

# Barriers to Hepatitis C Treatment in HIV co-infected Patients in the Era of New Direct-Acting Antiviral Therapy

Caytlin Deering<sup>1</sup>, Dagan Coppock<sup>1</sup>, Suzanne Boyle<sup>2</sup>, Zsofia Szep<sup>1</sup>, Taneesa Franks<sup>1</sup>, Tiffany Scott,<sup>1</sup> Anna Kesaris<sup>1</sup>, Edgar Chou<sup>3</sup> and Dong Heun Lee<sup>1</sup>,  
 (1) Division of Infectious Diseases and HIV Medicine, (2) Division of Nephrology, (3) Department of Medicine, Drexel University College of Medicine, Philadelphia, PA

## Abstract

**Background:** Hepatitis C virus (HCV) infection disproportionately affects HIV-infected patients. Co-infected patients have worse prognoses than mono-infected patients. HCV treatment with new oral direct acting antiviral (DAA) therapy is effective in HIV/HCV co-infected patients with cure rates similar to mono-infected patients. Despite the effective treatments, only a small proportion of co-infected patients are treated for HCV infection. This study aims to describe barriers to hepatitis C treatment in HIV/HCV co-infected patients.

**Methods:** We performed a retrospective observational study of HIV/HCV co-infected patients seen at an urban HIV clinic in the year of 2016 at Drexel University, Philadelphia, PA. We compared patients who were treated for HCV infection versus those who were untreated. We described demographics and barriers-to-care associated with untreated HCV infection.

**Results:** Among 1322 patients seen, 112 patients had chronic HCV infection. The median age was 54 (IQR: 48-58) years old and two-thirds (78 (67.8%)) were African-American. Median CD4 counts were 515 (354-750), 85% had controlled viremia (VL < 200 copies) and 43 (44.3%) had fibrosis scores above F3 (Table 2). Sixty were treated for chronic HCV. Among the 55 untreated patients, 20 (36.4%) were in the process of evaluation, 11 (20%) had uncontrolled HIV viremia (HIV viral load >200 copies) and 7 (12.7%) were actively using illicit substances (Figure 1). In HCV treated vs. untreated patients, it was more common to have an undetectable viral load (60% vs. 40%); CD4 count > 200 (58% vs. 42%); and absence of cocaine abuse (58% vs. 42%). Patients who completed HCV treatment had a higher rate of HCC screening (62% vs 33%, p=0.005) (Table 3).

**Conclusion:** Despite the availability of effective DAA therapy, only one half of co-infected patients were treated for HCV. The significant barriers in the delay of HCV treatment were uncontrolled HIV viremia and substance abuse. To overcome these barriers, we suggest: (1) providing support and resources to help patients cease cocaine use, (2) encourage frequent follow up with patients to achieve HIV suppression. This will improve access to treatment, decrease mortality, and improve the quality of life for this patient group.

## Introduction and Methods

### Introduction

- Hepatitis C virus (HCV) infection disproportionately affects HIV-infected patients.
- Co-infected patients have worse prognoses than mono-infected patients.
- Despite effective treatments, only a small proportion of co-infected patients are treated for HCV infection.

### Methods

- We performed a retrospective cross-sectional study of HIV/HCV co-infected patients seen at an urban HIV clinic in the year of 2016 at Drexel University, Philadelphia, PA.
- We compared patients who were treated for HCV infection versus those who were untreated.
- We described demographics and barriers-to-care associated with untreated HCV infection.

## Results

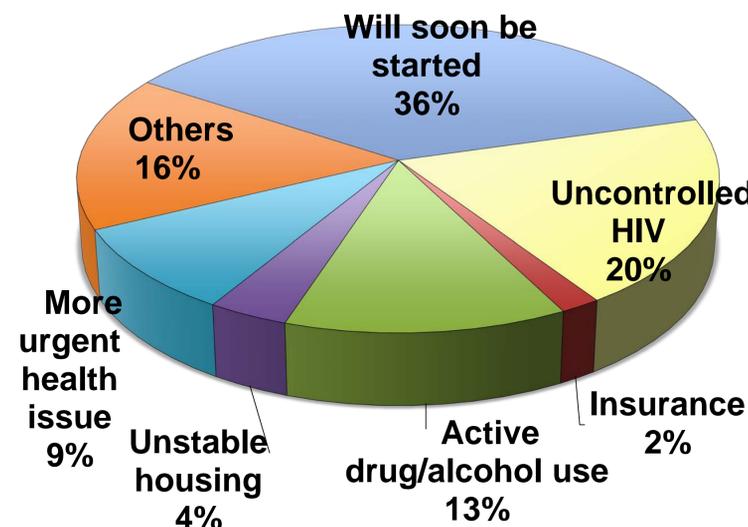
**Table 1: Demographic Data**

Demographics	Number observed
<b>Gender (n=115)</b>	
Female, n (%)	32 (27.8%)
<b>Race (n=115)</b>	
White, n (%)	21 (18.3%)
Black, n (%)	78 (67.8%)
Hispanic, n (%)	15 (13%)
Asian, n (%)	1 (0.9%)
<b>Insurance (n=115)</b>	
Medicare, n (%)	29 (25.2%)
Medicaid, n (%)	76 (66.1%)
Private, n (%)	7 (6.1%)
None, n (%)	3 (2.6%)
<b>Housing (n=105)</b>	
No, n (%)	7 (6.7%)
<b>Medical Condition</b>	
Diabetes	18 (15.7%)
Hypertension	53 (46.5%)
Hepatitis B Virus	3 (2.6%)
<b>Psychiatric disease (n=112)</b>	
Yes	67 (59.8%)
<b>Substance Use</b>	
<b>IVDA (n=105)</b>	
Current, n (%)	6 (5.7%)
Past, n (%)	44 (41.9%)
<b>Cocaine (n=115)</b>	
Current, n (%)	14 (14.4%)
Past, n (%)	35 (36.1%)
<b>Alcohol (n=105)</b>	
Current, n (%)	7 (6.7%)
Past, n (%)	24 (22.9%)

**Table 2: HIV and HCV Factors**

HIV	Number observed
<b>Risk Factor (n=74)</b>	
Heterosexual	32 (43.2%)
MSM	16 (21.6%)
IVDA	26 (35.1%)
<b>On ART (n=113)</b>	113 (99.1%)
<b>Viral Load</b>	
>=200 copies	17 (15%)
<b>CD4 (n=115)</b>	
<200	13 (11.3%)
<b>HCV</b>	
<b>Treatment (n=112)</b>	
Yes	61 (53.6%)
No	52 (46.4%)
<b>Viral Load (n=113)</b>	
Positive	53 (46.9%)
<b>Fibrosis (n=97)</b>	
F2 or lower	54 (55.7%)
F3 or above	43 (44.3%)
<b>HCV imaging (n=108)</b>	
Yes	70 (64.8%)

**Figure 1: Barriers of Untreated HCV in HIV patients (n=55)**



**Table 3: Variables that Affect Treatment**

	Total number observed	HCV treated (n=60)	HCV untreated (n=52)	p value
<b>Cocaine (n=95)</b>				0.013
No	48	28 (58.3%)	20 (41.7%)	
Past	34	17 (50.0%)	17 (50%)	
Current	13	2 (15.4%)	11 (84.6%)	
<b>HIV viral load (n=111)</b>				<0.0001
< 200 copies	93	56 (60.2%)	37 (39.8%)	
>= 200 copies	17	2 (11.8%)	15 (88.2%)	
<b>HIV CD4 count (n=112)</b>				0.035
< 200 cells	13	3 (23.1%)	10 (76.9%)	
>= 200 cells	99	57 (57.6%)	42 (42.4%)	
<b>HCC screening image (n=105)</b>				0.005
No	36	12 (33.3%)	24 (66.7%)	
Yes	69	43 (62.3%)	26 (37.7%)	
<b>No show rate % (IQR)</b>	33% (17%, 50%)	29% (13%, 40%)	44% (21%, 58%)	0.010

## Conclusion

- Despite the availability of effective DAA therapy, only one half of co-infected patients were treated for HCV.
- The significant barriers in the delay of HCV treatment were uncontrolled HIV viremia and substance abuse.
- Those treated for HCV are also more likely to have undergone HCC screening.

To overcome these barriers, we suggest:

- Providing support and resources to help patients cease cocaine use
- Encourage frequent follow up with patients to achieve HIV suppression

This will improve access to treatment, decrease mortality, and improve the quality of life for this patient group.