HIGH RATE OF HCV REINFECTION AMONG RECENTLY INJECTING DRUG USERS: RESULTS FROM THE TRAP HEP C PROGRAM IN ICELAND – A PROSPECTIVE NATIONWIDE, POPULATION-BASED STUDY

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Background: The introduction of direct-acting antivirals (DAAs) has revolutionised treatment of hepatitis C virus (HCV) infection. Reinfections through injection drug use (IDU) can pose a threat to HCV elimination efforts. The Treatment as Prevention for Hepatitis C (TraP Hep C) program was started in 2016 in Iceland, offering treatment with DAAs to all HCV-infected individuals. We sought to determine the reinfection rate (RIR) of HCV among patients in the program.

Methods: Clinical data was gathered prospectively. The study cohort was patients who completed treatment with sustained virological response (SVR) between January 11^{ths} 2016 – November 20th 2018. The time from SVR to the most recent HCV-PCR was used to calculate observation periods and the RIR by 100 person-years (PYs). To account for low-risk patients we also approximated the theoretical minimum RIR by assuming that every patient with last HCV-PCR negative had remained negative until November 20th, 2019.

Results: 617 treatments of 597 patients (409 males, average age 44.5 years) were completed, with 44 reinfections occurring in 42 patients (33 male). Follow-up was 494.7 PYs with an average time from cure to reinfection of 380 days. History of IDU was reported by 508 (85%) and recent IDU with 205 (33%) treatments. Stimulants were the preferred IV drug among 85%. The RIR was 8.9/100 PYs (95% CI 5.8 - 13.6). High RIRs were associated with homelessness (24.3/100 PYs), recent IDU (18.1/100 PYs), non-injected stimulant use and young age. The theoretical minimum RIR was 2.9/100 PYs (95% CI 1.9-4.5).

Conclusion: The reinfection rate after treatment in Iceland is high, particularly in young marginalized people with recent IDU and those who have unstable housing. The bias towards repeat blood tests in high-risk patients may overestimate RIRs. Further emphasis on high-risk populations is necessary to maintain treatment efficacy and further reduce HCV transmission.

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