Background. Both human immunodeficiency virus (HIV) and hepatitis C virus (HCV) can adversely affect CD4 cell count. Among patients with HIV-HCV coinfec-
tion, treatment with HCV direct-acting antivirals (DAA) may be an opportunity to restore/reconstitute CD4 count. The primary objective of this study was to determine whether DAA treatment results in improved CD4 cell counts in HIV-HCV coinfected patients.

Methods. A retrospective multicenter cohort study was performed among 4 sites between 11/1/2013–4/12/2018. Patients were included if they were age 218 years, infected with both HIV and HCV, and received all-oral DAA therapy. Trained reviewers extracted demographics, comorbidities, receipt of antiretro-
viral therapy (ART), DAA treatment regimen/duration and HIV/HCV-related lab values, which included CD4, HIV RNA, and HCV RNA. Labs were restricted to the closest values before/after DAA treatment. The primary endpoint was changed in pre-DAA/post-DAA CD4 count. Descriptive statistic and Wilcoxon Signed Rank were used.

Results. There were 88 patients included. Most (78.4%) identified as male. Mean ± standard deviation (SD) age was 57.1 ± 9.6 years. The proportion of patients with undetectable pretreatment HIV RNA was 78.4%. Among the 97.7% of patients on ART, regimens included the following classes of ART: integrase strand transfer inhibitors (75.6%), non-nucleoside reverse transcriptase inhibitors (23.3%) and protease inhibitors (19.8%). Of the 87 patients who completed DAA therapy and had post-DAA labs drawn, sustained virologic response (SVR) was achieved in 96.6%. The median (interquartile range, IQR) CD4 counts before/after DAA treatment did not significantly differ (515 (349–704) vs. 554 (374–693), P = 0.480). In the subset of patients with pre-DAA CD4 counts < 350 cells/mm² (n = 23), CD4 count significantly improved before/after DAA treatment [235 (202–311) vs. 309 (189–392), P = 0.01].

Conclusion. The use of DAA therapy in HIV-HCV co-infected patients resulted in a significant increase in CD4 count in patients with pre-DAA CD4 < 350 cells/mm². This may represent a high priority population for DAA treatment.

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