

CASE REPORT: COBBLESTONE

A new way to catch hepatitis C

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Transmission of hepatitis C virus (HCV) is mainly parenteral; injecting drug use is the principal risk factor in Western populations. Epidemiological studies have found rates of sexual transmission of 2–12%¹ with higher rates in homosexual men but lower rates in heterosexual monogamous couples (where one partner is infected). We report an obvious but probably overlooked route of transmission.

The index case was a 35 year old HIV positive man who had been on highly active antiretroviral treatment (HAART) for 10 months.

He presented in May 2000 with a history of fatigue, malaise, and vague abdominal discomfort for several weeks. At this time liver function tests were abnormal, with an alkaline phosphatase (ALP) of 179 IU/l (38–126 IU/l) and an alanine aminotransaminase (ALT) of 62 IU/l (21–72 IU/l). He was hepatitis B surface antibody positive (76 IU/l). No antibodies to hepatitis A and C were detected.

In September 2000 repeat liver function tests showed an ALP of 165 IU/l but the ALT had risen to 475 IU/l. An ultrasound liver scan suggested fatty infiltration of the liver.

The index case denied any injecting/recreational drug use, anabolic steroid use, and reported consistent use of condoms. He did, however, remember an episode when he shared a Caverject (intracavernosal alprostadil) needle with his regular partner and one other man in May 2000.

Further investigation of hepatitis C status in the index case and his regular partner were carried out on stored sera. The third man involved was untraceable. The index case was HCV antibody negative and HCV polymerase chain reaction (PCR) negative before the Caverject episode. His partner, however, was found to be HCV antibody positive in January 2000—that is, 5 months before the likely date of the Caverject injection. The index case became HCV RNA positive at the end of June 2000. His partner was found to be HCV RNA positive and therefore infective in early June. (This was the only serum available from the partner for HCV RNA testing around the time of the Caverject episode.) It is likely however that infection of the index case occurred in early May 2000.

HCV genotyping and sequencing studies were carried out on stored sera from the index case and his partner. The HCV virus from both men was found to be genotype 3a. Sequencing analysis of a 220 nucleotide segment from cDNA derived from the NS5b region of the HCV genome showed complete identity in all the specimens, suggesting that both men were infected with the same HCV variant.

It is possible that transmission of HCV from the partner to the index case was sexual, but this seems unlikely in view of the low rates of sexual transmission of HCV and the history of consistent condom use.

It seems more likely that transmission occurred via the shared Caverject needle. Caverject is commonly used recreationally as shown by the number of hits when the term “Caverject” is searched for using a well known search engine. Users should be warned of the potential risk of transmission of HCV and other viruses including drug resistant HIV, when training them to self inject.

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