

HEPATITIS C VIRUS REINFECTION FOLLOWING TREATMENT IN A COHORT OF PEOPLE WHO INJECT DRUGS IN PRISON: THE SHARP-P STUDY

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Background: Prisons are high-risk settings for hepatitis C virus (HCV) infection among people who inject drugs, given sub-optimal harm reduction access. This includes high risk of HCV reinfection after successful treatment. Our study evaluates HCV reinfection incidence following direct acting antiviral (DAA) treatment among people in prison who inject.

Methods: SHARP-P was an observational cohort study, enrolling people with chronic HCV who reported injecting drug use in the previous six months and commenced DAA treatment in a prison network in New South Wales, Australia (2019-021). Justice Health and Forensic Mental Health Network provides opioid agonist treatment (OAT), but no needle-syringe program. Participants were assessed every 3-6 months post-treatment for recurrent viremia, classified as: definite reinfection, possible reinfection, virological failure and undefined (Figure). Reinfection incidence and associated factors were evaluated.

Results: Of 201 participants, 154 (77%) had post-treatment follow-up and were included in analyses (median age 32 years, 20% women, 62% injected drugs in the month pre-enrolment [95% shared injecting equipment]). Twenty-six episodes of recurrent viremia were classified as: 16 definite reinfection, 3 possible reinfection, 1 virological failure, and 6 undefined (Figure). During 103 person-years of follow-up, incidence of definite HCV reinfection was 15.5/100 person-years (95%CI, 9.5-25.3) overall, 19.4/100 person-years (95%CI, 11.2-33.4) among those injecting during follow-up, and 57.9/100 person-years (95%CI, 32.9-101.9) among those sharing injecting equipment. Reinfection was associated with injecting drug use in the past month (adjusted Incidence Rate Ratio (aIRR) 4.7: 95%CI, 1.5-15.0). Among those injecting during follow-up, reinfection was associated with sharing injecting equipment in the past month (aIRR 12.3: 95%CI, 1.5-100.2).

Conclusions: The high HCV reinfection incidence in prisons despite good OAT coverage highlights the limits of treatment-as-prevention and the need for additional prison-based harm reduction interventions. The finding that most recurrent viremia is due to reinfection can inform clinical decision-making.

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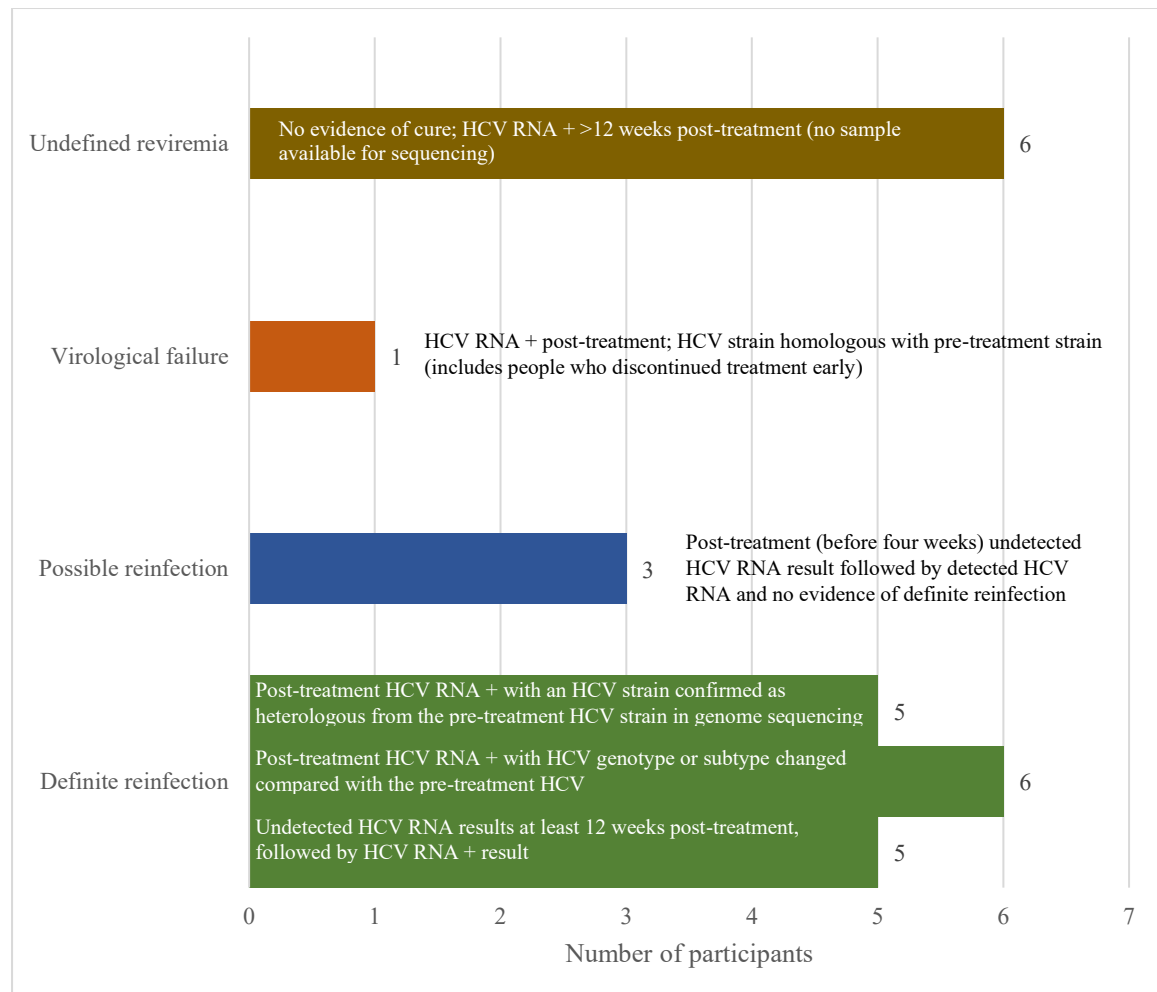


Figure: Categorization of Etiology of Recurrent Viremia