Objective To determine current seroepidemiology of CT infection in children in a US inner city population.
Design/methods Anonymized serum samples were obtained from children in 2 hospitals in Brooklyn, NY from 2012–2015. CT IgG was determined using EIA (Ani Labsystems). The following age strata were used: 11–12, 13–14, 15–16, 17–18, 19–20 y.
Results 512 sera were included in the final analysis. Mean age 17 y. There were 192 (37.5%) males and 320 (62.5%) females. CT antibody was first detected at 16 y and 18 y for females and males, respectively. The prevalence per age-cohort were: Females: 11–14 y-0, 15–16 y- 3.64%, 17–18 y -15.9%, 19–20 y -14.75%; Males: 11–16 y- 0, 17–18 y- 8.51%, 18–20 y- 9.33%.
Conclusions The prevalence of antibody was higher in girls than their male counterparts, mirroring national trends based on NAATs. Antibody was first detected in females at 16 y and males at 17 y, reflecting sexual debut. Prior data from this cohort found antibody in% infants < 1 y, which disappeared between 1 and 16 y. The delay in male antibody detection may be due to later exposure and/or anatomical and physiological factors between the sexes. These data are critical in informing potential CT vaccine strategies. Future studies using a larger sample size and other populations will allow more precise estimates of age and gender-specific prevalence.

P03.04 THE IMPACT OF UNIVERSAL *CHLAMYDIA TRACHOMATIS* (CT) SCREENING DURING PREGNANCY ON SEROEPIDEMIOLOGY OF CHLAMYDIAL INFECTION IN AMERICAN CHILDREN, 1991–2013

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Introduction CT remains the most prevalent sexually transmitted infection in developed and developing countries. Prenatal screening and treatment of pregnant women has resulted in a dramatic decrease of perinatal CT l infection (conjunctivitis, pneumonia) in the US. Before the implementation of screening, ~50% of infants born to mothers with CT infection developed chlamydial conjunctivitis and/or pneumonia. However, there have been no studies of the incidence of perinatal CT infection, including seroepidemiologic studies, following the implementation of screening and treatment as recommended by the CDC in 1993.
Methods Anonymized banked serum and prospectively collected samples from children in Brooklyn, NY, were tested for CT IgG using the MIF assay. Serum samples were divided into 2 groups: 1: collected from 1991–1995, 2: from 2001–2013. Pts with C. pneumoniae (CP) infection (culture and/or antibody) were excluded.
Results 491 serum samples were identified (age range 0–20), 71 samples were excluded due to evidence of CP infection. 34% of subjects <10 y in group 1 (pre-universal screening) had IgG against CT, while there were no positives in group 2 (post-universal screening), p < 0.0001. Children >10 y had a prevalence of 32% in group 1 and 3.48% in group 2, p < 0.0001.
Conclusion Children <10 yr in group 1 (pre-screening) had relatively high rates of seropositivity, which were likely due to perinatal infection. This antibody was not due to CP, as sera from children with CP infection were excluded. The significantly lower rates in group 2 (post-screening) confirm that prenatal screening and treatment of pregnant women has been effective for prevention of CT infection in infants. Persistence of antibody after perinatal infection may have implications for CT vaccine use in countries where prenatal screening and treatment has not been implemented.

P03.05 CHLAMYDIA RE-TESTING AT SEXUAL HEALTH CLINICS HAS INCREASED BUT FURTHER INITIATIVES ARE NEEDED FOR YOUNG PEOPLE

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Introduction Chlamydia is the most commonly notified infection in Australia; most diagnoses are in young people, and re-infections are common. Re-infection leads to onward transmission and increases the risk of reproductive morbidity and HIV transmission. Guidelines recommend re-testing 3 months following treatment to detect re-infections. We assessed trends in re-testing after a chlamydia diagnosis in Sexual Health Clinics (SHCs) in New South Wales (NSW) over a 5-year period and factors associated with re-testing.
Methods Routine patient data from 2009 to 2013 were extracted from 33 SHCs. A Chi-2 test was used to assess time trends in the proportion re-tested in 2–4 months following a chlamydia diagnosis and also 2–12 months, in a range of risk groups. Multivariate logistic regression was used to determine demographic, risk behaviour and clinic factors associated with re-testing at 2–4 months, adjusting for clinic clustering.
Results Overall 8,646, chlamydia diagnoses were analysed and 1,281 (15%) were re-tested in 2–4 months (23% of GBM, 25% of sex workers, 12% of young heterosexuals aged <30 years), with a significant increase over time (13% in 2009 to 18% in 2012, p < 0.01). In a broader time frame of 2–12 months, re-testing was higher at 26% (42% of GBM, 41% of sex workers, 20% of young heterosexuals) with a modest increase over time (25% to 30%, p < 0.01). Factors associated with re-testing in 2–4 months were: being GBM (adjusted odds ratio (aOR) = 1.65, 95% CI: 1.44 -1.90, p < 0.01), current sex work (aOR = 2.04,95% CI: 1.65–2.52, p < 0.01), attending the clinic >5 times (aOR: 3.11,95% CI: 2.62–3.70, p < 0.01) and people attending clinics with SMS reminders (aOR = 2.25,95% CI: 1.16–4.37, p = 0.01).
Conclusions Re-testing at 2–4 months after a chlamydia diagnosis increased over time, but remains low. GBM and sex workers were more likely to be re-tested, perhaps because they were attending anyway. Attending clinics with SMS reminders increased the likelihood of re-testing. Additional strategies, such as home-collection, may be needed to increase re-testing in young heterosexuals.
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