STI Update

Chairs:
Dr Iain Reeves & Ceri Evans
STI update

BHIVA 26 November 2021
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Declaration of Interest

In the last 3 years I have received speaker fees from Viiv and conference attendance support from SpeeDx
Outline

• Impact of Covid on STI

• STI Update
  • Testing
  • Treatment
  • Prevention

• HIV testing
32% fall in new STI diagnoses
20% fall in gonorrhoea; 14% fall in syphilis
46% fall in genital warts

Figure 3. Number of new diagnoses of selected sexually transmitted infections among gay, bisexual and other men who have sex with men* accessing sexual health services, 2011 to 2020, England
32% fall in new STI diagnoses
20% fall in gonorrhoea; 14% fall in syphilis
46% fall in genital warts

25% drop in number of STI screens
35% drop in face to face consultations
SRH service use since 23 March 2020 among sexually-experienced individuals aged 18-44y, by gender (n=2898)

- Service use among those with at least one failed attempt to use >1 SRH service
  - 23.6% accessed at least one service
  - 76.4% did not access any services

- Distribution of service access:
  - Unable to access at least once
  - Needed, but have not tried to access
  - Needed and able to access
  - Not needed

Men (incl Trans men): 100%
Women (incl Trans women): 90.4%
Testing
POC STI Tests: Available and Pipeline*

*Estimated as of June 2019 - timeline and sequence may change.
Bristol Rapid STI Testing

• Symptomatic men and women
• Patients drop samples off in morning; results afternoon

• Male patients with urethritis (2020 v 2014)
  • Similar rates CT and GC
  • Microscopy ↓ (68% v 89%)
  • Reattendance within 4 weeks ↓ (25% v 35%)
  • Improved patient experience

• Antimicrobial stewardship
• Reduce onward transmission of infection
• Need good working relationship with lab colleagues

Boylan J BASHH BHIVA conference 2021
Detection of GyrA mutations for ciprofloxacin resistance in *N. gonorrhoeae*

- How much will it change practice?
- What is the local prevalence of cipro resistance?

**Practical considerations**
- Getting the result back in time
- Staff training issues
- Infection at more than one site, dual infection and multiple resistance tests
Guidance for the detection of gonorrhoea in England

Updated guidance 2021

• Important for detecting novel AMR determinants
• Guides individual patient management
• Continue to culture!
• Preferably by direct plating
• Charcoal not dry swabs
Repeat infections in men who have sex with men

Diagnostic difficulty with serology

Those with previous syphilis:
- more likely to be asymptomatic or in latent stage
- less likely to present with neurosyphilis
- less likely to have T. Pallidum DNA in blood and RNA in CSF

Attenuated response after multiple infections
Molecular and Direct Detection Tests for *Treponema pallidum* Subspecies *pallidum*: A Review of the Literature, 1964–2017

Eliza S. Theel, Samantha S. Katz, and Allan Pillay

1Division of Clinical Microbiology, Department of Laboratory Medicine and Pathology, Mayo Clinic, Rochester, Minnesota, USA, and 2Division of STD Prevention, Centers for Disease Control and Prevention, Atlanta, Georgia, USA

- Syphilis PCR of lesional samples helps where too early for serology
- Several different assays available
- Sensitivity of TP NAATs in **Primary** syphilis lesions:
  - 75–95 % (tpp47) and 72-87% (polA)
- Cannot rule out syphilis with a negative test

Are Mycoplasma hominis, Ureaplasma urealyticum and Ureaplasma parvum Associated With Specific Genital Symptoms and Clinical Signs in Nonpregnant Women?

“No association between these organisms and symptoms in women”


Position statement from the European STI Guidelines Editorial Board

“…..routine screening of asymptomatic men and women or routine testing of symptomatic individuals for M. hominis, U. urealyticum and U. parvum is not recommended.”

multiplex assays to test for inappropriate organisms

unsuitable specimens being used to test for STIs

BASHH position statement on inappropriate use of multiplex assays

- Raise awareness of malpractice in private/online sector
- Call for regulation of unethical testing

www.bashh.org/news
Treatment
N. Gonorrhoeae isolates resistant to selected antimicrobials: GRASP 2000 to 2019

Ceftriaxone is still working

CDC guidelines 2021!

**Recommended Regimen for Uncomplicated Gonococcal Infection of the Cervix, Urethra, or Rectum Among Adults and Adolescents**

- **Ceftriaxone** 500 mg* IM in a single dose for persons weighing <150 kg
- If chlamydial infection has not been excluded, treat for chlamydia with doxycycline 100 mg orally 2 times/day for 7 days.

* For persons weighing ≥150 kg, 1 g ceftriaxone should be administered.

CDC - MMWR / July 23, 2021 / Vol. 70 / No. 4
New drugs
Relatively empty pipeline...........

• Gepotidacin
  • Good phase II results although concerns about resistance in treatment failures
  • Phase III EAGLE-1 v cef and azith
  • Mgen outcomes

• Zoliflodacin
  • Good activity against resistant strains with high MICs.
  • Active in phase II against urogenital and rectal infections.
  • Global phase III study under way v cef and azith

• Lefamulin (pleuromutilin)
  • FDA approved for community acquired bacterial pneumonia
  • Active against drug resistant GC, macrolide resistant Mgen and CT
  • No trials currently recruiting
“piperacillin/tazobactam, fosfomycin, co-trimoxazole, rifampicin and **chloramphenicol** could be considered for individual patients with ceftriaxone-resistant gonococcal infection once MICs are known...”
Azithromycin or Doxycycline for Asymptomatic Rectal Chlamydia trachomatis

Andrew Lau, M.S., Fabian Y.S. Kong, Ph.D., Christopher K. Fairley, Ph.D., David J. Templeton, Ph.D., Janaki Amin, Ph.D., Samuel Phillips, Ph.D., Matthew Law, Ph.D., Marcus Y. Chen, Ph.D., Catriona S. Bradshaw, Ph.D., Basil Donovan, M.D., Anna McNulty, M.D., Mark A. Boyd, M.D., et al.


Doxycycline 97% (281/290) cure; azithromycin 76.4% (227/297) cure

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Doxycycline Versus Azithromycin for the Treatment of Rectal Chlamydia in Men Who Have Sex With Men: A Randomized Controlled Trial

Julia C Dombrowski, Michael R Wierzbicki, Lori M Newman, Jonathan A Powell, Ashley Miller, Dwyn Dithmer, Olusegun O Soge, Kenneth H Mayer

Clinical Infectious Diseases, Volume 73, Issue 5, 1 September 2021

Doxycycline 100% (70/70) cure; azithromycin 74% (44/65) cure
Current therapeutic options in Mgen

- Doxycycline + azithromycin
- Moxifloxacin
- Pristinamycin

- Minocycline
  - 100mg bd for 2 weeks
  - Lower MIC than doxycycline
  - Increasing experience in UK

- 35 patients given minocycline
- Most treatment experienced, 7 naïve
- **25/35 (71%) cured** including 7/11 pristinamycin failures
- 100% adherence
- Good tolerability
Alternatives to penicillin and doxy needed
Pen allergy, pregnancy

• Cefixime 400 mg bd orally for 10 days (n=27) vs benzathine penicillin 2.4 MU im stat (n=31) for early syphilis in HIV-positive men
• Successful in 87% (13/15) in the cefixime and 93% (14/15) of penicillin treatment arm
• Women with TV, culture +ve, randomized to single-dose oral secnidazole 2 g or placebo
• Cure rate = 92.9% (52/56)
• ? benefit over Tinidazole 2g stat
• Branded Tinidazole discontinued in UK
Prevention
Position statement on doxycycline PEP – 2021 update

• To prevent chlamydia and syphilis
• Doxycycline PEP – 200mg single dose within 24-72 hours of sex (Ipergay)
• Doxycycline PrEP – 100mg daily (n=30)

• Limited data – site-specific efficacy, toxicity, effect on gut microbiome, women/pregnancy, resistance

• Studies in progress all in MSM:
  • Canada (DISCO) – comparing PEP and PrEP
  • France (Doxyvac) – Doxy PrEP and Bexsero
  • Australia (Syphilaxis) and US - impact of doxycycline PrEP on tetracycline resistance in STI and commensals

*Sex Transm Dis* 42(2):98-103. 2015.
Position statement on doxycycline PEP – 2021 update

• 8-10% MSM already using
• Some using other abx for STI prophylaxis

Revised statement soon to be published....
• Ask patients routinely if they are taking STI prophylaxis
• Inform of evidence base and pros/cons of using it

Carveth-Johnson T *The Lancet HIV* 2018;5(9)
Chow EPF *The Lancet HIV* 2019;6(9):e568-e9
Evers YJ *Sex Transm Infect.* 2020;96(7):550-1.
Antiseptic mouthwash to prevent pharyngeal GC

“Combining the findings from the OMEGA and PReGo trials, there was no difference in the pooled risk of overall or site-specific gonorrhoea (opharyngeal, urethral, or anorectal) positivity between men using Listerine and men using a control”

twice daily gargling with chlorhexidine 0.2% for 6 days failed to eradicate NG from the oropharynx of asymptomatic MSM (n = 3, efficacy of 0%, 95% CI 0 – 56.1%)…”
Oxford vaccine team wins £1.4m to develop jab against 'super gonorrhoea'

Jab will target drug-resistant forms of the STI that are becoming an increasing problem around the world

Forthcoming vaccine studies

• Phase III study recruiting 2022: Men ABCWY - mixture of Bexsero and Menveo

• Phase I/II: GSK NgG investigational vaccine
• To end HIV transmissions by 2030; 80% reduction by 2025

• Twenty point plan of action HIV Commission 2020 including:
  • Fund testing. Opt-out not opt-in. Make every blood test count.
  • Tackle stigma (locally and nationally)
  • Mandatory training for healthcare staff
  • Prioritise partner notification
  • Treat all late diagnoses as serious incidents
  • Fund HIV Prevention (PrEP, condoms, U=U, testing)
GP-offered HIV testing, Cardiff

- Inner city catchment – social deprivation, non-white ethnicities
- Text sent to all registered patients aged 16+
- Eligibility criteria
- High risk - BioSURE HIV self-tests sent to patients
- Low risk – directed to National online postal kit service

- 97 Biosure kits sent
- Results reported in 61 (62.9%)
- 56 negative tests, 1 **positive test** - MSM last test 5 years ago, previously declined PEP, CD4 180

O12 vBASHH21 Conference
Vending machines dispensing HIV self-test kits

- BioSURE HIV self-tests
- Robust, secure, lifespan ‘hundreds of thousands’ of vends
- Access website for live monitoring of sales, issues and epidemiological data

In Brighton
- sauna, Prowler sex shop
- Black and Minority Ethnic Community Partnership
- Jubilee Library

Installed Brighton Sauna June 2017

Installed Jubilee Library, Brighton September 2022
PrEP EmERGE App – a digital care pathway for PrEP

www.emergeproject.org supporting PrEP monitoring

Co-designed in Brighton with community & clinicians

- Reduces visits to clinic
- Access to results
- Medication tracker with reminders
- Appointments details
- Messaging
- Notifications from clinic
- Health Promotion information

With permission Jenny Whetham
Where do people test positive for HIV?

<table>
<thead>
<tr>
<th>Clinical setting</th>
<th>Proportion HIV positive</th>
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<tbody>
<tr>
<td>MSM with ano-genital bacterial STIs</td>
<td>4.0%</td>
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<td>2.7%</td>
</tr>
<tr>
<td>Prisoners (94% offered; 46% accepted)</td>
<td>0.7%</td>
</tr>
<tr>
<td>Heterosexuals Black African ethnicity (men/women)</td>
<td>0.3% / 0.5%</td>
</tr>
<tr>
<td>MSM sexual health clinic / not tested in last 12/12</td>
<td>0.7% / 1%</td>
</tr>
<tr>
<td>Specialist IVDU services</td>
<td>0.8%</td>
</tr>
<tr>
<td>Community self sampling / self testing</td>
<td>0.5%</td>
</tr>
<tr>
<td>A&amp;E / 1(^{st}) care extremely high / 1(^{st}) care high &amp; low</td>
<td>0.6% / 0.3% / 0.2%</td>
</tr>
<tr>
<td>Specialist Sexual Health services (everyone)</td>
<td>0.2%</td>
</tr>
<tr>
<td>Antenatal (99.6% uptake)</td>
<td>0.014%</td>
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PHE HIV testing in England: 2020 report
HIV partner notification

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Summary

Covid
• Fall in infection rates not reassuring, will likely see resurgence in 2021 data

STI testing
• STI POCTs not available but very rapid testing is possible
• Newer molecular techniques to detect resistance are being used
• Remain vigilant for unethical use of multiplexes

STI Treatment
• Pipeline for new drugs relatively empty
• Must learn how we can use old antibiotics in the meantime
Summary

**STI Prevention**

• Doxy position statement has been updated acknowledging that people are using it. Requires a patient-centred approach

• Listerine is dead

**HIV Testing**

• Use every opportunity to test for HIV

• HIV partner notification and HIV testing individuals with bacterial STIs are where most likely to find undiagnosed
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