**HCV RE-INFECTION IN HIGH-RISK PEOPLE WHO INJECT DRUGS**

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**BACKGROUND:** People who inject drugs (PWID) constitute the majority of cases of HCV infection in Canada.  Although a number of strategies have been developed to engage them in care, reluctance to implement them partly relates to concerns about re-infection following successful treatment. We have examined this issue in a prospective longitudinal cohort to establish whether this concern is confirmed in clinical practice.

**METHODS:** Within a multidisciplinary program to engage and treat PWID, we have documented 618 cases of HCV therapy having resulted in a sustained virologic response (SVR) in which patients continued to engage in high-risk behaviour for HCV acquisition after SVR was achieved. These individuals have been followed prospectively to document recurrent viremia, with the performance of HCV RNA testing every 6 months, more frequently if elevated ALT or symptoms of acute hepatitis were noted. The endpoint of this analysis is a positive HCV RNA test following the clear establishment of an SVR.

**RESULTS:** Among the 618 patients, there were 47 females, mean age of 52.6 years. Disease characteristics included: 80 HIV co-infected, 62.9% genotype 1, 92.5% previously treatment naïve. In a mean of 5.95 person-years of follow-up/subject, 4 cases of re-infection were noted (1.49/100 person-years) with all being co-infected patients and 3 being genotype 1. The only factor associated with an increased risk of re-infection was use of stimulants. Additionally, 13 patients were found to be homeless and 29 were attending weekly support group regularly.

**CONCLUSION:** PWID successfully treated for HCV infection experience re-infection at a lower rate than previously encountered in uninfected at-risk individuals, and this negative outcome is often associated with stimulant use. Strategies are thus needed to deal with ongoing high-risk addiction behaviours to maximize the benefits of the intervention and further reduce the rate of re-infection.