

O15 - Chlamydia infections

O15.1 SENSITIVE DETECTION OF *CHLAMYDIA TRACHOMATIS* PGP3 ANTIBODY DEMONSTRATES ANTIBODY PERSISTENCE AND CORRELATES WITH SELF-REPORTED INFECTION AND BEHAVIOURAL RISKS IN A BLINDED COHORT STUDY

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Introduction With improvements in serological detection of *Chlamydia trachomatis* (CT) infection and knowledge of persistence of CT antibodies, serological studies in populations could help monitor changes in incidence. The Dunedin Multidisciplinary Health and Development study, New Zealand, has regularly monitored the health and behaviour of 1037 men and women since their birth in 1972–73. Using this cohort, we report on the association between CT seropositivity and age, sexual behaviour and self-reported infection, as well as CT antibody changes over time.

Methods We developed a Pgp3 double-antigen sandwich ELISA then assayed, blinded, sera obtained from the Dunedin cohort at ages 26, 32 and 38.

Results Seropositivity was associated with a history of CT at all ages, with a stronger association in women than men. At ages 26, 32 and 38 years, 24.1%, 26.2% and 26.8% respectively of women, and 10.7%, 14.0% and 13.1% of men, were CT seropositive. Among those with a self-reported prior CT diagnosis at these ages, 79.5%, 75.0% and 74.6% respectively of women were positive, markedly higher than among comparable men (25.0%, 33.3% and 27.0%). The proportion seropositive increased with the lifetime number of sexual partners at all ages ($p < 0.001$). At age 38, among Pgp3 seropositive individuals 63.3% (95% CI 54.4%–71.4%) of women and 83.1% (71.5%–90.5%) of men did not report having ever been diagnosed with chlamydia. Among women, persistence over six years was 92.5% (85.7–96.7%) and over 12 years 94.3% (87.2–98.1%); among men the respective proportions were 87.3% (76.5–94.4%) and 83.8% (68.0–93.8%).

Conclusion CT infection was common in Dunedin, New Zealand with many infections going undetected. The strong correlation of Pgp3 antibody with number of sexual partners and high persistence of antibody is a powerful argument for the development of methodology to use CT Pgp3 serology for evaluation of CT control programmes.

Disclosure of interest statement PH has received funding from Cepheid directly and indirectly for lecturing on point of care testing and undertaking research on the cost effectiveness of their CT/NG assay. Has also received payment from Atlas Genetics for an article in the Parliamentary Review on the benefits of point of care technology in improving the cost effectiveness of sexual health services. Has also received an honorarium from Hologic for an education talk on STI diagnostics. GW, AR, SV, DS, AW, DM, ND and MMcC no conflicts of interest declared.

O15.2 COMBINED DETECTION OF CHLAMYDIA, GONORRHOEA AND TRICHOMONAS USING THE BD MAX™ CT/GC/TV ASSAY

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Background *Chlamydia trachomatis* (CT) and *Neisseria gonorrhoea* (GC) are the two most common bacterial STIs. Screening for CT and/or GC, is recommended in many countries. The prevalence of *Trichomonas vaginalis* (TV) is also high and negative consequences of untreated infection may be serious. Inclusion of TV as part of a combination assay would facilitate screening of these STI. Here we evaluated the performance of the BD MAX CT/GC/TV assay compared to currently available assays for these STI.

Methods Eight STD and Family Planning clinics enrolled participants for this study. Vaginal and endocervical swabs, and female and male urine specimens were obtained from 1854 women and 843 men. Female samples were used for evaluation of the BD MAX CT/GC/TV assays while male urine was used only for CT/GC evaluation. BD MAX CT/GC/TV results were compared to the Aptima Combo 2 ® CT/GC; BD ProbeTec™ CT/GC; BD Viper™ CT Q^x/GC Q^x; TV microscopy and culture. Participants were classified as infected if at least one positive result from each of 2 comparator assays were obtained. Positive wet mount and/or culture results were used as evidence of TV infection for women only.

Results Among women, 7.3%, 2.4% and 14.7% were infected with CT, GC and TV, respectively. Among men the rates were 22.0% and 14.6% for CT and GC. The BD MAX CT/GC/TV assay detected 92.2–99.2%, 94.9–95.1% and 92.9–96.1% of CT, GC and TV infections among women, depending on specimen type, and 96.6% and 99.1% among men. The specificity for all organisms and sample types was >98.5%.

Discussion In this US multi-site study, the prevalence of TV infection was high, demonstrating the benefit of screening women for TV as well as GC and CT. The BD MAX CT/GC/TV assay performance allows combined testing for all 3 STI among women and CT/GC from male urine.--

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O15.3 HIGH CHLAMYDIA TREATMENT FAILURE RATES IN MEN WHO HAVE SEX WITH MEN

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Introduction There is increasing concern about treatment failure among those treated for anogenital chlamydia infection. We used genotyping and survey data to differentiate between reinfection