

RISK OF HCV REINFECTION AND ASSOCIATED PATTERNS OF BEHAVIOUR AMONG MEN WHO INJECT DRUGS OR WHO HAVE SEX WITH MEN IN CANADA.

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Background: Expanding uptake of hepatitis C virus (HCV) curative treatments increases the pool of individuals susceptible to HCV reinfection, particularly among people who inject drugs (PWID) and men who have sex with men (MSM). This study examined patterns of recent drug consumption and sexual behaviour and their association with HCV reinfection (HCV RNA-positive following spontaneous- or treatment-induced clearance) in at-risk men.

Methods: HCV antibody-positive/HCV RNA-negative participants were drawn from HEPSCO (PWID; Montreal, 2011-2017) and Canadian Coinfection Cohort (HIV-positive MSM and/or PWID; pan-Canadian, 2004-2018). Questionnaires and HCV RNA testing were completed 3-/6-monthly, depending on the cohort. We employed latent class analysis to identify heterogeneous behavioural clusters (based on ten/two indicators of drug use/gender of sexual partner). Time-to-event methods were used to calculate HCV reinfection rates and associations with time-updated behavioural cluster membership (adjusting for recruitment site, age, recent incarceration, and unstable housing).

Result: Data from 3027 study visits involving 540 men (baseline median age: 48 yrs; 55% HIV-positive) were analyzed. Latent class analysis derived six behavioural clusters: two based on gender of sexual partner without injection ('heterosexual', and 'MSM'), two based on the predominant drug injected ('cocaine', and 'heroin and opioid agonist therapy') and two based on polydrug injection ('prescription opioid-dominant', and 'amphetamine-dominant'). Ninety-eight HCV reinfections occurred in 1473 person-years (PY) [6.65 per 100py]. Compared to 'heterosexual without injection', HCV reinfection was elevated for the 'prescription opioid-dominant' (adjusted HR: 7.93; 95% CI: 5.31, 11.83), 'cocaine injection' (aHR: 3.28; 1.66, 6.49), 'heroin injection and opioid agonist therapy' (aHR: 2.96; 1.48, 5.92), and 'amphetamine-dominant' clusters (aHR: 2.77; 1.18, 6.49), but not for the 'MSM without injection' cluster (aHR: 0.87; 0.57, 1.35).

Conclusion

In these Canadian cohorts of male PWID and MSM, HCV reinfection was associated with patterns of recent drug injection, but not sex with men in those reporting no recent injecting.

Disclosure of Interest Statement

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