

Evaluating the role of medication-assisted treatment (MAT) in the management of infectious endocarditis in intravenous drug users (IVDUs)

A. Gorseth, W. Nolan, M. Cluff, G. O'Sullivan, C. Dempsey; Hartford Hospital (HH), Hartford, Connecticut

**OBJECTIVE:** 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) especially in urban environments and young populations. In IVDU patients, IE accounts for 5-10% of total yearly deaths. IE often requires 4-6 weeks of intravenous therapy with extensive medical follow-up and adherence. Addiction treatments must be initiated prior to intervention and continued afterwards for successfully avoiding relapse and reinfection. The purpose of this study was to evaluate MAT to increase treatment retention and survival of active IVDUs to optimize addiction assistance and endocarditis treatment efforts.

**METHODS:** A single-center, retrospective chart review was approved by the institutional review board for patients who were admitted with an ICD-10 code of IE. Inclusion for the initial IE event phase of the review were dichotomized: the historical period was January 1, 2018-March 31, 2019 and the infectious endocarditis pathway (IEP) group was April 1, 2019-June 30, 2020. April 2019 was the inception of the multidiscipline endocarditis pathway team created to improve IE outcomes. Electronic consults were placed by providers to notify the IEP group of a patient, not all inpatients were seen by the IEP group. Patients were excluded if there was no documentation of IVDU. Follow-up occurred 8 months after the initial IE event to monitor for readmission. The primary outcome was successful endocarditis therapy, defined as: no presumed drug use/unplanned absences while inpatient plus one the following: completing the inpatient antibiotics course; completing a partial duration of the inpatient antibiotics course with specific discharge plans (skilled nursing facility or equivalent); or discharged with oral antibiotics. Secondary outcomes include: against medical advice (AMA) departures, inpatient mortality, length of stay, discharge naloxone prescriptions, MAT upon readmission, clinical opioid withdrawal score and patient reported pain at admission and discharge.

**RESULTS:** A total of 419 IE patients were evaluated with 166 patients meeting inclusion criteria (n=81 in the historical group, n=85 in the IEP group). The primary outcome was achieved in 62 (51.2%) of historical group and 59 (48.8%) of the IEP group (p=0.302). The AMA departures, inpatient mortality, length of stay, readmission time were similar between the two groups. There was increased presence of the pharmacy pain management in the IEP group with 21 consults compared to 8 in the historical group (p=0.012). The time to pharmacy pain management consult, decreased to 7.32 hours in the IEP group from 28.76 in the historical group. Last documented clinical opioid withdrawal scores were increased in the IEP group (5.4 hours vs 4.07 hours, p=0.002), while last documented patient reported pain scores decreased from 4.53 to 3.53 (p=0.030). More patients were started on MAT (27 vs 52, p=0.011) and discharged with naloxone in the IEP group (81 vs 85, p=0.003). Readmission was found to be higher in the IEP group (41 vs 56, p=0.046). Current post hoc analysis is underway to evaluate outcomes of patients followed by the IEP group compared to individuals not followed by the IEP group from April 2019-June 2020.

**CONCLUSION:** Implementation of an endocarditis pathway team improved management clinical opioid withdrawal scores and pain scores for patients with IE. Patients were more likely to receive MAT treatment and be discharged with naloxone in the IEP group. The multidisciplinary group was effective for helping to guide the inpatient care of patients with IE with a history of IVDU and improve symptom management, but this did not translate to an increased number of successful completion of infective endocarditis therapy or fewer readmissions.