Understanding unsuccessful direct-acting antiviral hepatitis C treatment among people living with HIV from the International Collaboration on Hepatitis C Elimination in HIV Cohorts (InCHECH)

Harney B[1,2,3],Sacks-Davis R[1,2],van Santen D[1,2,4],Matthews G[5,6],Klein M[7,8,9], Lacombe K[10,11],Witkopp L[12,13],van der Valk M[14,15,16],Prins M[4,14,15],Jarrin I[17],Rauch A[18],Hellard M*[1,2,3],Doyle J*[1,2]; on behalf of The International Collaboration on Hepatitis C Elimination in HIV Cohorts (InCHEHC). *Joint senior authors

1. Disease Elimination Program, Burnet Institute, Melbourne, Australia
2. School of Public Health and Preventive Medicine, Monash University, Melbourne, Australia
3. Department of Infectious Diseases, Alfred Health and Monash University, Melbourne, Australia
4. Department of Infectious Diseases, Research and Prevention, Public Health Service of Amsterdam, Amsterdam, The Netherlands
5. The Kirby Institute, UNSW, Sydney, Australia
6. St Vincent's Hospital, Sydney, Australia
7. Epidemiology, Biostatistics & Occupational Health, McGill University, Montreal, Canada
8. Canadian Institutes of Health Research, Canadian HIV Trials Network, Vancouver, Canada
9. Division of Infectious Diseases and Chronic Viral Illness Service, Department of Medicine, McGill University Health Centre, Montreal, Canada
10. Sorbonne Université, INSERM, Institut Pierre Louis d'Épidémiologie et de Santé Publique, Paris, France
11. Service de Maladies Infectieuses, Hôpital Saint-Antoine, APHP, Paris, France
12. CHU Bordeaux, Pôle de Santé Publique, F-33000, Bordeaux, France
13. University of Bordeaux, Department of Public Health, Inserm Bordeaux Population Health Research Centre, Bordeaux, France
14. Department of Infectious Diseases, Amsterdam Universitair Medische Centra, University of Amsterdam, Amsterdam, Netherlands.
15. Amsterdam Infection & Immunity Institute, Amsterdam Universitair Medische Centra, University of Amsterdam, Amsterdam, Netherlands
16. Stitching HIV Monitoring, Amsterdam, The Netherlands
17. Centro Nacional de Epidemiologia, Institute of Health Carlos III, Madrid, Spain
18. Department of Infectious Diseases, Inselspital, Bern University Hospital, University of Bern, Bern, Switzerland

Background
Historically, hepatitis C virus (HCV) was difficult to treat among people with HIV, however treatment with direct-acting antivirals (DAA) results in 90-95% of people being cured. There is a need to further understand why 5-10% are not successfully cured in order to ensure no one is left behind in HCV elimination efforts.

Methods
Data included people from Australia, Canada, France, the Netherlands, Spain, and Switzerland. People who had interferon-free DAA HCV treatment data recorded

between 2014 and 2019 and ≥ one HCV RNA test 12 or more weeks after end of treatment (EOT) were included in analyses. We used mixed-effects logistic regression to examine factors associated with unsuccessful treatment, defined as a positive RNA test at their first test 12+ weeks after EOT. Factors included in bivariable analyses were key population group, years since HIV diagnosis, HIV viral load, CD4 cell count, HCV genotype, cirrhosis, and previous interferon-based HCV treatment. Factors significant at 90% in bivariable analyses, and age, were included in multivariable analyses.

Results

Overall, 4554 people had DAA treatment data; the majority were gay or bisexual males (46%) or had a history of injection drug use (37%). Of these people, 4509 (99%) had HCV RNA test data recorded, and 3844 (85%) had a test 12+ weeks following EOT, ranging from 83% to 86% across population groups. Unsuccessful treatment was 5.5% (212/3844) overall, ranging from 4% to 8% across population groups. Adjusted for age and population group, a CD4 cell count between 200-349 cells/mm^3 was the only factor associated with unsuccessful treatment (aOR 1.78, 95%CI 1.20-2.63) compared to a CD4 cell count ≥350 cell/mm^3.

Conclusion

We found that 5.5% of people with an SVR12+ test were unsuccessfully treated with minimal difference across key populations. Extra monitoring and support through HCV treatment may be warranted among people with lower CD4 cell counts.

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