Strategies for preventing reinfection with Hepatitis C in MSM

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Declaration

• I am a former NIHR Clinical Doctoral Research Fellow
• I have received an Imperial College Charity Trustee non-medical research award
• NHIVNA sponsored my attendance at this conference
Overview of session

- Overview of hepatitis C (HCV)
- Background to the issue of HCV reinfection among MSM
- What’s known about HCV transmission among MSM
- Strategies for preventing HCV reinfection
Overview of hepatitis C (1)

- Due to the asymptomatic nature of acute HCV in the early stages can make it difficult to diagnose
- Symptomatic acute HCV only occurs in about 15% of those infected with HCV
- In the context of HIV co-infection HCV is associated with significant morbidity and mortality

Overview of hepatitis C (2)

- Co-infection may complicate the delivery of ARTs\textsuperscript{1}
- Treatment can be difficult\textsuperscript{2}
- Newer triple/combination therapy treatments more effective and shorter in duration\textsuperscript{3,4,5}

\textsuperscript{3} Schneider M & Sarrazin C (2014) Antiviral therapy of hepatitis C in 2014: Do we need resistance testing?. \textit{Antiviral research}, 105: 64-71
Background (1)

- In MSM HCV is the result of a change in behavioural risk factors\(^1\)
- There appears to be evidence of a large international transmission network\(^2\)
- Clinicians in post industrialised countries have been reporting outbreaks of HCV among MSM since 2000\(^3\)

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Between 2002 and 2006 hepatitis C infection increased among MSM in London & Brighton

Estimates suggest that in the UK the incidence of acute HCV infection as increased by 20% every year since 2002

10-25% of PLWHIV are also infected with HCV

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2 Tohme R & Holmberg S (2010) Is sexual contact a major mode of hepatitis C virus transmission?. Hepatology, 52(4): 1497-1505

Background (3)

- The burden of disease is likely to increase over the next two decades\(^1\)
- There was an increase in prevalence among HIV-positive MSM in the Netherlands from 5.6% in 1995 to 20.9% in 2008, of which 13% had a recent infection\(^2\) \(^3\)

Background (4)

• Sero-sorting is likely to contribute to hepatitis C transmission through condomless anal sex\(^1\)\(^2\)
  – Higher blood and seminal HCV VL among HIV+ MSM may increase transmission\(^3\)
  – HIV infection can compromise the gastrointestinal immune system\(^3\)


Definition of reinfection

Reinfection is defined as having detectable HCV RNA with a different genotype compared to primary infection following an undetectable level at the end of treatment\(^1\)

Reinfection (1)

- 18% of HIV-positive MSM diagnosed with HCV acquired it for a second time
- The cumulative incidence of HCV reinfection was 33% within 2-years
- 25% of individuals treated for HCV will become re-infected within 2-years


Reinfection (2)

In a study of 302 HIV+ MSM with previous HCV
• 48 were identified as being reinfected of which
  – 11 of them had a third episode of HCV
  – 1 had a fourth episode

While in another study of 191 HIV+ MSM with HCV
• 44 were reinfected
• 8 were subsequently re-infected a second time


Transmission of HCV

- Typically requires direct blood exposure\(^1\)
- Has been identified in bodily fluids associated with sex\(^1\)
- Mode of sexual transmission not yet determined\(^1\)
- Studies of discordant heterosexual couples suggest that sexual transmission is not common\(^1, 2\)
- Sexual transmission of HCV among HIV-negative MSM to date is rarely observed\(^1, 3, 4\)


Transmission of HCV between HIV+ MSM

There is often a overlap of exposures\(^1\)

Traumatic anal sex practices

• Traumatic anal sexual practices in particular fisting without gloves, especially as the receptive partner and using sex toys.

• Exposure to bleeding during sex.

Traumatic anal sex practices

- Rough sex\(^1\) and BDSM (Bondage, domination, submission, sadomasochism)\(^2\)
- 71% of HIV+ MSM with HCV had engaged in fisting\(^2\)
- 5 fold increase in the risk of HCV in HIV+ MSM involved in fisting or using sex toys\(^3\)

\(^1\)Matser A, Vanhommerig J, van der Loeff M, Geskus R, de Vries H, Prins J, Prins M & Bruisten S (2013) HIV-infected men who have sex with men who identify themselves as belonging to subcultures are at increased risk for hepatitis C infection. PloS one, 8(3): e57740


Traumatic anal sex practices

Fisting with recreational drug use is also associated with condomless anal sex and occasionally serious trauma that requiring surgery\(^1\)

Belonging to a subculture

- HCV infection was associated with leather/rubber/lycra subcultures\(^1\)
- HCV is associated with the bareback subculture\(^2\)
- HCV infection is also associated with seeking partners online or in sex venues\(^3\)


Drug use

• IDU is significantly associated with HCV infection

• Non IDU: Drugs for sex particularly nasal insufflation


Drugs, rough sex & sexual adventurism

- Regardless of IDU, rough sexual techniques in conjunction with the use of recreational drugs were associated with HCV infection\(^1\)
- HIV+ MSM who injected drugs more likely to be HCV+, in addition were more likely to have used party drugs for sex and to have engaged in esoteric sexual practices (BDSM, leather/rubber, water sports, fisting, felching)\(^2\)


Condomless anal sex

• Condomless anal sex\(^1\) \(2\) \(3\) both insertive\(^4\) & receptive\(^1\) \(4\) \(5\) among HIV+ MSM\(^2\) was significantly associated with HCV infection


\(^3\)Tohme R & Holmberg S (2010) Is sexual contact a major mode of hepatitis C virus transmission?. *Hepatology*, 52(4): 1497-1505


Group sex & multiple partners

- Engaging in group sex is associated with HCV infection among HIV+ MSM\textsuperscript{1 2 3 4 5 6}
- As is having multiple sexual partners\textsuperscript{3 4 5 6 7}

\textsuperscript{3}Matser A, Vanhommerig J, van der Loeff M, Geskus R, de Vries H, Prins J, Prins M & Bruisten S (2013) HIV-infected men who have sex with men who identify themselves as belonging to subcultures are at increased risk for hepatitis C infection. \textit{PloS one}, 8(3): e57740
\textsuperscript{6}Terrault N (2005) Sex and hepatitis C. \textit{The American journal of gastroenterology}, 100(4): 825-826
\textsuperscript{7}Tohme R & Holmberg S (2010) Is sexual contact a major mode of hepatitis C virus transmission?. \textit{Hepatology}, 52(4): 1497-1505
Concomitant STI

• Having an concomitant STI (syphilis\(^1\), gonorrhoea\(^1\), Herpes\(^1\) or chlamydia\(^2\)) either in the year preceding diagnosis or at the time of diagnosis\(^2\)

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Sex scenes can include¹

- Elaborate scripts
- Role play
- Hard sex (submission and domination)
- Group sex
- Condomless anal sex (mostly receptive) with casual partners
- 1 in 4 do not use lubricant
- ½ engaged in fisting (insertive & receptive) often without gloves
- Drugs (intensify and extend sexual pleasure)

Stigmatisation

- There is stigma associated with HIV-HCV co-infection\(^1\)
- Stigmatisation in relation to co-infection, the presumption of IDU or the engagement in specific sexual practice, the fear of rejection & lifestyle changes\(^2\)
- In addition IDU MSM may feel stigmatised about that by clinicians and gay men\(^3\)

The challenge of prevention

Many men will have no desire to change their sexual practices:\(^1\):

‘I know full well that [hepatitis] may happen again, I’m well aware of that, but in principle I’m not going to change my sexual practices’ (Fabian, 36)

‘I do bareback because the jury is out about how HCV is contracted and because I have fucked for years with HCV guys and not caught anything’ (P10) ¹

The elimination of unsafe sex is unlikely for all patients, therefore we need to work in partnership with our patients to promote harm reduction\(^1\)

An approach¹

- Create better climates for discussion
- Increase access to information and education
- Develop prevention strategies that include community-based interventions
- Enhance access to care for sexual concerns
- Increase research in human sexuality and evaluation of programs designed to promote sexual health

Preventing reinfection (1)

- Be mindful some men may not disclose specific risks
- Counteracting the stigma associated with HCV
- Targeted prevention messages that combine sexual health advice as well as safer drug use and encourage MSM to discuss HCV with their partners

Preventing reinfection (2)

- Repeated risk counselling for HCV transmission before, during and after treatment
- MI may be a useful tool
- Reduction in number of hard sex partners
- Increased sex education, surveillance and preventive work

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Preventing reinfection (3)

In addition

• Regular HCV testing
• STI screening
• Partner notification
‘Sexual health is the integration of the somatic, emotional, intellectual and social aspects of being, in ways that are positively enriching and that enhance personality, communication and love.’

(WHO, 1975 cited by Coleman, 2011: S18)
Questions
References (2)


Matser A, Vanhommerig I, van der Loeff M, Geskus R, de Vries H, Prins J, Prins M & Bruisten S (2013) HIV-infected men who have sex with men who identify themselves as belonging to subcultures are at increased risk for hepatitis C infection. PloS one, 8(3): e57740


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