Racial Disparities in Treatment and Outcomes in Hepatitis C patients Undergoing TJA

Kyle Cichos, Cole Martin Howie, Antonia F Chen, Erik Nathan Hansen[1], Eric Michael Jordan, Kian Niknam, Gerald McGwin, Elie S Ghanem[2]
[1]UCSF, [2]University of Alabama at Birmingham

INTRODUCTION: African Americans have the highest prevalence of chronic Hepatitis C virus (HCV) infection compared to any other ethnic group in the United States s with greater complications and different treatment responses. These disparities are also observed in total joint arthroplasty (TJA) where black patients have greater surgical complications, readmissions, and longer length of stays. The purpose of our study was to identify these disparities in treatment of HCV prior to TJA and their effect on outcomes between black and white patients.

METHODS: A retrospective review of all patients with HCV undergoing TJA at three academic tertiary care centers was conducted. A total of 270 TJAs performed from 2005-2019 were included for analysis, 125 of which had a PVL at time of surgery. Patient demographics, comorbidities, HCV characteristics, perioperative variables, in-hospital outcomes, and postoperative complications at 1-year follow-up were collected. Patients with preoperative positive viral load (PVL) and undetectable viral load (UVL) were identified. Preoperative comorbidities, HCV characteristics, treatment modalities and their outcomes were compared between the two races. Categorical variables were compared using Chi-squared and Fisher's Exact test, while t-test was used for continuous variables.

RESULTS: Black patients had significantly higher rates of diabetes (32% vs.14%, p=0.003) and CKD (27% vs. 8%, p=.001), while white patients were likely to have depression (38% vs. 19%, p=0.008) and hypothyroid (14% vs. 4%, p=0.03). AST and ALT levels were higher in black patients (p=0.001; p=0.04) as well as MELD level (p=0.0002). Black patients were more likely to undergo TJA without receiving HCV treatment (71.83% vs 42.99%, p<0.001) and consequently had a PVL at the time of surgery (71.83% vs 42.99%, p<0.001). Black patients were found to have longer length of stay (p=0.02) and were more likely discharged to a rehabilitation facility (p=0.04).

DISCUSSION AND CONCLUSION: HCV treatment prior to TJA with UVL has been shown to be a key factor in mitigating postoperative complications including PJI. We noted that black patients were more likely to undergo TJA without receiving treatment and with a PVL. This disparity in patients' management can have deleterious effects on postoperative outcome and complications. Although this study was conducted at three academic tertiary care centers with dedicated clinics and resources for treating HCV patients, challenges remain rooted in access, affordability of treatment, and patient education.