A higher than expected rate of HIV-negative men who have sex with men (MSM) enrolling in a pre-exposure prophylaxis (PrEP) demonstration project in Amsterdam have tested positive for hepatitis C virus (HCV). Genetic analyses suggest that strains of hep C that have been circulating among local HIV-positive MSM have transmitted among their HIV-negative peers.

Since about the turn of the millennium, an epidemic of sexually transmitted hep C has emerged among HIV-positive MSM in Western nations. Researchers don't know whether such sexual transmission of HCV is the result of something specific to HIV or whether certain factors that are more common among the HIV population facilitate such transmission. (These two factors are not mutually exclusive, however.)

Some have theorized that sexual transmission of hep C is so much more common among HIV-positive MSM compared with their HIV-negative peers because of the phenomenon of serosorting, whereby MSM seek out sexual partners of their same HIV status. It is possible that hep C tends to transmit through sex more readily among HIV-positive MSM because their sexual networks, which already have a higher HCV prevalence, tend to be more separated from the HIV-negative MSM population.

With the advent of PrEP and increasing awareness of the power of antiretroviral (ARV) treatment to all but eliminate the risk of HIV transmission among those living with the virus, the age-old tendency toward sexual segregation based on HIV status among MSM has been on the decline. This shift in behavior patterns perhaps provides the opportunity for HCV and other STIs, which are more common among HIV-positive MSM, to circulate more widely among MSM who do not have HIV.

Researchers looked at the HCV test results of 375 HIV-negative MSM who enrolled in the Amsterdam PrEP demonstration project. They examined both HCV antibody test results (a positive result indicates that someone has been exposed to the virus) and HCV RNA test results (a positive
result confirms a chronic infection). Someone who tests positive for HCV antibodies but negative for RNA likely has cleared the infection spontaneously (or has been cured of the virus thanks to effective treatment).

The researchers conducted genetic analyses of samples of HCV from those who tested positive for viral RNA and compared them with 182 samples from HIV-positive MSM enrolled in the Dutch MOSAIC cohort.

Findings were presented at the 2017 Conference on Retroviruses and Opportunistic Infections (CROI) in Seattle.

A total of 18 (4.8 percent) of the HIV-negative MSM tested positive for HCV antibodies; 15 (4 percent of the overall group and 83 percent of those with HCV antibodies) tested positive for HCV RNA as well.

Those who tested positive for HCV antibodies, compared with those who tested negative, were more likely to be younger (a median age of 33 versus 40), report being diagnosed with rectal or urethral chlamydia, gonorrhea or syphilis during the previous three months (61.1 percent versus 34.7 percent), report a higher number of anal sex partners during the previous three months (a median 20 versus 15), report a higher number of receptive condomless anal sex acts during the previous three months (a median 14 versus 3), report injection drug use during the previous three months (23.5 percent versus 3.1 percent) and report “chemsex,” or sex while using GHB or GBL, mephedrone or methamphetamine during sex, during the previous three months (83.3 percent versus 40.1 percent).

The researchers found that those who tested positive for HCV RNA contracted strains of the virus that were already circulating among HIV-positive MSM, suggesting an overlap between infection routes between HIV-positive and -negative MSM in the area. The researchers concluded that HCV testing should be offered to MSM at high risk for HIV, especially those seeking PrEP.

To read the conference poster, click here.

To read the conference abstract, click here.