

1082. Meta-Analysis of Survival Outcomes in People Who Inject Drugs After Cardiac Surgery for Infective Endocarditis

David Goodman-Meza, MD, MAS¹; Robert E. Weiss, PhD²; Sebastián Gamboa, MS³; Abel Gallegos, MS⁴; Raphael J. Landovitz, MD, MSc⁴; Alex A.T. Bui, PhD⁵; Matthew B. Goetz, MD⁶ and Steven Shoptaw, PhD⁷; ¹Infectious Diseases, UCLA, Los Angeles, California, ²Department of Biostatistics, Fielding School of Public Health, UCLA, Los Angeles, California, ³Universidad Autonoma de Baja California, Tijuana, Mexico, ⁴UCLA Center for Clinical AIDS Research & Education, University of California Los Angeles, Los Angeles, California, ⁵Medical Imaging Informatics (MII) Group, Department of Radiological Sciences, UCLA, Los Angeles, California, ⁶Infectious Diseases, VA Greater Los Angeles Healthcare System, Los Angeles, California, ⁷Department of Family Medicine, David Geffen School of Medicine at UCLA, Los Angeles, California

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Background. The United States' opioid epidemic has led to an increase in people who inject drugs (PWID) and opioid-associated infections, including infective endocarditis (IE). Cardiac surgery is often indicated in IE to improve outcomes but is controversial in PWID due to the concerns about continued injection drug use leading to risk for reinfection and decreased survival. In response, we assessed the long-term survival after cardiac valve surgery in PWID compared with people who do not inject drugs (non-PWID) in the published literature.

Methods. We performed a systematic review and meta-analysis (MA) of studies that reported survival data after surgery for IE in PWID. We searched PUBMED up to April 2018. We extracted Kaplan-Meier (KM) curves from included studies. From the KM curves, we used an algorithm to estimate individual participant data (eIPD). In a one-step approach, we ran a Cox proportional hazards (CPH) model analysis of the eIPD with study random effects. In a two-step approach, we fitted CPH models by individual study; then, we ran a mixed-effects MA model of the log hazard ratios (HR) and standard errors.

Results. We identified 11 retrospective studies. Of these, six reported comparisons of PWID vs. non-PWID, and five reported results for PWID only. Based on eIPD, we included 407 PWID and 1,877 non-PWID. Mean age for PWID was 36.7 years (95% CI 34.4–39.1) and for non-PWID was 52.0 years (95% CI 45.3–59.4). There were 144 deaths (35.3%) in PWID and 559 (29.8%) deaths in non-PWID. We present by study and by group KM curves of eIPD (Figures 1 and 2). In one-step MA (included all 11 studies), the HR for PWID was 1.13 (95% CI 0.92–1.39). In two-step MA (included six comparison studies), heterogeneity was high ($I^2 = 72%$); and there was no significant between-group difference (HR 1.29, 95% CI 0.80–2.07) (Figure 3).

Conclusion. Survival time post-surgery of PWID was similar to that of non-PWID. These estimates are concerning, as PWID on average are much younger than non-PWID with IE. Future studies should explore interventions to improve outcomes in PWID after surgery, including treatment of addiction during and after the index hospitalization and provision of naloxone at the time of discharge.

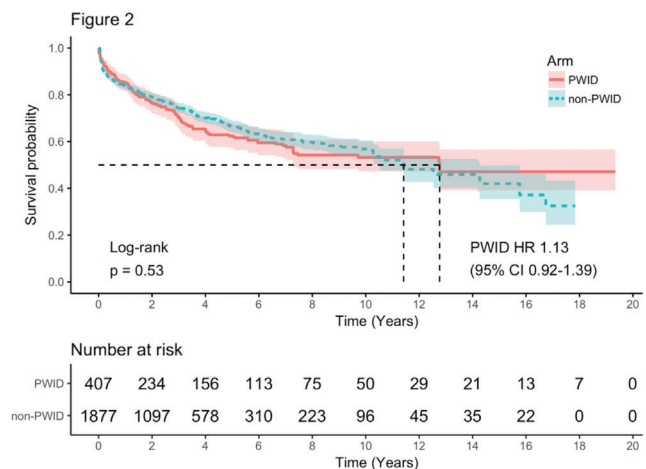
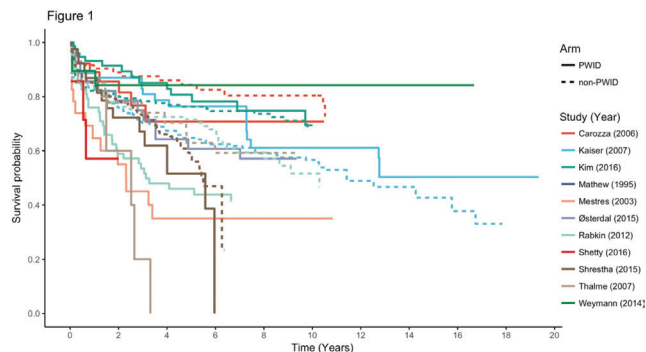
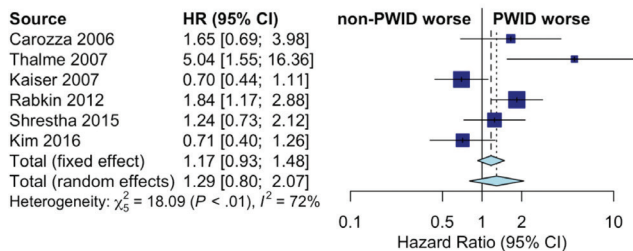


Figure 3



Disclosures. All authors: No reported disclosures.

1083. Long-Term Prognosis of 448 Infective Endocarditis Followed by an Endocarditis Team

Fabrice Camou, MD¹; Carine Greib, MD²; Irène Machelart, MD²; Marina Dijos, MD²; Claire Cornolle, MD²; Laurent Barandon, MDPH³; Olivia Peuchant, MD, PhD⁴; Gaetane Wirth, MD² and Nahema Issa, MD¹; ¹Intensive Care and Infectious Disease Unit, Bordeaux University Hospital, Bordeaux, France, ²Bordeaux University Hospital, Bordeaux, France, ³Cardiac Surgery, Bordeaux University Hospital, Pessac, France, ⁴Microbiology, Bordeaux University Hospital, Pessac, France

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Background. The management of infective endocarditis (IE) by an expert medico-surgical team through multidisciplinary consultation meetings is now recommended. While it seems clear that it can improve the short-term prognosis of patients, long-term data are still scarce.

Methods. All patients hospitalized between 2013 and 2017 in the three teaching hospitals of our center with an IE treated by the multidisciplinary team were followed prospectively at 1, 3, 6, and 12 months. The main objective was to determine the 1-year mortality of the entire cohort treated by the team.

Results. During the study, 493 patients had a certain or possible IE and the outcome at 1 year was known for 448 of them (4 lost to follow-up and 41 followed for less than 1 year): 254 had native valve IE (57%) and 194 had prosthetic valve IE (43%). The median age of IE patients was 69.3 years (155 patients were over 75 years old) and 329 (73%) were men. Healthcare-associated IE (HAIE) accounted for 47% of cases. A microorganism was isolated in 92% of cases (*S. aureus* = 24%), 252 patients (56%) had an embolic events and 68 (15%) had heart failure. The Charlson Median Comorbidity Index (ICC) was 5.0. Two hundred sixteen patients (48%) underwent surgery. The mortality rates at 1 month, 3 months, 6 months, and 1 year were, respectively, 14.1%, 19.0%, 23.2%, and 27.7%. The ICC at inclusion of patients who died at 1 year was 6.0 vs. 4.0 for survivors. Mortality at 1 year was significantly higher in case of HAIE (33% vs. 23%), documented *S. aureus* IE (39% vs. 24%), exclusive medical treatment (40% vs. 15%), and heart failure (43% vs. 25%).

Conclusion. While the management of IE by an endocarditis team seems to improve the short-term prognosis of IE, 1-year mortality remains high as patients are increasingly older and have severe comorbidities. Our study confirms that early prognostic factors remain in the long term and that the prognosis is better in community-acquired IE with surgery.

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1084. Nocardia Cyriaciageorgica Endocarditis

Nikhil Bhayani, MD, FIDSA and Jaclyn Priest, PharmD¹; ¹Texas Health Arlington Memorial, Arlington, Texas

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Background. Nocardia are beaded, branching Gram-positive rods that are partially acid fast and usually slow growing. *Nocardia cyriaciageorgica* was first described in 2001, and antimicrobial susceptibility patterns correspond with type VI *Nocardia asteroides* complex. *Nocardia* species are not a commonly associated with endocarditis, less than 20 cases to date have been documented. However, when *Nocardia endocarditis* is identified, the mortality rate is reported to be as high as 41% making antibiotic selection vital in the inpatient and outpatient

Methods. A 62-year-old male with a past medical history significant for severe chronic obstructive pulmonary disease (COPD), atrial fibrillation, atrial tachyarrhythmia, and congestive heart failure (CHF) presented to the emergency department (ED) with shortness of breath for 1 week. The patient was initiated on IV diltiazem, meropenem, and eventually required intubation. On hospital day, two blood cultures grew Gram-positive rods, which were eventually identified as aerobic Actinomycete. Culture was sent out for DNA sequencing and *N. cyriaciageorgica* was identified. Transthoracic echocardiogram showed possible mitral vegetation.

Results. Antimicrobial therapy was initially de-escalated from meropenem to ampicillin, but had to be escalated to ceftriaxone once *N. cyriaciageorgica* was identified by DNA sequencing. The organism was reported to be susceptible to amikacin, ceftriaxone, linezolid, tobramycin, and trimethoprim/sulfamethoxazole. The patient received 1 week of ceftriaxone therapy inpatient, and was discharged on an additional 3 weeks of ceftriaxone and 6 months of minocycline suppressive therapy.