A retrospective review in a tertiary care hospital between 2013-2020. Patients with or without cardiac device, who had either ≥ 1 or ≥ 2 BC positive for CoNS and who underwent Echo were included. Modified Duke's (MDC) criteria was used for the diagnosis of IE. Logistic regression was used to examine the association between BC positivity, device existence and the presence of a vegetation on Echo.

**Results.** We included 116 patients, median age 58 (41-70) years, 64 (55%) women. Cardiac device was present in 49 (71%), pacemaker in 11(16%), ventricular assist device in four (6%), intra-aortic balloon pump in five (7%). CoNS isolated from 1 BC in 53(46%) patients and from ≥ 2 in 63(54%) patients. Transthoracic Echo (TTE) was performed in

**Conclusion.** Here we describe the first known case of Actinomyces species CIED endocarditis with a large lead vegetation and long-standing bacteremia, presenting as pyrexia of unknown origin.

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

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**683. Epidemiology and Microbiology of Infective Endocarditis: A Six Year Experience**

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**Session:** P-32. Endocarditis

**Background.** The epidemiology and microbiology of infective endocarditis (IE) is not well studied in India. Studies from developed countries report a culture positivity of more than 90% in IE, while in India it has been lower (40–70%). Viridans Group Streptococci (VGS) are the commonest organism identified from previous Indian studies. The state of Kerala in India has better health indicators compared to the rest of India and it is likely that the epidemiology of IE in Kerala may be different. We therefore studied the epidemiology and microbiology of IE in patients admitted to a tertiary care hospital in Kerala over six years (2015–2020).

**Methods.** An electronic medical record search was conducted to identify patients who satisfied definite or possible IE criteria as per modified Duke criteria. Three sets of blood cultures were sent in BacT/Alert blood culture bottles for all suspected cases of IE. Blood culture was done using BacT-ALERT 3D automated microbial detection system (bioMérieux, France) and organisms were identified using VITEK-2 system. Transthoracic echocardiogram was done for all patients and a transeosophageal echocardiogram was done when indicated.

**Results.** 70 patients satisfied the inclusion criteria. Majority (70.4%) were male; mean age was 50.7±16.3 years. 71% patients had underlying valvular heart disease. Diabetes mellitus (53.5%) was the most common comorbidity followed by chronic kidney disease (18.2%). Mitral valve was most commonly affected (53.5%) followed by the aortic valve (19.7%) and both valves were involved in 5.7%. Right sided valves were affected in 8.5%. Prosthetic valve endocarditis accounted for 10% of cases. No echocardiographic evidence of endocarditis was seen in 11.3%. Blood culture was positivity 64.8%. Staphylococcus aureus (20%) was the most common organism isolated, followed by VGS (17.1%). 50% of the Staphylococcus aureus isolated were methicillin resistant. Among 57 patients in whom an outcome was recorded, mortality was 12.2%.

**Microbiology profile of infective endocarditis**

**Conclusion.** Staphylococcus aureus has emerged as the most common etiological agent of IE in our study, in contrast to previous studies from India where VGS was predominant. The high prevalence of MRSA is of concern.

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

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**684. Diagnostic Yield of Echocardiography in Coagulase Negative Staphylococcus Bacteremia**

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**Session:** P-32. Endocarditis

**Background.** Coagulase negative Staphylococcus (CoNS) bacteremia is a common clinical finding, but is less commonly associated with infective endocarditis (IE). Echocardiography (Echo) is utilized when clinicians suspect the diagnosis of IE. We sought to evaluate the utilization and yield of Echo in patients who had 1 or ≥ 2 (+) blood cultures (BC) for CoNS, and correlate Echo results with a diagnosis of IE.

**Methods.** A retrospective review in a tertiary care hospital between 2013-2020. Patients with or without cardiac device, who had either 1 or ≥ 2 BC positive for CoNS and who underwent Echo were included. Modified Duke's (MDC) criteria was used for the diagnosis of IE. Logistic regression was used to examine the association between BC positivity, device existence and the presence of a vegetation on Echo.

**Results.** We included 116 patients, median age 58 (41-70) years, 64 (55%) women. Cardiac device was present in 69 (59%): Automated implantable cardioverter defibrillator in 49 (71%), pacemaker in 11(16%), ventricular assist device in four (6%), intra-aortic balloon pump in five (7%). CoNS isolated from 1 BC in 53(46%) patients and from ≥ 2 in 63(54%) patients. Transthoracic Echo (TTE) was performed in

**Conclusion.** Here we describe the first known case of Actinomyces species CIED endocarditis with a large lead vegetation and long-standing bacteremia, presenting as pyrexia of unknown origin.

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

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**682. Implantable Cardioverter-Defibrillator Lead Vegetation with Long-Standing Actinomyces neuii Bacteremia**

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**Session:** P-32. Endocarditis

**Background.** Endocarditis caused by Actinomyces species is uncommon with only 30 cases reported in contemporary literature.

**Methods.** We present a novel case of cardiovascular implantable electronic device (CIED) endocarditis secondary to infection using laser and snaring techniques. But the tail end of the ventricular lead fractured.

**Results.** Our patient, a 51-year-old female, with a history of implantable cardioverter-defibrillator (ICD) placement 17 years prior for heart failure, presented with six weeks of fevers and rigors. She was referred to the infectious disease clinic for evaluation of pyrexia of unknown origin. Her examination was unremarkable, and the ICD pocket was uninflamed. Her initial labs revealed mildly elevated inflammatory markers and renal insufficiency. Blood cultures were positive for slow-growing non-branching gram-positive rods in both aerobic and anaerobic media. These were identified as Actinomyces neuii by mass spectrometry. Review of outside records showed positive blood cultures with Actinomyces neuii at another facility two weeks prior to our evaluation which were not acted upon and thought to be bacterial contamination. The patient was further evaluated with a transesophageal echocardiogram that demonstrated a 3.3 x 2.2cm mobile vegetation attached to the ICD lead. She subsequently underwent removal of her Saint Jude cardiac resynchronization therapy defibrillator and leads at another facility two weeks prior to our evaluation. The infection was treated with a 6-week course of IV ampicillin was interrupted by 2 weeks of ceftriaxone. Transthoracic echocardiogram was done for all patients and a transeosophageal echocardiogram was done when indicated.

**Conclusion.** Here we describe the first known case of Actinomyces species CIED endocarditis with a large lead vegetation and long-standing bacteremia, presenting as pyrexia of unknown origin.

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**Image 1. Transesophageal echocardiogram demonstrating size of vegetation.**

**Image 2. Three-dimensional view demonstrating vegetation on the ICD lead.**
42(36%), trans- esophageal Echo (TEE) in 39 patients (33.6%). Sequential Echo (TEE after TEE) was performed in 34 patients (29%). “Definite” IE was diagnosed in none, “possible” IE in 30 (26%), the diagnosis was “rejected” in 86 (74%). Vegetations were noted on device lead in 13(43%) and on valves in 17(57%). Overall yield in patients classified as “possible” IE (n=30) was similar in patients with device (n=26) to those without a device (n=4) (22% vs. 3%; p=0.140). For patients with 1 BC positive for CONS, the presence of a device was not associated with a positive Echo yield (OR, 95% CI: 1.8 (0.3, 12.9); p=0.474). Patients who had ≥ 2 BC for CoNS had the same Echo yield with or without a cardiac device (15% vs. 24% p=0.243).

Conclusion. In our medical center, patients with CoNS bacteremia, no patients had a “definite” diagnosis of IE. Yield of Echo was similar in patients with either one or ≥ 2 positive BC and there was no significant association with the presence of a device.

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685. Evaluating the Role of Medication-assisted Treatment (MAT) in the Management of Infectious Endocarditis in People Who Inject Drugs (PWID)

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Session: P-32. Endocarditis

Background. An estimated 1.29-2.59 million people practice intravenous drug use (IVDU) in the United States making it a growing risk factor for infective endocarditis (IE). In people who inject drugs (PWID), IE accounts for 1-5% of total yearly deaths. IE often requires weeks of intravenous therapy with extensive medical follow-up. The purpose of this study was to evaluate if medication-assisted treatment (MAT) increased treatment retention and survival to optimize addiction assistance and IE treatment efforts.

Methods. A single-center, retrospective chart review was approved for patients admitted with an ICD-10 code of IE. A multidisciplinary group was created in April, 2019 aimed to improve endocarditis patient outcomes, formed of complex case coordination, infectious disease, cardiology, and pharmacy pain management service members. The historical period was January 1, 2018-March 31, 2019 and the IE pathway (IEP) group was April 1, 2019-June 30, 2020. Patients were excluded if there was no documentation of IVDU (Figure 1). The primary outcome was successful endocarditis therapy, defined per study protocol. Secondary outcomes include: against medical advice (AMA) departures, discharge naloxone prescriptions, clinical opioid withdrawal score (COWS) and patient reported pain.

Results. A total of 419 IE patients were evaluated with 166 patients meeting inclusion criteria. The primary outcome was achieved in 51.2% of historical group and 45.5% of IEP group (p=0.302). AMA departures and inpatient mortality were similar between the two groups. There was increased presence of the pharmacy pain management service in the IEP group (48.8% of the IEP group (p=0.002), while last reported documented COWS were increased in the IEP group (p=0.002), while last reported.

Conclusion. The multidisciplinary group was effective helping to guide the inpatient care of PWID and improve symptom management, but this did not translate to increased IE therapy or fewer readmissions.

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686. Comparing Treatments of Methicillin-Resistant Staphylococcus aureus Infective Endocarditis by People Who Inject Drugs

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Session: P-32. Endocarditis

Background. People who inject drugs (PWID) are at high risk for infective endocarditis (IE) with high-mortality pathogens such as methicillin-resistant Staphylococcus aureus (MRSA). Stigma against PWID may cause differences in treatment and outcomes between these patients infected with MRSA IE.

Methods. Single center retrospective cohort study from August 2006 to February 2021 that includes adult patients diagnosed with IE. Primary outcomes included 90-day all-cause mortality, 60-day MRSA recurrence, 60-day readmission, and hospital length of stay (LOS). Statistical analysis was performed by chi-square, t-test, and Mann-Whitney U as appropriate.

Results. A total of 214 patients were diagnosed with MRSA IE: 89 PWID and 125 non-PWID. The mean (SD) age was 47 ± 14.2 years (PWID) vs 60 ± 16.0 years (non-PWID) (p < 0.001). Patients were primarily male (56%), but differed in terms of race 34% African-American (AA) (PWID) vs 66% AA (non-PWID) (p < 0.001). Mean APACHE II scores differed between groups: 16 ± 9.9 (PWID) vs 19 ± 8.1 (non-PWID) (p < 0.008). Among patients who cleared bacteremia, mean (SD) duration was 5.7 (± 3.9) days and was not significant between groups (p < 0.64). Valve type was 93% native and 7% prosthetic and not different between groups (p < 0.16). Infectious Diseases consult did not differ at 96% overall (p < 0.31), but pursuit of source control nearly reached significance at 27% for PWID vs 41% non-PWID (p < 0.06). Similarly, use of combination therapy daptomycin and ceftaroline was nearly significantly: 21% (PWID) vs 12% (non-PWID) (p < 0.09). Odds ratio of PWID and combination therapy remained non-significant after regression: 0.39 (0.14-1.1, p < 0.07). Primary 90-day mortality was lower in PWID vs non-PWID (15% vs 30%) respectively (p < 0.01), but did not differ in 60-day MRSA recurrence (p > 1.0) at 90 days readmission (p > 1.0) at 33%, or median LOS (IQR) (p < 0.46) at 15 (10-24) days overall.

Conclusion. While PWID are significantly younger, less critically ill, and have lower mortality compared to non-PWID, they have similar LOS, MRSA recurrence,