Abstract P3-S1.36 Table 1 Concordance between tests used to diagnosis urethritis among men

| Gram stain result | NAAT result | | | |
| --- | --- | --- | --- | --- |
| | Gonorrhoea | Chlamydia | Negative | Total |
| Gonorrhoea | 91 | 0 | 0 | 91 |
| NGU | 3* | 87* | 187 | 277* |
| Negative | 14 | 26 | 195 | 235 |
| Total | 108* | 113* | 382 | 600 |

*Three of these results were positive for both gonorrhoea and chlamydia.

**Conclusion** Gram stain is a reliable and relatively inexpensive test for the diagnosis of gonorrhoea among men. Men diagnosed with gonorrhoea or NGU using this point-of-care test were treated earlier than those diagnosed with NAAT only. The prevalence of atypical urethritis among this study population was high and further research should be conducted to investigate the possible aetiologies.

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P3-S1.37 **THE ROLE OF MICROSCOPY IN THE DIAGNOSIS OF PROCTITIS AMONG MEN WHO HAVE SEX WITH MEN (MSM). A RETROSPECTIVE REVIEW OF RECTAL SCREENING**

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**Background** The rectum is a common site of infection with Chlamydia trachomatis (CT), Mycoplasma genitalium (MG) and Neisseria gonorrhoeae (GC) among men who sex with men (MSM) who engage in receptive anal intercourse (RAI). Whilst the majority of individuals remain asymptomatic, these infections are likely to induce rectal inflammation which may have implications for HIV transmission. Information regarding the association between rectal CT, MG and GC and proctitis is limited.
**Objectives** To calculate the prevalence of proctitis among a cohort of MSM and investigate the association of proctitis with rectal CT and GC.
**Methods** Data were collected retrospectively. All MSM attending the clinic between July and December 2010 were included. Proctitis was defined as >5 PMNLs per high power field on microscopy of a Gram-stained rectal smear. Information including sexual history, clinical presentation, microscopy and GC/CT NAAT (Aptima combo 2 (AC2)) results were recorded on a proforma. Data were analysed using SPSS 16.0. Statistical tests of association were performed using Pearson's $\chi^2$ test. OR were calculated using logistic regression.
**Results** There were 425 MSM who attended for screening in the review period. Of these 83% were UK born. The median age was 32 years (range=16–69 yrs). RAI in the preceding 3 months was reported by 59% (n=251). Of these 64% (n=160) had rectal microscopy performed. Rectal symptoms were reported by 11%. The majority (96%) of samples were collected using a blind rectal swab technique. Proctitis was diagnosed in 23 (14.4%). Of these five were AC2-positive (CT=2, GC=1, CT+GC=1, LGV=1). Rectal AC2 was positive in 19/160 (11.8%) (GC=7, CT=10, CT+GC=1, LGV=1), five of whom had proctitis. Sensitivity and specificity of microscopy for rectal CT/ GC was 26% and 87% respectively. Factors which were predictive of proctitis included rectal symptoms (p=0.001), and being HIV-1sero-positive (p=0.001) but being CT/GC/LGV positive was not associated (p=0.157 OR 2.4; 95% CI=0.8 to 7.5).
**Conclusion** Proctitis is common among MSM, particularly HIV-1 seropositive men. The association with GC/CT infection was weak.

The causes of and relevance of proctitis remain poorly understood and further research is warranted.

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P3-S1.38 **MOLECULAR DETECTION OF CHLAMYDIA TRACHOMATIS AND NEISSERIA GONNORHOEA IN RECTAL SWABS AND (SELF) COLLECTED VAGINAL SWABS WITH THE COBAS 4800 SYSTEM**

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**Objectives** Chlamydia trachomatis (CT) and Neisseria gonnorhoea (NG) are the most prevalent sexual transmitted diseases worldwide. In recent years molecular diagnostics for the standard sample types like cervical swabs and urines has been highly adapted in most laboratories. Currently more difficult samples types, with regard to inhibition, sensitivity and specificity, like rectal swabs and (self collected) vaginal swabs are received more often in the laboratories. This study describes the performance of the new Cobas 4800 for the detection of CT and NG in these difficult sample types.
**Methods** A total of 1100 co-collected swabs were tested (900 vaginal; 200 rectal). Informed consent was obtained from all patients included in the study for co-collection. All swabs were tested routinely with the M2000 system (Abbott) and the co-collected samples were tested in the Cobas 4800 system (Roche). All swabs were collected in their corresponding transport buffer and tested blinded. Discrepant results were tested with an independent real time PCR method.
**Results** In the 900 vaginal swabs 10% (n=90) were positive for CT and 0.5% (n=4) for NG and in the 200 rectal swabs 11% CT positives (n=22) an 6% NG positives (n=12) were identified. In the vaginal samples nine discrepant results between the Cobas 4800 and M2000 system were identified. Five with borderline values and four with clear different results (1 NG, 3CT). Two M2000 positive results (Ct 35.9; 32.3) were available for home brew analysis and could not be confirmed. In the rectal samples 8 discrepant results were found including three clear differences (2 NG; 1 CT). The CT discrepant sample was positive in the Cobas 4800 system (Cp 33.1) and negative in the M2000 system. For NG two samples were negative in the Cobas 4800 system but positive (Ct 23.8; 32.0) in the M2000 system. All three clear discrepant results were available for home brew analysis and confirmed the Cobas 4800 results.
**Conclusion** Both samples types showed a high concordance between the two systems (κ 0.95 for CT; κ 0.93 for NG). For detection of vaginal swabs some small differences were found both for CT and NG but these were equally spread between the two systems. There is no difference between self collected and clinician taken vaginal swabs. All clear rectal swabs discrepancies confirmed the Cobas 4800 results. This remarkable difference has to be further studied. In general, (self collected) vaginal swabs and rectal swabs show reliable results for routine detection of CT and NG.

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P3-S1.39 **COMPARISON OF STRATEGIES FOR EMPIRIC CHLAMYDIA TRACHOMATIS (CT) TREATMENT IN THE DENVER METRO HEALTH CLINIC: TREAT MPC VS INCREASED WBC ON WET PREP**

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**Background** Our STD stat lab reports WBC on the vaginal wet prep as normal or increased (≥10 WBC/LPF). WBC reflect inflammation and may be associated with CT infection. Mucopurulent cervicitis (MPC) may also result from CT, and is diagnosed by visualising the

Abstract P3-S1.39 Table 1   Comparison of empiric treatment strategies using MPC or increased WBC on wet prep to direct treatment

| Strategy | % (N) CT cases treated | % (N) CT cases missed | % (N) missed CT cases other strategy covers | % (N) treated patients without CT | CT-negative patients treated/CT case treated | CT-positive cases missed/CT case treated | Time to treatment for missed CT cases in % Note: 0 days = treated as contact day of visit |
|---|---|---|---|---|---|---|---|
| Treat all MPC as CT | 13% (209) | 87% (1419) | 64% (907) | 77% (691) | 3.3 | 6.8 | 0 days: 32%  <br>1—14 days: 29%  <br>15—30 days: 11%  <br>31—90 days: 5%  <br>Not treated: 23% |
| Treat all increased WBC as CT | 67% (1089) | 33% (539) | 5% (27) | 82% (4896) | 4.5 | 0.5 | — |
| Treat all NGU as CT | (1725) | — | — | 64% (3105) | 1.8 | — | — |

cervix on speculum exam. We modelled what effect two strategies would have on empiric CT treatment in the Denver Metro Health Clinic (DMHC). Current strategy is to treat all MPC to cover possible CT. We compared that to expected results if all increased WBC on wet prep were treated to cover possible CT. Early treatment is thought to be important in preventing complications in women. The US Infertility Prevention Project guidelines call for treating 75% of women by 14 days after testing, and 90% by 30 days.

**Methods** The DMHC is an urban STD clinic with an electronic medical record (EMR). The EMR was used to identify all women attending the DMHC and receiving a wet prep between 09/01/06 and 02/04/11. They were divided into two groups by wet prep results (increased WBC vs normal WBC) and further divided by diagnoses of MPC and CT. Differences between the groups were assessed by $\chi^2$, and the sensitivity and specificity of increased WBC and MPC for CT were calculated. For each strategy, the % of treated and missed cases of CT; % of missed cases that would have been treated by the other strategy; % of treated patients without CT; and the number of CT-negative patients treated, and CT-positive patients missed, for every CT case treated were calculated. NGU in men was used as a comparison where applicable. For CT cases that were missed by the MPC strategy, actual time to treatment was identified.

**Results** 19 027 women were seen during this time and 12 066 had a wet prep done. Of these, 5985 had increased WBC, 6081 had normal WBC, 900 had MPC and 1628 had CT. CT was positive in 1089 with increased WBC (182 had MPC) and 539 with normal WBC (27 had MPC). Both MPC and increased WBC were significantly associated with CT infection (p<0.0001): CT positivity rates were 23.2% in women with MPC; 18.2% in women with increased WBC; and 8.7% in women with neither. The sensitivity and specificity of MPC for CT were 12.8% and 93.3% and for increased WBC 66.9% and 53.1%. See Abstract P3-S1.39 table 1 for comparison of the strategies.

**Conclusions** Increased WBC have poor specificity for CT but better sensitivity than MPC. Given greater delay in treatment with the MPC strategy, the increased WBC strategy is attractive for our clinic.

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**Background** Washington State (WA) and CDC treatment guidelines recommend ceftriaxone (CFX) as the primary therapy for gonorrhoea (GC), and some evidence suggests that azithromycin (AZM) plus an oral cephalosporin is superior to an oral cephalosporin alone in the treatment of GC.

**Methods** We used information from WA GC case report forms submitted July 2009—December 2010 to calculate the proportion of cases receiving different GC therapies. We used log regression to identify factors associated with recommended treatments.

**Results** Treatment data were available for 3910 (96%) of 4066 reported GC cases; 2087 (53.4%) were treated with CFX, 931 (23.8%) with cefixime, (533) 13.6% with cefpodoxime, and 359 (9.2%) with another drug. Of 1464 persons receiving an oral cephalosporin, 507 (34.6%) also received AZM. Abstract P3-S1.40 table 1 displays the distribution of single and multidrug therapies for the three most common therapies observed. In a multivariate model, treatment with CFX was associated with male gender (prevalence ratio (PR): 1.23, 95% CI 1.14 to 1.32), Asian/Pacific Islander race (PR: 1.10, 95% CI 1.00 to 1.20) and other/multiple races (PR: 1.13, 95% CI 1.04 to 1.22) (vs White race). Compared to persons treated by private sector medical providers, CFX use was more common among persons treated in STD clinics (PR: 1.65, 95% CI 1.53 to 1.77), ER/urgent care clinics (PR: 1.37, 95% CI 1.25 to 1.50), other hospital settings (PR: 1.27, 95% CI 1.12 to 1.44), or community health centers (PR: 1.14, 95% CI 1.00 to 1.29), and less common among those treated in family planning clinics (PR: 0.38, 95% CI 0.30 to 0.47) and by other provider types (PR: 0.86, 95% CI 0.76 to 0.98). Among persons treated with oral cephalosprins, concurrent treatment with AZM was associated with male gender (PR: 1.71 95% CI 1.45 to 2.01), treatment in an STD clinic (PR: 1.64, 95% CI 1.41 to 1.91) or ER/urgent care clinic (PR: 1.28, 95% CI 1.03 to 1.58) vs by a private provider, having GC only (PR:3.88, 95% CI 2.84 to 5.28) (vs chlamydial coinfection), and Seattle residence (1.32, 95% CI 1.08 to 1.61).

Abstract P3-S1.40 Table 1

| | Total | Single drug therapy | With AZM | With doxyclycline | With another drug |
|---|---|---|---|---|---|
| Ceftriaxone | 2087 | 773 (37.0%) | 1051 (50.4%) | 231 (11.1%) | 32 (1.5%) |
| Cefixime | 931 | 543 (58.3 %) | 334 (35.9%) | 50 (5.4%) | 4 (0.3%) |
| Cefpodoxime | 533 | 334 (62.6%) | 173 (32.5%) | 25 (4.7%) | 1 (0.2%) |

**Conclusions** Approximately half of all persons with gonorrhoea in WA do not receive CFX and over 20% receive an oral cephalosporin alone, which is not recommended in WA guidelines. Efforts to increase CFX should focus on identifying and surmounting barriers to the use of CFX, particularly in places such as family planning clinics and other settings where use is now low.