HEPATITIS C VIRUS REINFECTION FOLLOWING DIRECT ACTING ANTIVIRAL TREATMENT IN THE PRISON SETTING: THE SToP-C STUDY

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Introduction:
Ongoing injecting risk behaviours following HCV treatment may lead to reinfection, reversing benefit of cure, particularly if harm reduction measures are not optimal. This study assessed HCV reinfection risk following direct-acting antiviral (DAA) therapy in Australian prisons, where opioid agonist therapy (OAT) is available, but not needle-syringe programs.

Methods:
The Surveillance and Treatment of Prisoners with hepatitis C (SToP-C) study enrolled people incarcerated in two maximum (male) and two medium-security prisons (one male, one female) in NSW (2014-19). Participants were tested for HCV at enrolment. Those with detected HCV-RNA were offered DAA treatment (12 weeks sofosbuvir/velpatasvir) from mid-2017. HCV treatment was also available through prison health service as standard-of-care (interferon-based until March 2016, then DAA). Participants were tested 12 weeks post-treatment, and then every 3-6 months to assess reinfection (identified by HCV sequencing).

Results:
Among 349 participants receiving DAA treatment (n=324 through SToP-C), 165 with HCV clearance and post-treatment follow-up assessment were included in analyses (90% male; median age: 34). In this population, 71% (n=117/165) injected drugs in current imprisonment (n=23/117, 20% received OAT), and 36% (n=59/165) injected drugs in the past month in prison. Median post-treatment follow-up was 9 months (IQR: 3-17). During 145 person-years of post-treatment follow-up, 14 participants had reinfection. Incidence of reinfection was 9.6/100 person-years (95%CI: 5.7-16.3), including 2.2/100 person-years (95%CI: 0.3-15.7) among those not reporting injecting in prison, 3.4/100 person-years (95%CI: 0.9-13.7) among those injecting >1 month ago in prison, and 26.3/100 person-years (95%CI: 14.6-47.5) among those injecting in the past month in prison. In adjusted analysis, injecting in the past month was associated with 10-fold increased risk of reinfection (adjusted hazard ratio 10.1; 95%CI 1.1-91.8; p=0.039).

Conclusion:
There is excessive risk of post-treatment HCV reinfection among prisoners with ongoing injecting drug use. Optimising HCV elimination efforts in prisons requires enhanced harm reduction strategies.

Disclosure of Interest Statement:
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