

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 diagnose¹
- Symptomatic acute HCV only occurs in about 15% of those infected with HCV²
- In the context of HIV co-infection HCV is associated with significant morbidity and mortality^{3 4}

¹ Low E, Vogel M, Rockstroh J & Nelson M (2008) Acute hepatitis C in HIV-positive individuals. *AIDS Rev*, 10(4): 245-53

² Maheshwari A, Ray S & Thuluvath P (2008) Acute hepatitis C. *The Lancet*, 372(9635): 321-332

³ Sulkowski M (2008) Viral hepatitis and HIV coinfection. *Journal of hepatology*, 48(2): 353-367

⁴ Schmidt A, Rockstroh J, Vogel M, der Heiden M, Baillot A, Krznicar I, & Radun D (2011) Trouble with bleeding: risk factors for acute hepatitis C among HIV-positive gay men from Germany—a case-control study. *PLoS one*, 6(3): e17781

Overview of hepatitis C (2)

- Co-infection may complicate the delivery of ARTs¹
- Treatment can be difficult²
- Newer triple/combination therapy treatments more effective and shorter in duration^{3 4 5}

¹ Sulkowski M (2008) Viral hepatitis and HIV coinfection. *Journal of hepatology*, 48(2): 353-367

² Sinclair M, McPherson S, Bor R & Orban L (2011) Another dragon in the kitchen: Psychological experiences of hepatitis C treatment among HIV-hepatitis C co-infected gay men. *Counselling and Psychotherapy Research*, 11(3): 228-236

³ Schneider M & Sarrazin C (2014) Antiviral therapy of hepatitis C in 2014: Do we need resistance testing?. *Antiviral research*, 105: 64-71

⁴ deLemos A & Chung R (2014) Hepatitis C treatment: an incipient therapeutic revolution. *Trends in molecular medicine*, 20(6): 315-321

⁵ Andronescu D, Diaconu S, Tiuca N, Purcarea R & Andronescu C (2014) Hepatitis C Treatment & Management. *Journal of medicine and life*, 7(1): 31

Background (1)

- In MSM HCV is the result of a change in behavioural risk factors¹
- There appears to be evidence of a large international transmission network²
- Clinicians in post industrialised countries have been reporting outbreaks of HCV among MSM since 2000³

¹ Danta M & Dusheiko G (2008) Acute HCV in HIV-positive individuals—a review. *Current pharmaceutical design*, 14(17): 1690-1697

² Sulkowski M (2008) Viral hepatitis and HIV coinfection. *Journal of hepatology*, 48(2): 353-367

³ Schmidt A, Rockstroh J, Vogel M, der Heiden M, Baillot A, Krznaric I, & Radun D (2011) Trouble with bleeding: risk factors for acute hepatitis C among HIV-positive gay men from Germany—a case-control study. *PloS one*, 6(3): e17781

Background (2)

- Between 2002 and 2006 hepatitis C infection increased among MSM in London & Brighton¹
- 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 HCV³

¹Giraudon I, Ruf M, Maguire H, Charlett A, Ncube F, Turner J, Gilson R & Barton S (2008) Increase in diagnosed newly acquired hepatitis C in HIV-positive men who have sex with men across London and Brighton, 2002–2006: is this an outbreak?. *Sexually transmitted infections*, 84(2): 111-115

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

³Danta M & Dusheiko G (2008) Acute HCV in HIV-positive individuals-a review. *Current pharmaceutical design*, 14(17): 1690-1697

Background (3)

- The burden of disease is likely to increase over the next two decades¹
- 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}

¹Papatheodoridis G & Hatzakis A (2012) Public health issues of hepatitis C virus infection. *Best Practice & Research Clinical Gastroenterology*, 26(4): 371-380

²Urbanus A, van de Laar T, Stolte I, Schinkel J, Heijman T, Coutinho R & Prins M (2009) Hepatitis C virus infections among HIV-infected men who have sex with men: an expanding epidemic. *AIDS*, 23(12): F1-F7

³Urbanus A, Van De Laar T, Geskus R, Vanhommerig J, Van Rooijen M, Schinkel J Heijman T, Coutinho R & Prins M (2014) Trends in hepatitis C virus infections among MSM attending a sexually transmitted infection clinic; 1995–2010. *AIDS*, 28(5): 781-790

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 transmission³
 - HIV infection can compromise the gastrointestinal immune system³

¹Owen G (2008) An 'elephant in the room'? Stigma and hepatitis C transmission among HIV-positive 'serosorting' gay men. *Culture, health & sexuality*, 10(6): 601-610

²Stall R, Wei C, Raymond H & McFarland W (2011) Do rates of unprotected anal intercourse among HIV-positive MSM present a risk for hepatitis C transmission?. *Sexually transmitted infections*, 87(5): 439-441

³Marcus J & Katz K (2011) HCV infection as an emerging sexually transmitted disease. *MLO Med Lab Obs*, 43(4): 52, 54-55

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 treatment¹

¹ Lambers F, Prins M, Thomas X, Molenkamp R, Kwa D, Brinkman K, van der Meer J, Schinkel J & MOSAIC (MSM Observational Study of Acute Infection with hepatitis C) study group (2011) Alarming incidence of hepatitis C virus re-infection after treatment of sexually acquired acute hepatitis C virus infection in HIV-infected MSM. *AIDS*, 25(17) F21-F27

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-years²
- 25% of individuals treated for HCV will become re-infected within 2-years³

¹ Ingiliz P, Krznaric I, Stellbrink H, Knecht G, Lutz T, Noah C, Stocker H, Obermeier M, Dupke S, Boesecke C, Rockstroh J, Maumgarten A & Hoffmann C (2014) Multiple hepatitis C virus (HCV) reinfections in HIV-positive men who have sex with men: no influence of HCV genotype switch or interleukin-28B genotype on spontaneous clearance. *HIV medicine*, 15: 355-361

² Lambers F, Prins M, Thomas X, Molenkamp R, Kwa D, Brinkman K, van der Meer J, Schinkel J & MOSAIC (MSM Observational Study of Acute Infection with hepatitis C) study group (2011) Alarming incidence of hepatitis C virus re-infection after treatment of sexually acquired acute hepatitis C virus infection in HIV-infected MSM. *AIDS*, 25(17) F21-F27

³ Martin T, Martin N, Hickman M, Vickerman P, Page E, Everett R, Gazzard B & Nelson M (2013) Hepatitis C virus reinfection incidence and treatment outcome among HIV-positive MSM. *AIDS*, 27(16): 2551-2557

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

¹ Ingiliz P, Krznaric I, Stellbrink H, Knecht G, Lutz T, Noah C, Stocker H, Obermeier M, Dupke S, Boesecke C, Rockstroh J, Maumgarten A & Hoffmann C (2014) Multiple hepatitis C virus (HCV) reinfections in HIV-positive men who have sex with men: no influence of HCV genotype switch or interleukin-28B genotype on spontaneous clearance. *HIV medicine*, 15: 355-361

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Transmission of HCV

- Typically requires direct blood exposure¹
- Has been identified in bodily fluids associated with sex¹
- Mode of sexual transmission not yet determined¹
- 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}

¹Schmidt A, Rockstroh J, Vogel M, der Heiden M, Baillot A, Krznaric I, & Radun D (2011) Trouble with bleeding: risk factors for acute hepatitis C among HIV-positive gay men from Germany—a case-control study. *PloS one*, 6(3): e17781

²Papatheodoridis G & Hatzakis A (2012) Public health issues of hepatitis C virus infection. *Best Practice & Research Clinical Gastroenterology*, 26(4): 371-380

³Raymond H, Chu P, Nieves-Rivera I, Louie B, McFarland W & Pandori M (2012) Hepatitis C Infection Among Men Who Have Sex With Men, San Francisco, 2011. *Sexually transmitted diseases*, 39(12): 985-986

⁴Urbanus A, van de Laar T, Stolte I, Schinkel J, Heijman T, Coutinho R & Prins M (2009) Hepatitis C virus infections among HIV-infected men who have sex with men: an expanding epidemic. *AIDS*, 23(12): F1-F7

Transmission of HCV between HIV+ MSM

There is often a overlap of exposures¹

¹Schmidt A, Rockstroh J, Vogel M, der Heiden M, Baillot A, Krznic I, & Radun D (2011) Trouble with bleeding: risk factors for acute hepatitis C among HIV-positive gay men from Germany—a case-control study. *PloS one*, 6(3): e17781

Traumatic anal sex practices

- Traumatic anal sexual practices in particular fisting^{1 2}
^{4 5 7} without gloves², especially as the receptive partner^{2 3} and using sex toys^{1 7}
- Exposure to bleeding during sex^{2 5 6}

¹Tohme R & Holmberg S (2010) Is sexual contact a major mode of hepatitis C virus transmission?. *Hepatology*, 52(4): 1497-1505

²Schmidt A, Rockstroh J, Vogel M, der Heiden M, Baillot A, Krznicar I, & Radun D (2011) Trouble with bleeding: risk factors for acute hepatitis C among HIV-positive gay men from Germany—a case-control study. *PloS one*, 6(3): e17781

³Urbanus A, Van De Laar T, Geskus R, Vanhommerig J, Van Rooijen M, Schinkel J Heijman T, Coutinho R & Prins M (2014) Trends in hepatitis C virus infections among MSM attending a sexually transmitted infection clinic; 1995–2010. *AIDS*, 28(5): 781-790

⁴Matser 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

⁵Larsen C, Chaix M, Le Strat Y, Velter A, Gervais A, Aupérin I, Alric L, Duval X, Mialhes P, Pioche C, Pol S, Piroth L, Delarocque-Astagneau E (2011) Gaining greater insight into HCV emergence in HIV-infected men who have sex with men: the HEPAIG Study. *PloS one*, 6(12): e29322

⁶Russell M, Chen M, Nochajski T, Testa M, Zimmerman S & Hughes P (2009) Risky sexual behavior, bleeding caused by intimate partner violence, and hepatitis C virus infection in patients of a sexually transmitted disease clinic. *American journal of public health*, 99(Suppl 1): S173-9

⁷Lea T, Mao L, Bath N, Prestage G, Zablotska I, de Wit J & Holt M (2013) Injecting drug use among gay and bisexual men in Sydney: prevalence and associations with sexual risk practices and HIV and hepatitis C infection. *AIDS and Behavior*, 17(4): 1344-1351

Traumatic anal sex practices

- Rough sex¹ and BDSM (Bondage, domination, submission, sadomasochism)²
- 71% of HIV+ MSM with HCV had engaged in fisting²
- 5 fold increase in the risk of HCV in HIV+ MSM involved in fisting or using sex toys³

¹Matser 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

²Larsen C, Chaix M, Le Strat Y, Velter A, Gervais A, Aupérin I, Alric L, Duval X, Mialhes P, Pioche C, Pol S, Piroth L, Delarocque-Astagneau E (2011) Gaining greater insight into HCV emergence in HIV-infected men who have sex with men: the HEPAIG Study. *PLoS one*, 6(12): e29322

³Urbanus A, Van De Laar T, Geskus R, Vanhommerig J, Van Rooijen M, Schinkel J Heijman T, Coutinho R & Prins M (2014) Trends in hepatitis C virus infections among MSM attending a sexually transmitted infection clinic; 1995–2010. *AIDS*, 28(5): 781-790

Traumatic anal sex practices

Fisting with recreational drug use is also associated with condomless anal sex and occasionally serious trauma that requiring surgery¹

¹Cohen C, Giles A & Nelson M (2004) Sexual trauma associated with fisting and recreational drugs. *Sexually transmitted infections*, 80(6): 469-470

Belonging to a subculture

- HCV infection was associated with leather/rubber/lycra subcultures¹
- HCV is associated with the bareback subculture²
- HCV infection is also associated with seeking partners online or in sex venues³

¹Matser 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

²Le Talec J (2013) When 'raw sex'turns to a 'raw deal'... taking the opportunity to think about sex? Interviews with HIV-positive gay men diagnosed with acute hepatitis C. *Culture, health & sexuality*, 15(10): 1133-1147

³Larsen C, Chaix M, Le Strat Y, Velter A, Gervais A, Aupérin I, Alric L, Duval X, Mialhes P, Pioche C, Pol S, Piroth L, Delarocque-Astagneau E (2011) Gaining greater insight into HCV emergence in HIV-infected men who have sex with men: the HEPAIG Study. *PloS one*, 6(12): e29322

Drug use

- IDU is significantly associated with HCV infection^{1 2 3 4 5}
- Non IDU: Drugs for sex⁶ particularly nasal insufflation^{1 7}

¹Schmidt A, Rockstroh J, Vogel M, der Heiden M, Baillot A, Krznaric I, & Radun D (2011) Trouble with bleeding: risk factors for acute hepatitis C among HIV-positive gay men from Germany—a case-control study. *PloS one*, 6(3): e17781

²Raymond H, Chu P, Nieves-Rivera I, Louie B, McFarland W & Pandori M (2012) Hepatitis C Infection Among Men Who Have Sex With Men, San Francisco, 2011. *Sexually transmitted diseases*, 39(12): 985-986

³Papatheodoridis G & Hatzakis A (2012) Public health issues of hepatitis C virus infection. *Best Practice & Research Clinical Gastroenterology*, 26(4): 371-380

⁴Urbanus A, Van De Laar T, Geskus R, Vanhommerig J, Van Rooijen M, Schinkel J Heijman T, Coutinho R & Prins M (2014) Trends in hepatitis C virus infections among MSM attending a sexually transmitted infection clinic; 1995–2010. *AIDS*, 28(5): 781-790

⁵Lea T, Mao L, Bath N, Prestage G, Zablotska I, de Wit J & Holt M (2013) Injecting drug use among gay and bisexual men in Sydney: prevalence and associations with sexual risk practices and HIV and hepatitis C infection. *AIDS and Behavior*, 17(4): 1344-1351

⁶Matser 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

⁷Larsen C, Chaix M, Le Strat Y, Velter A, Gervais A, Aupérin I, Alric L, Duval X, Mialhes P, Pioche C, Pol S, Piroth L, Delarocque-Astagneau E (2011) Gaining greater insight into HCV emergence in HIV-infected men who have sex with men: the HEPAIG Study. *PloS one*, 6(12): e29322

⁸Lambers F, Prins M, Thomas X, Molenkamp R, Kwa D, Brinkman K, van der Meer J, Schinkel J & MOSAIC (MSM Observational Study of Acute Infection with hepatitis C) study group (2011) Alarming incidence of hepatitis C virus re-infection after treatment of sexually acquired acute hepatitis C virus infection in HIV-infected MSM. *AIDS*, 25(17) F21-F27

Drugs, rough sex & sexual adventurism

- Regardless of IDU, rough sexual techniques in conjunction with the use of recreational drugs were associated with HCV infection¹
- 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

¹Urbanus A, van de Laar T, Stolte I, Schinkel J, Heijman T, Coutinho R & Prins M (2009) Hepatitis C virus infections among HIV-infected men who have sex with men: an expanding epidemic. *AIDS*, 23(12): F1-F7

²Lea T, Mao L, Bath N, Prestage G, Zablotska I, de Wit J & Holt M (2013) Injecting drug use among gay and bisexual men in Sydney: prevalence and associations with sexual risk practices and HIV and hepatitis C infection. *AIDS and Behavior*, 17(4): 1344-1351

Condomless anal sex

- Condomless anal sex^{1 2 3} both insertive⁴ & receptive^{1 4 5} among HIV+ MSM² was significantly associated with HCV infection

¹Owen G (2008) An 'elephant in the room'? Stigma and hepatitis C transmission among HIV-positive 'serosorting' gay men. *Culture, health & sexuality*, 10(6): 601-610

²Gambotti L and the acute hepatitis C collaborating group (2005) Acute hepatitis C infection in HIV positive men who have sex with men in Paris, France, 2001-2004. *Eurosurveillance*, 10(5):

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

⁴Urbanus A, Van De Laar T, Geskus R, Vanhommerig J, Van Rooijen M, Schinkel J Heijman T, Coutinho R & Prins M (2014) Trends in hepatitis C virus infections among MSM attending a sexually transmitted infection clinic; 1995–2010. *AIDS*, 28(5): 781-790

⁵Matser 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

Group sex & multiple partners

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

¹Larsen C, Chaix M, Le Strat Y, Velter A, Gervais A, Aupérin I, Alric L, Duval X, Mialhes P, Pioche C, Pol S, Piroth L, Delarocque-Astagneau E (2011) Gaining greater insight into HCV emergence in HIV-infected men who have sex with men: the HEPAIG Study. *PloS one*, 6(12): e29322

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³Matser 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

⁴Gambotti L and the acute hepatitis C collaborating group (2005) Acute hepatitis C infection in HIV positive men who have sex with men in Paris, France, 2001-2004. *Eurosurveillance*, 10(5):

⁵Owen G (2008) An 'elephant in the room'? Stigma and hepatitis C transmission among HIV-positive 'serosorting' gay men. *Culture, health & sexuality*, 10(6): 601-610

⁶Terrault N (2005) Sex and hepatitis C. *The American journal of gastroenterology*, 100(4): 825-826

⁷Tohme R & Holmberg S (2010) Is sexual contact a major mode of hepatitis C virus transmission?. *Hepatology*, 52(4): 1497-1505

Concomitant STI

- Having an concomitant STI (syphilis^{1 2}, gonorrhoea^{1 2}, Herpes¹ or chlamydia^{2 3}) either in the year preceding diagnosis or at the time of diagnosis²

¹Gambotti L and the acute hepatitis C collaborating group (2005) Acute hepatitis C infection in HIV positive men who have sex with men in Paris, France, 2001-2004. *Eurosurveillance*, 10(5):

³Larsen C, Chaix M, Le Strat Y, Velter A, Gervais A, Aupérin I, Alric L, Duval X, Mialhes P, Pioche C, Pol S, Piroth L, Delarocque-Astagneau E (2011) Gaining greater insight into HCV emergence in HIV-infected men who have sex with men: the HEPAIG Study. *PLoS one*, 6(12): e29322

³Urbanus A, Van De Laar T, Geskus R, Vanhommerig J, Van Rooijen M, Schinkel J Heijman T, Coutinho R & Prins M (2014) Trends in hepatitis C virus infections among MSM attending a sexually transmitted infection clinic; 1995–2010. *AIDS*, 28(5): 781-790

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)

¹Le Talec J (2013) When 'raw sex' turns to a 'raw deal'... taking the opportunity to think about sex? Interviews with HIV-positive gay men diagnosed with acute hepatitis C. *Culture, health & sexuality*, 15(10): 1133-1147

Stigmatisation

- There is stigma associated with HIV-HCV co-infection¹
- Stigmatisation in relation to co-infection, the presumption of IDU or the engagement in specific sexual practice, the fear of rejection & lifestyle changes²
- In addition IDU MSM may feel stigmatised about that by clinicians and gay men³

¹Sinclair M, McPherson S, Bor R & Orban L (2011) Another dragon in the kitchen: Psychological experiences of hepatitis C treatment among HIV-hepatitis C co-infected gay men. *Counselling and Psychotherapy Research*, 11(3): 228-236

²Owen G (2008) An 'elephant in the room'? Stigma and hepatitis C transmission among HIV-positive 'serosorting' gay men. *Culture, health & sexuality*, 10(6): 601-610

³Lea T, Mao L, Bath N, Prestage G, Zablotska I, de Wit J & Holt M (2013) Injecting drug use among gay and bisexual men: associations with sexual risk practices and HIV and hepatitis C infection. *AIDS and Behavior*, 17(4): 1344-1351

The challenge of prevention

Many men will have no desire to change their sexual practices¹:

'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)

(p1141)

¹Le Talec J (2013) When 'raw sex'turns to a 'raw deal'... taking the opportunity to think about sex? Interviews with HIV-positive gay men diagnosed with acute hepatitis C. *Culture, health & sexuality*, 15(10): 1133-1147

'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

(p233)

¹Sinclair M, McPherson S, Bor R & Orban L (2011) Another dragon in the kitchen: Psychological experiences of hepatitis C treatment among HIV-hepatitis C co-infected gay men. *Counselling and Psychotherapy Research*, 11(3): 228-236

The elimination of unsafe sex is unlikely for all patients, therefore we need to work in partnership with our patients to promote harm reduction¹

¹Ekstrand M, Stall R, Kegeles S, Hays R, DeMayo M & Coates T (1993) Safer sex among gay men: what is the ultimate goal?. *AIDS*, 7: 281-282

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

¹Coleman E (2011) What is sexual health? Articulating a sexual health approach to HIV prevention for men who have sex with men. *AIDS and Behavior*, 15(1): 18-24

Preventing reinfection (1)

- Be mindful some men may not disclose specific risks¹
- Counteracting the stigma associated with HCV²
- Targeted prevention messages³ that combine sexual health advice as well as safer drug use^{3 4} and encourage MSM to discuss HCV with their partners²

¹Le Talec J (2013) When 'raw sex' turns to a 'raw deal'... taking the opportunity to think about sex? Interviews with HIV-positive gay men diagnosed with acute hepatitis C. *Culture, health & sexuality*, 15(10): 1133-1147

²Owen G (2008) An 'elephant in the room'? Stigma and hepatitis C transmission among HIV-positive 'serosorting' gay men. *Culture, health & sexuality*, 10(6): 601-610

³Lambers F, Prins M, Thomas X, Molenkamp R, Kwa D, Brinkman K, van der Meer J, Schinkel J & MOSAIC (MSM Observational Study of Acute Infection with hepatitis C) study group (2011) Alarming incidence of hepatitis C virus re-infection after treatment of sexually acquired acute hepatitis C virus infection in HIV-infected MSM. *AIDS*, 25(17) F21-F27

⁴Lea T, Mao L, Bath N, Prestage G, Zablotska I, de Wit J & Holt M (2013) Injecting drug use among gay and bisexual men in Sydney: prevalence and associations with sexual risk practices and HIV and hepatitis C infection. *AIDS and Behavior*, 17(4): 1344-1351

Preventing reinfection (2)

- Repeated risk counselling for HCV transmission before, during and after treatment¹
- MI may be a useful tool²
- Reduction in number of hard sex partners³
- Increased sex education, surveillance and preventive work⁴

¹Martin T, Martin N, Hickman M, Vickerman P, Page E, Everett R, Gazzard B & Nelson M (2013) Hepatitis C virus reinfection incidence and treatment outcome among HIV-positive MSM. *AIDS*, 27(16): 2551-2557

²Berg R, Ross M & Tikkanen R (2011) The effectiveness of MI4MSM: how useful is motivational interviewing as an HIV risk prevention program for men who have sex with men? A systematic review. *AIDS Education and Prevention*, 23(6): 533-549

³Lambers F, Prins M, Thomas X, Molenkamp R, Kwa D, Brinkman K, van der Meer J, Schinkel J & MOSAIC (MSM Observational Study of Acute Infection with hepatitis C) study group (2011) Alarming incidence of hepatitis C virus re-infection after treatment of sexually acquired acute hepatitis C virus infection in HIV-infected MSM. *AIDS*, 25(17) F21-F27

~~⁴Martin T, Martin N, Hickman M, Vickerman P, Page E, Everett R, Gazzard B & Nelson M (2013) Hepatitis C virus reinfection incidence and treatment outcome among HIV-positive MSM. *AIDS*, 27(16): 2551-2557~~

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.’¹

(WHO, 1975 cited by Coleman, 2011: S18)

¹Coleman E (2011) What is sexual health? Articulating a sexual health approach to HIV prevention for men who have sex with men. *AIDS and Behavior*, 15(1): 18-24

Questions



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