

## **Hepatitis C May Be a Modifiable Risk Factor in Total Joint Arthroplasty: Preoperative Treatment of Hepatitis C is Associated with Decreased Postoperative Complications in US Veterans**

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**Introduction:** Hepatitis C Virus (HCV) is associated with poor outcomes in Total Joint Arthroplasty (TJA). Since 2014, oral direct-acting-antivirals (DAAs) have been available for HCV curative treatment. The goal of this study was to determine if HCV may be a modifiable risk factor in TJA by comparing postoperative complications of TJA patients with HCV who receive treatment preoperatively to those untreated. The US Veteran population was chosen given a high HCV prevalence.

**Methods:** A US Department of Veterans Affairs (VA) dataset of primary total knee arthroplasty (TKA) and total hip arthroplasty (THA) performed between 2014-2018, when DAAs were available, was retrospectively reviewed. HCV-infected patients were identified using ICD-9/10 codes and lab values. HCV-infected patients treated at least 3-months prior to TJA with DAA or ribavirin were included in the “treated” group. HCV-infected patients untreated were assigned to the “untreated” group. Medical and surgical complications up to 1-year postoperatively were identified using ICD-9/10 codes. Student t-test compared complication rates between groups.

**Results:** 42,268 patients underwent TJA (28,125 TKA, 14,143 THA) at VA Hospitals between 2014-2018. 7.5% of TJA patients had HCV. 9.3% of TJA HCV patients received HCV treatment at least 3-months preoperatively. For THA patients with HCV, medical and surgical complications up to 1-year postoperatively were 10.4% and 4.9% in the untreated group, respectively, and 0.8% and 0% in the treated group, respectively ( $p=0.001$  medical,  $p=0.013$  surgical). In TKA patients with HCV, medical and surgical complications up to 1-year postoperatively were 8.3% and 5.6% in the untreated group, respectively, and 1.1% and 0% in the treated group, respectively ( $p=0.001$  medical,  $p=0.001$  surgical).

**Conclusions:** TJA patients with HCV who receive treatment preoperatively have significantly lower postoperative medical and surgical complication rates. Study suggests HCV may be a modifiable risk factor in TJA; HCV-infected patients would likely benefit from HCV treatment.