**The effects of alcohol on spontaneous clearance of acute hepatitis c virus infection in females versus males**

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**Background**: Approximately one quarter of persons exposed to hepatitis C virus (HCV) will spontaneously clear. We undertook this study to investigate the impact of alcohol on likelihood of HCV spontaneous viral clearance stratified by sex.

**Methods:** Pooled data from an international collaboration of prospective observational studies of incident HIV and HCV infection in high-risk cohorts (the InC3 Study) was restricted to 411 persons with documented acute HCV infection and data regarding alcohol use. The predictor of interest was self-reported alcohol use at or after estimated date of incident HCV infection and the outcome was HCV spontaneous clearance. Sex stratified Cox proportional hazards models were used to evaluate the association between alcohol and spontaneous clearance, adjusting for age, race/ethnicity, and IFNL4 genotype.

**Results**: The median age was 28.5 years, 30.4% women, 87.2% white, and 71.8% reported alcohol use at or after incident infection. There were 89 (21.6%) cases of spontaneous clearance observed over 560.7 person-years of observation (pyo), 39 (31.2%) among women and 50 (17.5%) in men (p<0.01). Overall, spontaneous clearance occurred less frequently among participants who drank alcohol compared to those who did not drink (18.9% v. 28.5%, p=0.03). After adjustment for other covariates, alcohol was significantly associated with lower relative hazards for spontaneous clearance of HCV in women (AHR=0.35; 95% CI: 0.19-0.66; p=0.001) but not in men (AHR=0.63; 95% CI: 0.36-1.09; p=0.10).

**Conclusions:** Results indicate that abstaining from drinking alcohol may increase the likelihood of spontaneous clearance among women.

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