

HEPATITIS C

This *Making it Count* briefing sheet provides an overview on hepatitis C for sexual health promoters working with gay men, bisexual men and other men that have sex with men (MSM). Hepatitis C is a viral infection of the liver which can have serious consequences, especially if it is left untreated. While injecting drug users (and haemophiliacs) are more commonly co-infected with hepatitis C and HIV, an increasing number of MSM with diagnosed HIV are acquiring hepatitis C through sex. This briefing concentrates on hepatitis C, with some comparison to the key characteristics of hepatitis A and B.

WHAT IS HEPATITIS?

The liver is an essential organ which stores and filters blood, removing unwanted substances, processing and storing nutrients, making bile (which helps to digest fat) and releasing energy into the bloodstream. Hepatitis means 'inflammation of the liver'. It can be a complication of other medical conditions, excessive alcohol consumption, medication side effects and some auto-immune disorders.

Hepatitis can also be caused by a viral infection, and there are three different viruses which are relevant to the sexual health of MSM: hepatitis A, hepatitis B and hepatitis C. Although it had long been suspected that hepatitis could be caused by an infection, the viruses were only formally identified in 1963 (hepatitis B), 1973 (hepatitis A) and 1989 (hepatitis C). Although each virus attacks the liver and can cause similar symptoms, the viruses are not related and previous infection or vaccination against one provides no protection against the others.

Vaccines exist for hepatitis A and B. MSM who have multiple sexual partners are recommended to have both vaccinations irrespective of whether they have HIV. No vaccine exists for hepatitis C.

WHAT ARE THE EFFECTS OF HEPATITIS C?

Hepatitis C virus (HCV) causes more harm than hepatitis A or B. Only a minority of those infected clear the infection and a high proportion of those who fail to do so go on to develop liver disease such as cirrhosis or liver cancer (possibly leading to complete liver failure).

However, some people with hepatitis C remain well throughout their life. Moreover, for most who become infected there are no immediately noticeable symptoms. As a result, many people have the infection for years before it

is diagnosed, by which time it may have caused liver damage.

Later symptoms such as fatigue, depression, mental confusion, water retention in the abdomen and legs, bruising and nausea often take years to appear. It can be 30 to 40 years between infection and liver damage such as cirrhosis.

Of those infected with hepatitis C:

- about 20% clear the infection without treatment, and
- about 80% develop chronic (ongoing) hepatitis C.

Of those with chronic infection:

- the majority will live a normal lifespan;
- about 20% will get cirrhosis (scarring of the liver);
- a small percentage (1-4%) will go on to get liver failure or cancer many years later.

Patterns of disease progression vary considerably from person to person. This may be due, in part, to differences between strains of the virus. But other factors such as being male, older age, alcohol use and HIV co-infection may also speed up disease progression.

HOW COMMON IS HEPATITIS C?

Among UK adults below the age of 60, around 230,000 are thought to have antibodies to hepatitis C, indicating past or current infection. Seventy per cent are men. The vast majority of people are unaware of their infection.

Infection is concentrated in injecting drug users, with 88% of infections occurring in past or current users. It is not uncommon for someone who injected drugs a small number of times three or more decades ago to discover that they picked up hepatitis C but are only now becoming ill. Anonymous blood samples from current injecting drug users show that four in ten have antibodies to hepatitis C.

MAKING IT COUNT

Making it Count is the strategic planning framework that guides HIV prevention for MSM across the CHAPS partnership. The framework encourages more frequent sexually transmitted infection screening, largely because many sexually transmitted infections increase the risk of acquiring or passing on HIV. However there is no clear evidence that hepatitis C infection affects HIV transmission in this way.

Nonetheless, hepatitis C is a very serious sexually transmitted infection – it substantially harms the health and quality of life of many MSM with HIV and can cause death if left untreated. More frequent sexual health screening will help reduce these harms.

Infection is also widespread among those who received blood or blood products before screening was introduced in the UK (sterilisation of blood products began in 1986, testing of blood donations for hepatitis C began in September 1991).

Detailed information on the overall prevalence of hepatitis C among HIV-positive people in the UK has been lacking. However, the UK Collaborative HIV Cohort (UK CHIC) recently reported an observational study involving 31,765 people with HIV provided with care at ten specialist HIV clinics between 1996 and 2007. They reported that just under 9% of HIV-positive patients in the UK were co-infected with hepatitis C virus at the end of 2007. Prevalence of hepatitis C differed between HIV risk groups. It was highest in injecting drugs users (84%), followed by gay men (7%), and heterosexual men and women. By contrast, they reported an estimated prevalence in the general UK population of 0.44%.

While sexually acquired hepatitis C makes up a very small proportion of total infections (probably less than 2%), it is an increasing concern for MSM with HIV. Since 2002 outbreaks have been reported in the UK, the Netherlands, Switzerland, France, Germany, Australia and the United States. We have no overall estimate for the number of MSM with hepatitis C in the UK. However, data from three HIV clinics in London and Brighton, revealed a total of 389 HIV-positive gay or bisexual men were diagnosed with hepatitis C between 2002 and 2006 and infection rates increased by 20% each year during that time.

Only a handful of cases have been reported in MSM who do not have HIV. Moreover when sexual health clinics in London piloted offering hepatitis C testing to all MSM who attended, they found that the prevalence of infection was 0.65%. As this is similar to the prevalence in the general population, they concluded that this screening policy could not be justified.

HOW IS HEPATITIS C PASSED ON?

Hepatitis C, usually in invisible amounts of blood, can enter the bloodstream through minute breaks in the skin during the following activities:

- sharing injecting equipment (needles, spoons, filters, water, swabs, 'works' etc.).
- Possibly sharing rolled up banknotes or snorting straws when using cocaine and other drugs (virus might enter through breaks in nasal blood vessels), though research is not conclusive.
- Receiving blood or blood products in countries where there is no screening for hepatitis C (UK screening began in 1991).
- Medical procedures in countries where infection control measures are poor.
- Acupuncture, tattooing or piercing in unregulated settings, if insufficiently sterilised needles, inks and other equipment are used.
- Sharing razors, toothbrushes, nail clippers or scissors etc. (the virus survives in dried blood for at least four days; there is no risk from sharing cutlery etc.).
- Sex, especially unprotected anal intercourse and fisting (see below).
- Pregnancy and childbirth (up to 10% of children born to mothers with hepatitis C will contract the virus).

The virus is found in highly infectious quantities in blood and is more readily transmissible than HIV. It is sometimes detectable in body fluids other than blood (at very low concentrations) including semen, vaginal secretions and menstrual fluids.

Previously, the sexual transmission of hepatitis C was thought unlikely. Research suggests that heterosexuals pass their infection on to their long-term partners only rarely, if at all. However it is now clear that sexual transmission is occurring between MSM, almost all of whom have HIV.

HOW DOES SEXUAL TRANSMISSION OF HEPATITIS C OCCUR?

Sexual risk factors for hepatitis C are not fully understood. This is partly because MSM with hepatitis C tend to report lots of sexual partners and a wide range of different sexual activities, so it is hard to establish which factors are most relevant.

- Fisting: a number of studies have identified this as the single most important risk factor. Fisting may damage rectal tissues, facilitating transmission via blood.
- The use of large dildos or other sex toys, which may also damage rectal tissues.
- Unprotected anal intercourse: several studies report that men who have never fisted or engaged in other “heavy anal play” have become hepatitis C infected.
- Group sex may increase the risk of encountering and transmitting infections, especially if sex parties are organised only for men with diagnosed HIV to facilitate unprotected sex.
- Recreational drug use. It is unclear whether drug use in itself increases the risk of hepatitis C infection or whether drug use is common among men taking sexual risks.

It is not clear why men with HIV are at greater risk than other MSM. This may be to do with behaviour: some men with HIV are involved in sexual networks where unprotected sex is the norm and where hepatitis is more commonly found. There may also be a biological cause, perhaps linked to the immune system, which makes men with HIV more vulnerable to hepatitis C. It is hoped that future research will clarify this.

HOW CAN TRANSMISSION BE PREVENTED?

- Sexual transmission is reduced by the use of condoms for anal intercourse and latex gloves for fisting. In group sex situations, new condoms and gloves should be used for each new partner and care needs to be taken that shared lubricant containers are not contaminated with blood especially during fisting (hand pump dispensers will help solve this problem). Similarly sex toys like dildos should be covered with a fresh condom for each new partner, or the toys should be cleaned with a solution of one part bleach to ten parts water.
- The sharing of injecting equipment for steroids and other drugs; straws or banknotes for snorting drugs; razors; toothbrushes; nail cutters etc. should be avoided.
- During acupuncture, piercing or tattooing, needles and other equipment should be sterile and / or disposable.
- Undiluted bleach will effectively deal with blood spills.

- During childbirth caesarean section reduces mother to child transmission.

No vaccine against hepatitis C exists. Developing a vaccine is complex due to the number of different sub-types of the virus and the high degree of mutation within them.

Vaccination against hepatitis A and B is strongly recommended for those with hepatitis C as co-infection can lead to very aggressive hepatitis C-related liver disease.

There is no post-exposure prophylaxis for those recently exposed to hepatitis C.

HOW IS HEPATITIS C DIAGNOSED?

A blood test for antibodies to hepatitis C shows whether a person has been exposed to the virus: antibodies usually appear within six months of infection. Testing is available at sexual health clinics and GP surgeries.

Some people with HIV and hepatitis C do not produce enough antibodies to hepatitis C to be detected, so an antibody test can give a false negative result. If this is suspected, a viral load (PCR) test may be used. Viral load tests are also used to monitor the effectiveness of treatment.

Other tests are used to monitor damage to the liver:

- Liver function tests, measuring enzymes in a blood sample. These tests are routine for many patients with HIV, and abnormal results may be the first sign that a person has viral hepatitis.
- FibroScan, which uses echo waves to measure the stiffness of the liver.
- Liver biopsies, which involves the removal of a small amount of the liver under local anaesthetic.

HEPATITIS C AND STIGMA

A recent UK study (Owens 2008) suggested that gay men with HIV and hepatitis C can feel “grubby, isolated and ashamed.” They have called hepatitis C “the big new white elephant in the room”, something other men with HIV are “scared of, but that nobody is talking about.” Men report sexual rejection from other men with HIV, and feeling excluded from the “camaraderie of just being HIV-positive.” Moreover, a fear of rejection leads some not to disclose that they have hepatitis C, potentially facilitating transmission of the virus.

HOW IS HEPATITIS C TREATED?

The aim of hepatitis C treatment is a cure – this is sometimes called a ‘sustained virological response’. However not all people who take treatment achieve this. Response rates depend on which genotype (strain) of the virus a person has (genotype 1 is the hardest to treat). In people who do not have HIV, around 45% of people with genotype 1, and 80% of those with genotypes 2 or 3, are cured. In people co-infected with HIV, around 30% of those with genotype 1 and 60% with genotypes 2 or 3 are cured.

However treatment has other benefits, even if a cure is not achieved. It may help normalise liver enzymes (a marker of liver function); lower hepatitis C viral load; improve liver inflammation; and prevent progression to cirrhosis or liver cancer.

In people who are co-infected with HIV, the proportion of those who are cured is considerably higher if treatment is commenced soon after infection, ideally within the first six months or year. Therefore regular testing and early diagnosis in people at high risk of infection is important.

Treatment for hepatitis C usually lasts 24 or 48 weeks and consists of a combination of two drugs: pegylated interferon (given by injection, once a week) and ribavirin (tablets, twice a day). Side-effects can be severe, although they tend to reduce as treatment goes on. They include high fevers, joint pain, depression and low white cell count.

Currently, there is a lot of research into new hepatitis C drugs and more drugs will become available in the next few years. In 2011, it is expected that two different drugs, both hepatitis C protease inhibitors, will become available. They will need to be taken together with pegylated interferon and ribavirin.

Other drugs are in earlier stages of research. Researchers are aiming to identify combinations of drugs which achieve better results than current therapy and, ideally, which can be taken without interferon injections. However, the majority of clinical trials are in people who are not co-infected with HIV. Research results demonstrating the safety and efficacy of any new drugs in people who also have HIV may not be available for a number of years.

HEPATITIS A, B AND C AT A GLANCE

Hepatitis	A	B	C
How serious without treatment?	Full recovery for almost all. Does not cause long term, infectious disease.	Full recovery for most people. Around 5% to 10% have long term, infectious disease, occasionally causing death.	A minority have a full recovery. Around 80% have long-term, infectious disease, sometimes causing death.
Virus can be transmitted in ...	Tiny amounts of faeces.	Blood, semen and vaginal fluids. Sometimes saliva.	Blood, and possibly semen.
Mostly transmitted through ...	Contaminated food or water. Sexual contact with faeces (eg. during rimming).	Sharing injecting equipment. Wide range of sexual contact (anal intercourse, fellatio, etc.).	Sharing injecting equipment. In MSM with HIV – sexual contact (especially fisting, anal intercourse).
Symptoms	Often none. Fatigue, jaundice, flu-like symptoms.	Often none. Fatigue, jaundice, flu-like symptoms.	Usually none for years. Depression, mental confusion, nausea, fatigue.
Vaccine	Yes. Recommended for MSM who have multiple sex partners.	Yes. Recommended for MSM who have multiple sex partners.	No.
Treatment	The immune system typically clears the virus without treatment. Rest, a healthy diet and avoidance of alcohol and recreational drugs are recommended.	The immune system often clears the virus without treatment. Rest, a healthy diet and avoidance of alcohol and recreational drugs are recommended. If the infection persists, treatment with interferon or antiviral drugs.	Pegylated interferon (injections) plus ribavirin (tablets) for 24 or 48 weeks. Treatment is not always successful. New drugs are being developed.

SOURCES OF SUPPORT AND INFORMATION

- www.hepctrust.org.uk (helpline 0845 223 4424)
- www.nhs.uk/hepatitisc (information line 0800 0121 737)
- NAM – aidsmap
- www.hepinfo.org
- www.hivandhepatitis.com
- www.britishlivertrust.org.uk

FIVE KEY POINTS

- Hepatitis C is a viral infection which damages the liver and causes serious ill health.
- No hepatitis C vaccine is available, and vaccination against hepatitis A or hepatitis B offers no protection against hepatitis C.
- Nine in ten hepatitis C infections occur among injecting drug users.
- Sexual transmission rates for MSM with HIV are increasing.
- Sexual transmission probably occurs during fisting and unprotected anal intercourse.

FURTHER READING

Brook G, Main J, Nelson M, *et al.* on behalf of the BHIVA Viral Hepatitis Working Group (2010) British HIV Association guidelines for the management of coinfection with HIV-1 and hepatitis B or C virus, 2010. *HIV Medicine*, 11: 1–30.

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