Introduction

Injection drug use (IDU) is a major risk factor for infective endocarditis (IE). Rates of IE in the US have recently increased in association with the emerging opioid crisis [1]. In North Carolina, hospitalizations for IE among persons who inject drugs (PWID) rose 12 fold from 2015-2016 [2]. Although IDU-associated IE has been well characterized, little information exists about episodes of repeat IE (rIE) in PWID.

Methods

• Single center retrospective study of adult patients ≥18 years old with an ICD-9 or -10 diagnosis of IE which fulfilled positive Duke criteria for IE managed at a tertiary care academic center from 2004 to 2017.
• Classification as PWID required a self-reported history of IDU in the 3 months prior to admission.
• The primary IV drug was abused by patient history.
• rIE was defined as another episode of IE in a PWID meeting Duke criteria for IE managed at a tertiary care academic center from 2004 to 2017.
• rIE was categorized as either relapse or re-infection. Relapse was defined as an infection by the same species less than 6 months after treatment of the initial infection. All other episodes of rIE were classified as re-infections [3].
• Illness severity at presentation was assessed using the APACHE II score.
• Duration of bacteremia or fungemia was defined as time in days to first negative blood culture sustained with antibiotic therapy lasting at least 48 hours thereafter.
• Surgical intervention encompassed both removal of vegetations using a percutaneous approach and any surgical procedure done on involved valves.

Results

Of the 313 individuals diagnosed with IE during the study period, 94 (30%) were classified as PWID. Of those 94, 7 (31.8%) died during their initial hospitalization. Among the 87 surviving patients, 22 (25.3%) experienced rIE. (Figure 1). Characteristics of the 22 patients are shown in Table 1.

Discussion

More than 2 episodes of IE

Conclusion

• The epidemic, especially IDU, is a growing public health crisis in the US.
• Ongoing IDU after an initial episode of IE in PWID appears to be a major risk factor for rIE.
• Nearly all the patients with rIE admitted to PWID to prescription opioid injection.
• rIE typically occurred within one year of the initial episode of IE.
• Severity of illness on admission is high in rIE, microbiology is varied, and surgical intervention is frequent.
• Compared to the first episode of IE, rIE has similar tri-vascular valve involvement and duration of bacteremia.
• Hospitalizations for IE in PWID are prolonged and costly.
• Mortality is high with rIE.
• Given complexity of illness, high hospitalization costs, and high associated costs, more effective strategies for preventing IE and rIE in PWID are needed.