



Third Joint Conference  
of the  
British HIV Association (BHIVA)  
with the  
British Association for Sexual Health and HIV (BASHH)

**1-4 April 2014**

Arena and Convention Centre · Liverpool

THIRD JOINT CONFERENCE  
OF BHIVA AND BASHH 2014



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# Performance of ceftriaxone 500mg-containing regimens for treatment of genital and extra-genital gonorrhoea

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John White

# Background



- The management of gonorrhoea (GC) has changed regularly over the years due to resistant organisms
- Increased use of molecular testing has led to an increase in diagnosis, particularly at pharyngeal and rectal sites in MSM
- Infection at these sites is often culture-negative

# Background



- Current first-line treatment is ceftriaxone 500mg + azithromycin 1g \*
- Alternative treatments include azithromycin 2g or ciprofloxacin 500mg (where isolate is known or anticipated to be quinolone sensitive)

\*BASHH UK national guideline for the management of gonorrhoea in adults, 2011

# Test of cure



- Test of cure (TOC) using GC NAAT is now recommended in all cases at 2/52 post treatment
- Evidence for optimal timing for TOC is scant

Sexually Transmitted Diseases Vol 41:3 March 2014

# Duration of Polymerase Chain Reaction–Detectable DNA After Treatment of *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, and *Trichomonas vaginalis* Infections in Women

*James A. Williams, BS,\* Susan Ofner, MS,\* Byron E. Batteiger, MD,\*  
J. Dennis Fortenberry, MD, MS,\* and Barbara Van Der Pol, PhD, MPH†*

N= 82; Birmingham, AL. Mean age 15.3 years

Weekly vaginal swabs from women following treatment

Median time to first PCR-ve result for GC 6 days (0-76)

95% negative by day 21

# GSTT treatment regimens



- Our current clinic policy is to either treat GC infection with ceftriaxone 500mg + azithromycin 1g OR ceftriaxone 500mg + doxycycline 100mg bd 7/7
- Doxycycline preferred in MSM at our clinics
- Routine TOC at 2/52 using GC NAAT + culture

# Retreatment Rates for Uncomplicated Gonorrhoea Infection: Comparing Ceftriaxone and Azithromycin Versus Ceftriaxone and Doxycycline

*Christina M. Schumacher, PhD\* and Khalil G. Ghanem, MD, PhD†*

Sexually Transmitted Diseases Vol 40; 7, July 2013

- Retrospective study comparing retreatment rates of GC within 2 yrs of initial treatment. N= 4457
- Retreatment rate of 9.9%, no difference between the two regimens

# Pharyngeal GC treatment outcomes from our GUM clinics



Regimen	All who had TOC with TMA (within 100 days of Rx)	Negative TMA TOC
Cefixime 400mg + azithromycin 1g	162	142 (87.6%)
Ceftriaxone 500mg	13	13 (100%)
Ceftriaxone 500mg + azithromycin 1g	173	172 (99.4%)
Ceftriaxone 500mg + doxycycline $\geq 1/52$	58	58 (100%)
Azithromycin 2g	12	12 (100%)

Artykov *et al*: Pharyngeal gonorrhoea – assessing treatment responses in an era of uncertainty. BASHH Spring Meeting, Brighton, 2012

# Aim



- Assess performance of our current GC treatment regimens
- To explore the utility of performing TOC at 2/52 with GC NAAT

# Method



- Retrospective case note review of all cases of GC from Dec 2012 to Jan 2014 in our two South London GUM clinics
- All diagnosed by Aptima Combo 2 TMA (AC2) and confirmed with Aptima GC

# Results



- N = **756** patient episodes where TOC performed within 42 days of GC treatment
- 717 episodes (96%) were in men:
  - Pharyngeal: 391 (52%)
  - Rectal: 390 (51%)
  - Urethral 249 (33%)
- Cervical/vaginal: 36 (5%)

# Results



- Culture performed pre-treatment in 655 (88%)
- Culture was positive in 352 (54%)
- *In vitro* resistance for culturable isolates showed no strains resistant to 3<sup>rd</sup> generation cephalosporins
- Other resistance: azithromycin 3% penicillin 63%  
tetracycline 25 % ciprofloxacin 32%

# Results

<b>Antibiotic regimen used for GC Rx</b>	<b>No of pts with TOC within 42 days of initial Rx</b>	<b>No of patients with negative initial TOC result</b>
<b>Ceftriaxone 500mg + AZI 1g</b>	<b>251</b>	<b>246 (98%)</b>
<b>Ceftriaxone 500mg + doxy <math>\geq</math>7 days</b>	<b>437</b>	<b>412 (94%)</b>
<b>AZI 2g only</b>	<b>24</b>	<b>22 (92%)</b>
<b>Ceftriaxone 500mg</b>	<b>19</b>	<b>19 (100%)</b>
<b>AZI 2g + doxy <math>\geq</math>7 days</b>	<b>8</b>	<b>7 (88%)</b>

# Equivocal results



- TOC done  $< 2/52$  had higher rate of +ve or equivocal TMA results
- 13 (1.6%) of TOC were GC equivocal at  $\geq 2/52$  post treatment.
- All of these were repeated at  $\geq 20$  days post treatment and were GC TMA negative without further antibiotic therapy

# TMA +ve results at TOC



- 25 (3.3%) of TOC were TMA +ve
- Of these, 5 were persistent TMA +ve at  $\geq 14$  days post treatment
- Repeat TMA testing was negative without further GC treatment

# TMA +ve results at TOC



- 16 (**62%**) of patients had risk for re-infection
- 2 were possible treatment failures in patients treated with 2g azithromycin
- 1 urine & rectal TMA+ve TOC patient had no evidence for re-infection, but reference lab testing = negative GC-specific DNA tests (*porA* and *Opa*)
- Unable to determine in 1 patient – did not attend

# Discussion



- Our data show no clear evidence of treatment failure with either ceftriaxone 500mg regimen
- Doxycycline is preferred for MSM in our clinics:
  - \* greater activity against rectal CT, LGV and incubating syphilis
  - \* less risk of induction/spread of azithromycin resistance among MSM core group

# Discussion



- Given the near 100% efficacy for GC at all mucosal sites: questions need for routine TOC unless alternative regimens are used or *in vitro* resistance is seen?
- TOC with GC NAAT at 2 weeks is too soon for a small number of those with adequately treated infection

# Discussion



- TOC will be of greater importance when ceftriaxone resistance emerges in London
- Further studies are warranted to assess alternative recall strategies
  - E.g. rescreening at 6 or 12 weeks vs 2 week TOC
- Cessation of routine TOC for our service in 2013 would have saved in excess of 1000 testing visits not covered by tariff – better use of resources

# Conclusions



- Ceftriaxone 500mg performs well in all GC/all sites
- Co-administration of azithromycin OR doxycycline appears equivalent
- Potential benefits of doxycycline vs. azithromycin needs consideration
- TOC unnecessary based on current data
- Significant resource implications for clinics with high GC prevalence

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