Pre-conference Nurses’ Course

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Date: 09/12/2015
Dr Matthew Grundy-Bowers
City University London, UK

COMPETING INTEREST OF FINANCIAL VALUE > £1,000:

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Date 09/12/2015
PRE-CONFERENCE NURSES’ COURSE

Acute hepatitis C infection in HIV-positive MSM’ partner notification and issues of re-infection

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Declaration of interests

• None
HIV-HCV co-infection

Co-infection Is Common! 9M People Worldwide

- About 1 out of 4 people with HIV also have Hepatitis C\(^1\)\(^2\)\(^3\)
- In the context of HIV co-infection HCV is associated with significant morbidity and mortality\(^4\)\(^5\)

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\(^1\) World J Gastroenterol 2009 August 14; 15(30): 3713-3724
\(^2\) HIV and hepatitis C co-infection within the CAESAR study J Amin, M et al
HIV-HCV co-infection

Prevalence differs in countries

World J Gastroenterol 2009 August 14; 15(30): 3713-3724
HIV and hepatitis C co-infection within the CAESAR studyJ Amin, M et al
Co-infection in MSM

• Between 2002 and 2006 hepatitis C infection increased among MSM in London & Brighton\(^1\)

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


Co-infection in MSM

• 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\(^2\) \(^3\)

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Acute hepatitis C

- Symptomatic acute HCV only occurs in about 15% of those infected with HCV\(^1\)
- Due to the asymptomatic nature of acute HCV in the early stages can make it difficult to diagnose\(^2\)

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Testing for hepatitis C in HIV-positive patients

- HCV testing at HIV diagnosis
- Annual HCV testing if not in an at-risk group who may require more frequent testing
- In patients with an elevated transaminases of unknown cause have an HCV-PCR test
- Those who have repeated high-risk exposures but persistently normal transaminases are screened with anti-HCV and HCV-PCR, or HCV-PCR alone
Testing patients who have cleared HCV

- If previously successfully treated for or spontaneously have cleared infection and are HCV antibody positive, at 3–6-monthly intervals with anti-HCV and HCV-PCR, or HCV-PCR alone
Treatment of hepatitis C

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

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


When to treat and what combination?

Acute HCV co-infection:

• Treat now?
• Wait for approval on new agents?

Improved treatment options for patients with cirrhosis, and pre and post liver transplant

• Pegylated interferon
• Ribavirin
• Boceprevir
• Telaprevir
• Simeprevir
• Sofosbuvir
• Ledipasvir
• Daclatasvir
• Viekirax
• Exviera
Treating acute HCV results in sustained virological response (SVR) rates of approximately 60%. Not influenced by HCV genotype \(^1\)

Acute hepatitis C: BHIVA Recommendations (update 2014)

• Patients who achieve an undetectable HCV RNA without therapy undergo HCV RNA measurements at 4, 12, 24 and 48 weeks to ensure spontaneous clearance.
• Patients without a drop of 2 log10 in HCV RNA at 4 week post diagnosis, or with a positive HCV RNA 12 weeks post diagnosis, are offered therapy.
• All patients be offered combination therapy with pegylated interferon and weight-based ribavirin.
Acute hepatitis C: BHIVA
Recommendations (update 2014)

- Recommend treatment is discontinued if patients do not achieve an EVR.
- 24 weeks treatment if RVR is achieved; for 48 weeks if not.
- Patients who relapse are managed as for chronic hepatitis C.
- Patients who have been re-infected are managed as for AHC.
Transmission

- Clinicians in post industrialised countries have been reporting outbreaks of HCV among MSM since 2000\(^1\)
- There appears to be evidence of a large international transmission network\(^2\)
- A study by van de Laar et al (2009) reveals the existence of a large European MSM-specific transmission network, linking the independently reported national HCV outbreaks in England, the Netherlands, Germany and France. \(^3\)

Transmission

• In MSM HCV is the result of a change in behavioural risk factors\(^1\)

• Sero-sorting is likely to contribute to hepatitis C transmission through condomless anal sex\(^2\,^3\)
  – Higher blood and seminal HCV VL among HIV+ MSM may increase transmission\(^4\)
  – HIV infection can compromise the gastrointestinal immune system\(^4\)

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Transmission of HCV

- Typically requires direct blood exposure
- Has been identified in bodily fluids associated with sex
- Exact mode of sexual transmission not yet determined
- Studies of discordant heterosexual couples suggest that sexual transmission is not common
- Sexual transmission of HCV among HIV-negative MSM to date is rarely observed

There is often an overlap (intersection) of exposures

Traumatic anal sex practices

- Traumatic anal sexual practices in particular fisting\(^1\) \(^2\) \(^4\) \(^5\) \(^7\) without gloves\(^2\), especially as the receptive partner\(^2\) \(^3\) and using sex toys\(^1\) \(^7\).
- Exposure to bleeding during sex\(^2\) \(^5\) \(^6\).
- 5 fold increase in the risk of HCV in HIV+ MSM involved in fisting or using sex toys\(^3\).

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

- HCV infection was associated with the following subcultures:
  - with seeking partners online or in sex venues\(^1\)
  - bareback subculture\(^2\)
  - leather/rubber/lycra \(^3\)
  - As is having multiple sexual partners\(^3\) \(^4\) \(^5\) \(^6\) \(^7\)
  - Engaging in group sex is associated with HCV infection among HIV+ MSM\(^1\) \(^2\) \(^3\) \(^4\) \(^5\) \(^6\) \(^8\)

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

Drug use

- IDU is significantly associated with HCV infection\(^1\) 2 3 4 5
- Non IDU: Drugs for sex\(^6\) particularly nasal insufflation\(^1\) 7

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Intersection of exposures

• 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

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\(^3\)Tohme 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\(^1\)\(^2\), Herpes\(^1\) or chlamydia\(^2\)\(^3\)) either in the year preceding diagnosis or at the time of diagnosis\(^2\)

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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\(^3\)

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Partner notification

1. Can be difficult
   - Timeline
   - Partner type
   - Use of technology
2. Sexual networks / drug networks
3. Overview of PN Steps / stages / provider referral
4. Auditable trail / tools
5. If already diagnosed with another STI/HIV Hepatitis C infection requires further PN (think about types of test)
6. Multi-disciplinary and on-going
Re-infection

• In this high-risk group, the emergence of new viral strains following treatment failure is most commonly associated with emerging dominance of preexisting minority variants rather than reinfection. Superinfection may occur in this cohort but reinfection is overestimated by Sanger sequencing. ¹

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)

‘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)² (p233)


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

An approach

- 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\(^1\)
- Counteracting the stigma associated with HCV\(^2\)
- Targeted prevention messages\(^3\) that combine sexual health advice as well as safer drug use\(^3\)\(^4\) and encourage MSM to discuss HCV with their partners\(^2\)


Preventing reinfection (2)

- Repeated risk counselling for HCV transmission before, during and after treatment\(^1\)
- MI may be a useful tool\(^2\)
- Reduction in number of hard sex partners\(^3\)
- Increased sex education, surveillance and preventive work\(^4\)


Questions
Resources


• British HIV Association guidelines for the management of hepatitis viruses in adults infected with HIV 2013 (Updated September 2014) can be found online at http://www.bhiva.org/documents/Guidelines/Hepatitis/2013/HepatitisGuidelines2013.pdf

• Drug-Drug-Interactions can be found at http://www.hiv-druginteractions.org/ and http://www.hep-druginteractions.org/

• British Association for Sexual Health & HIV (BASHH) Statement on Partner Notification for Sexually Transmissible Infections can be found at http://www.bashh.org/documents/4445.pdf

• Caring for people with liver disease: a competence framework for nursing (Revised edition) can be found at http://www.britishlivertrust.org.uk/health-professionals/british-liver-nurses-forum/caring-for-people-with-liver-disease-a-competence-framework-for-nursing/

• National HIV Nursing Competencies can be found at http://www.nhivna.org/competencies.aspx
References (1)

References (2)

Schneider M & Sarrazin C (2014) Antiviral therapy of hepatitis C in 2014: Do we need resistance testing?. Antiviral research, 105: 64-71
Tohme R & Holmberg S (2010) Is sexual contact a major mode of hepatitis C virus transmission?. Hepatology, 52(4): 1497-1505