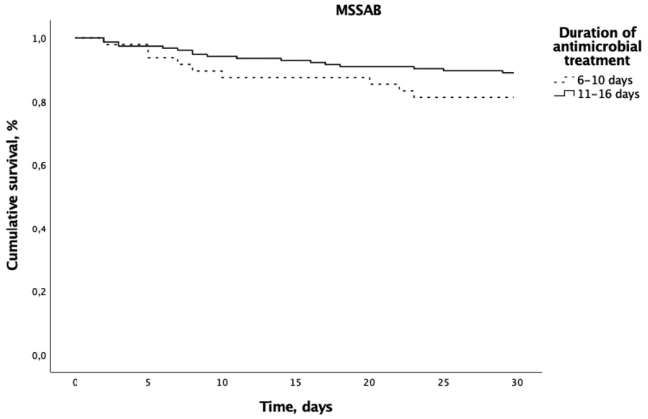
Methods. 30-day outcome of patients with penicillin (PSSAB, $n = 202$)) or methicillin-susceptible SAB (MSSAB, $n = 203$) treated with in vitro active therapy in the range of 6–16 days was analyzed using pooled data from two previously published, observational studies. Individuals were matched 1:1 by nearest neighbor propensity score matching without replacement. Regression analysis was performed to estimate the risk of all-cause mortality within 30 days after the end of antibiotic treatment. Eligible individuals had to have >1 day of follow-up after discontinuation of antimicrobials. Individuals with a diagnosis of endocarditis, bone infection, meningitis or pneumonia were excluded.

Results. There were 107 well-balanced matched pairs; 58 in the PSSAB and 39 in the MSSAB cohort. For PSSAB, the median duration of therapy was 8 (interquartile range [IQR], 7–10) in the short-course group and 12 days (IQR, 10–13) in the prolonged-course group. For the MSSAB cohort, these numbers were 9 days (IQR, 7–10) and 14 days (IQR, 13–16 days), respectively. No difference in mortality between short-course and prolonged-course treatment was observed (adjusted hazard ratio [aHR], 0.74; 95% confidence interval [CI], .23–2.41) and 1.14; 95% CI, 0.31–4.20), respectively for PSSAB and MSSAB.

Conclusion. Short courses of antibiotic therapy yielded similar clinical outcomes as prolonged courses of antibiotic therapy for *S. aureus* bacteremia. The findings warrant a randomized clinical trial to study the safety and efficacy of shortened antimicrobial therapy for the treatment of uncomplicated SAB.

	Penicillin-susceptible *Staphylococcus aureus* bacteremia cohort				Methicillin-susceptible *Staphylococcus aureus* bacteremia cohort			
	Whole cohort		Propensity-matched cohort		Whole cohort		Propensity-matched cohort	
	HR (95% CI)	P value	HR (95% CI)	P value	HR (95% CI)	P value	HR (95% CI)	P value
Crude	1.14 (0.48-2.70)	0.77	0.71 (0.23-2.23)	0.56	0.56 (0.25-1.25)	0.16	0.83 (0.25-2.73)	0.76
Multivariate	1.04 (0.43-2.56)[1]	0.92	0.74 (0.23-2.41)[1]	0.62	0.71 (0.31-1.67)[1]	0.43	1.14 (0.31-4.20)[1]	0.84
Propensity score adjusted	1.03 (0.38-2.79)[1]	0.96	-	-	0.80 (0.32-2.01)[1]	0.63	-	-





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

213. A Comparison of Medication Assisted Therapy Treatment Strategies for Opioid Use Disorder in Persons who Inject Drugs and are Hospitalized with Serious Infections

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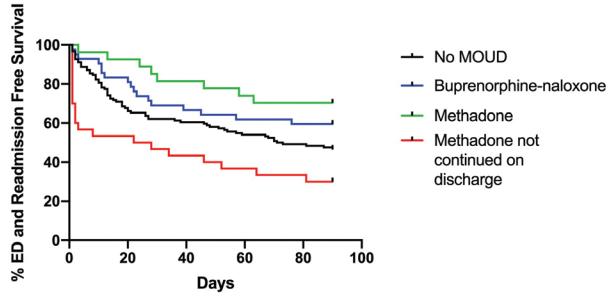
Background. Persons who inject drugs (PWID) with opioid use disorder (OUD) are at increased risk of invasive bacterial and fungal infections, which warrant prolonged, inpatient parenteral antimicrobial therapy. Such admissions are complicated by opioid cravings and withdrawal. Comparisons of medications for OUD during prolonged admissions for these patients have not been previously reported. The aim of this study was to evaluate the impact of different OUD treatment strategies in this population, and their impact on ED and hospital readmissions.

Methods. We retrospectively analyzed consecutive admissions for invasive bacterial or fungal infections in PWID, admitted between January 2016 and January 2019 at Barnes-Jewish Hospital. Patients in our cohort were required to receive an infectious diseases consult, and an anticipated antibiotic treatment duration of >2 weeks. We collected data on demographics, comorbidities, length of stay, microbiologic data, medications prescribed for OUD, mortality, and readmission rates. We compared 90-day readmission rates by OUD treatment strategies using Kaplan–Meier curves.

Results. In our cohort of 237 patients, treatment of OUD was buprenorphine (17.5%), methadone (25.3%), or none (56.2%). Among patients receiving OUD treatment, 30% had methadone tapers and/or methadone discontinued upon discharge. Patient demographics were similar for each OUD treatment strategy. Infection with HIV (2.8%), and hepatitis B (3%), and hepatitis C (67%) were similar between groups. Continuation of medications for OUD was associated with increased completion of parenteral antibiotics (odds ratio 2.11; 95% confidence interval 1.70–2.63). When comparing medications for OUD strategies, methadone had the lowest readmission rates, followed by buprenorphine, and no treatment (P = 0.0013) (figure). Discontinuation of methadone during the admission or upon discharge was associated with the highest readmission rates.

Conclusion. Continuation of OUD treatment without tapering, was associated with improved completion of parenteral antimicrobials in PWID with invasive bacterial or fungal infections lower readmission rates. Tapering OUD treatment during admission was associated with higher readmission rates.

Figure. Inpatient initiation of medications for opioid use disorder (MOUD) and continuation at discharge decrease readmissions in PWID with invasive bacterial and fungal infections.



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

214. Comparison of Clinical and Laboratory Findings of Human Monocytic Ehrlichiosis (HME) and Human Granulocytic Anaplasmosis (HGA) in Long Island, New York.

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Background. Suffolk County reports to the Department of Health the highest absolute number of cases of tick-borne diseases (TBD) for NY State. While Lyme disease and Babesiosis are the most common TBD in this county with more than 600 and 100 cases reported every year, respectively; two other TBD, HME (due to Ehrlichia chaffeensis) and HGA (due to Anaplasma phagocytophilum) are also commonly reported in this county (63 and 37 every year, respectively). There is limited data directly comparing both diseases on acute presentation; the aim of this study was to compare the clinical features, laboratory findings and complications of HME and HGA in the epicenter of TBD in NY State.

Methods. A retrospective study was designed to collect cases with the diagnosis of HME and HGA by using ICD9 or ICD10 codes from 2013 to 2018 at Stony Brook Medicine. Inclusion criteria were patients 18 years or older who had a positive PCR in blood for E. chaffeensis or A. phagocytophilum. Demographics, clinical features, laboratory results, and complications were extracted from patient charts. We used the chi-square test to compare the proportion of symptoms and a two-tailed unpaired student T-test to compare laboratory values.

Results. A total of 40 cases of HME (mean age 67 ± 13) and 27 with HGA (mean age 63 ± 12) met inclusion criteria. Only approximately 50% of cases had a documented history of tick exposure. Clinical presentations were similar in terms of frequency of fever, headache, arthralgia, and myalgia. In contrast, hypotension, confusion, and rash were more common in HME although only the latter was significantly more common. HME patients had significantly greater degrees of leukopenia and thrombocytopenia and elevated AST levels. The majority of patients with HME and HGA were hospitalized >1 day for management of their acute illness (HME, 30/40 and HGA 17/27). Several patients with HME had gastrointestinal (GI) complications including 3 with acute acalculous cholecystitis, 1 with duodenitis, and 1 with acute colitis; 1 patient with HGA had perforated diverticulitis.

Conclusion. Patients with acute HME tend to be more ill than those with acute HGA; however, a substantial proportion of both groups require hospitalization. GI complications were more commonly seen in HME (12.5%) than HGA (3.7%) which deserves further investigation.

	Ehrlichiosis (n=40)	Anaplasmosis (n=27)	P value
Gastrointestinal symptoms	35%	42%	0.5
Confusion	21%	10%	0.2
Systolic BP < 100	17%	5%	0.1
HR> 100	14%	15%	0.9
Fever	75%	70%	0.7
Headache	38%	33%	0.7
Arthralgia	15%	18%	0.7
Rash	30%	7%	0.02
Myalgia	30%	37%	0.6
WBC (mean)	2750/μL	4730/μL	0.001
Hemoglobin (mean)	11.5 g/dL	11.9 g/dL	0.3
Platelets (mean)	68,380/μL	106,650/μL	0.005
Creatinine (mean)	1.54 mg/dL	1.39 mg/dL	0.7
AST (mean)	176 IU/L	93 IU/L	0.025
ALT (mean)	123 IU/L	81 IU/L	0.1

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

215. Invasive Group A Streptococcus-Associated Hospitalizations and Risk Factors for In-Hospital Mortality Among Adults in California, 2000–2016

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Background. Invasive group A *Streptococcus* (iGAS) causes severe illness and death but is not vaccine preventable or nationally notifiable. We describe the