Disclosures. All authors: No reported disclosures.

142. Mean Platelet Volume Is Associated with Embolic Events of Infectious Endocarditis
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Session: 37. Bacteremia, CLABSIs, and Endovascular Infections
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Background. Increased mean platelet volume (MPV) is a marker of more active and rapidly aggregating platelets. There is limited evidence that increased MPV is associated with more embolic disease in infectious endocarditis (IE). This study seeks to validate this relationship and assess for effect modification by injection drug use.

Methods. Records of all patients aged ≥18 admitted to Wake Forest Baptist Medical Center (WFBMC) from January 1, 2004 to September 30, 2015 with an ICD-9 code for IE and without a simultaneous ICD-9 code indicating 'mechanical complication of cardiac device, implant and graft' were reviewed. Inclusion criteria consisted of possible or definite IE by modified Duke criteria and labs drawn within 24 hours of presentation. Univariate analyses were assessed by Chi-square, Fisher’s exact test, Mann–Whitney U, and Student's t-test. Multiple logistic regression assessed the association between MPV and embolic phenomena while controlling for potential confounders.

Results. A total of 237 cases (80 IDU-IE and 157 non-IDU IE) met criteria for analysis suffering 115 (48.5%) embolic events to the brain and/or lungs (41.4% in non-IDU vs. 62.5% in IDU-IE; P = 0.002). MPV (P = 0.0001) and drug use (P = 0.002) were significantly associated with embolic disease. S aureus involvement (P = 0.0002), vegetation ≥1 cm (P = 0.009), atrial fibrillation (P = 0.05), hypertension (P = 0.0008), presenting hospital location (P = 0.001), total platelets (P = 0.0006), and unadjusted Charlson comorbidity score (P = 0.001), and left-sided vegetation (P = 0.006) were also significantly associated while gender, white blood cell count, creatinine and albumin were not. MPV remained significantly associated with embolic disease in the fully adjusted model with OR 1.4, 95% CI [1.1–1.7], vegetation ≥1 cm OR 2.4, 95% CI [1.2–4.7], left-sided valve vegetation (OR 0.4, 95% CI [0.2–0.8]) and direct presentation rather than transfer to WFBMC (OR 0.4, 95% CI [0.2–0.8]) also remained significant. There was no evidence of an interaction between MPV and drug use nor evidence of effect modification when the analysis was stratified by drug use status.

Conclusion. Increased MPV is significantly associated with embolic disease of IE even when additional covariates are taken into consideration.

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143. Opioid Use and Hospitalizations for Endocarditis, Osteomyelitis, and CNS Abscess
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Background. Along with a growing opioid epidemic nationwide, opioid users often have an increased risk of severe infectious diseases including endocarditis, osteomyelitis, and central nervous system abscesses. There is limited evidence within the current literature that relates opioid use and infectious diseases in the US. New York City (NYC) serves as a study model for opioid use and infectious diseases. We investigated the association between opioid use and hospitalizations for endocarditis, osteomyelitis, and CNS abscess in NYC.

Methods. Data for NYC residents aged ≥21 years discharged from New York State hospitals during 2001–2014 were analyzed using a hospital discharge dataset. We defined a hospitalization for endocarditis, osteomyelitis, and CNS abscess as one with a principal or secondary diagnosis of these conditions within the discharge record. We identified opioid users by examining principal or secondary diagnoses for opioid use within the discharge record at the time of hospitalization for endocarditis, osteomyelitis, and CNS abscesses. Logistic regression model was applied on all hospitalized patients using endocarditis, osteomyelitis, and CNS abscess as the outcome, adjusting for age, sex, race, and borough.

Results. During 2001–2014, there were 139,392 hospitalizations in total for endocarditis, osteomyelitis, or CNS abscess, of which 8,823 (6.3%) were among opioid users. There was an increased risk of hospitalization for endocarditis [RR: 2.6 (95% CI: 2.4–2.7)] among opioid users, adjusted by age, sex, race, and borough. Hospitalized opioid users had four times the risk for endocarditis hospitalization compared with hospitalized non-opioid users in the 18–44 year age group (RR: 4.2 [95% CI: 3.9–4.5]) (Table 1).

Conclusion. These results provide further evidence that opioid use is associated with an increased risk of endocarditis, osteomyelitis, and CNS abscesses. Efforts to combat the opioid epidemic might lower the overall incidence of endocarditis, osteomyelitis, and CNS abscesses.

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Table 1. Logistic regression analysis stratified by age groups to evaluate the association between opioid use and hospitalizations for endocarditis, osteomyelitis, and central nervous system abscesses among adults — New York City, 2001–2014

| Age Group* | Opioid Use Adjusted Odds Ratio (95% CI) |
|-----------|---------------------------------------|
| 18–44     | 4.2 (95% CI: 3.9–4.5)                  |

*Odds ratios are corrected by age, sex, race, and borough, whereas age group-specific rates are corrected by race, sex, and borough.