

P3.088 HUMAN IMMUNO DEFICIENCY SYNDROME: A GLOBAL CRY

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Objectives The Human Immunodeficiency Virus (HIV) is a retrovirus that attacks the immune system of the host individual, slowly invading and killing T-cells. As the disease progresses, individuals become increasingly susceptible to other illnesses. Eventually usually within 7 to 10 years the compromised immune system will lead to death through another proximate cause. An individual is said to have (AIDS) once their immune system has been severely compromised.

Methods The most common channels of transmission are sexual; the other major type of transmission is vertical from mother to child either in the womb, during birth, or while breastfeeding. HIV can also be spread through sharing needles (either by intravenous drug users, or poor hygiene in hospitals) and through transfusions with infected blood.

Results The efficiency of these transmission mechanisms varies. Infection rates are higher for anal than vaginal sex, higher still for mother-to-child transmission, and extremely high (close 100 per cent) for transfusion with infected blood.

Drugs that dramatically slow the progression of HIV have become available in recent years. Use of these regimens in the developing world is rare, due both to the cost of the drugs (even in generic form) and the difficulty of administering daily drug cocktails on a continent with few doctors.

Conclusions Interventions in Africa have focused more on prevention and treatment of opportunistic infections, including prevention of mother-to-child transmission, education about changes in sexual behaviour, treatment of other sexually transmitted infections (STIs) and treatment of tuberculosis and other disease associated with HIV/AIDS.

P3.089 PERINATAL MORBIDITY ASSOCIATED WITH TRICHOMONAS VAGINALIS: A META-ANALYSIS

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Background *Trichomonas vaginalis* is common worldwide, with high rates in women of reproductive age. The evidence-base on potential consequences of infection in pregnancy is mixed. We conducted a meta-analysis of studies which examined the association between *T.vaginalis* infection and adverse pregnancy outcomes.

Methods Following the PRISMA guidelines and MOOSE criteria, we searched the electronic databases Medline, EMBASE and BioMedCentral for articles published from January 1950 to February 2013; reference lists of published studies and reviews were also examined to locate additional eligible studies. The inclusion criteria were studies that assessed the statistical association between *T.vaginalis* in women and adverse pregnancy outcomes. The primary outcomes of interest were preterm birth, low birth weight and premature rupture of membranes. Meta-analysis methods were used to calculate a summary odds ratio for each outcome.

Results A total of 174 papers were identified, of these 48 full text papers were reviewed and 10 studies met the inclusion criteria. Six studies were cohorts, one a randomised control trial, one a case control study, one a population data linkage study and one a secondary analysis of combined data from four studies. The study populations, outcomes and study quality varied. The summary odds ratios (OR) was 1.4 (95% CI: 1.3–1.6, $p = 0.0$) for preterm birth (8 studies;

$n = 78,573$) with negligible heterogeneity between studies (Isq. = 0.0%, $p = 0.44$). For low birth weight (3 studies; $n = 14,660$) the summary OR was 1.6 (95% CI: 1.1–2.2, $p = 0.009$) with low-moderate heterogeneity between studies (Isq. = 35.9%, $p = 0.21$) and the summary OR was 2.3 (95% CI: 0.9–6.2, $p = 0.09$) for premature rupture of membranes (4 studies, $n = 14,715$) with high heterogeneity (Isq. = 80.0%, $p = 0.002$).

Conclusion This review suggests that there is an association between *T.vaginalis* in pregnancy and preterm birth and low birth weight. These findings confirm the importance of screening for the infection, particularly in women of reproductive age in high prevalence areas.

P3.090 BACTERIAL VAGINOSIS AND THE RISK OF TRICHOMONAS VAGINALIS ACQUISITION AMONG HIV-1 NEGATIVE WOMEN

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Background The vaginal microbiota may play a role in mediating susceptibility to sexually transmitted infections, including *Trichomonas vaginalis* (TV). This analysis evaluated the association between bacterial vaginosis (BV) and incident TV among women enrolled in a biomedical HIV prevention trial.

Methods Data were analysed from HIV-1 seronegative women participating in HIV Prevention Trials Network Protocol 035. At quarterly visits for up to 30 months, participants completed structured interviews and specimens were collected for genital tract infection testing. TV was detected by saline microscopy. BV was characterised by Gram stain using the Nugent score (BV = 7–10; intermediate = 4–6; normal = 0–3 [reference group]). Cox proportional hazards models stratified by study site were used to assess the association between BV at the prior quarterly visit and TV acquisition. Participants were censored at their first TV infection or if they became pregnant or HIV-infected.

Results This secondary analysis included 2,804 participants from Malawi, South Africa, USA, Zambia and Zimbabwe who contributed 13,977 follow-up visits. BV was detected at 5,184 (37.1%) visits and TV was detected at 352 (2.5%) visits. After adjusting for age, marital status, hormonal contraceptive use, sexual activity and TV at baseline, intermediate microbiota and BV at the prior visit were independently associated with an increased risk of TV (intermediate microbiota: adjusted hazard ratio [aHR] = 1.74, 95% confidence interval [CI] 1.22, 2.47; BV: aHR = 3.25, 95% CI 2.53–4.17). TV at baseline was also associated with an increased risk of TV (aHR = 2.54; 95% CI 1.91, 3.36). Sensitivity analyses excluding 202 women with baseline TV showed similar results (BV: aHR = 3.18; 95% CI 2.42 – 2.19).

Conclusions Women with a Nugent score > 3 were at an increased risk of acquiring TV. If this relationship is causal, interventions that decrease the incidence of BV and promote a normal vaginal microbiota could potentially contribute to reductions in TV incidence.

P3.091 DISTRIBUTION AND RISK FACTORS OF TRICHOMONAS VAGINALIS INFECTION IN ENGLAND: AN EPIDEMIOLOGICAL STUDY USING ELECTRONIC HEALTH RECORDS FROM SEXUALLY TRANSMITTED INFECTION CLINICS

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Background Little is known about the recent epidemiology and public health impact of *Trichomonas vaginalis* infection in England. We investigated the distribution and risk factors of this common sexually transmitted infection (STI) and assessed whether the potential burden of infection could warrant a review of existing screening guidelines.

Methods We used data from the Genitourinary Medicine Clinic Activity Dataset (GUMCAD) over a three year period (2009–2011) to investigate the characteristics of patients diagnosed with *T. vaginalis*, and to describe the distribution of cases in England. Case records were linked within each GUM clinic using the local patient identifier. Socio-demographic and clinical risk factors associated with a diagnosis of *T. vaginalis* were explored using multivariable logistic regression.

Results Rates of *T. vaginalis* infection were highest in London and the West Midlands. Risk of a *T. vaginalis* diagnosis was strongly associated with older age in comparison to those aged 20–24 years, non-white ethnicity, in particular black Caribbean (adjusted Odds Ratio [aOR] = 4.23, 95% CI 3.98–4.50 in women; aOR = 8.00, 95% CI 6.48–9.87 in men) and black 'other' (aOR = 4.13, 95% CI 3.80–4.49 in women; aOR = 5.75, 95% CI 4.22–7.83 in men) ethnic groups and birth in the Caribbean (aOR = 1.27, 95% CI 1.16–1.38 in women; aOR = 1.63, 95% CI 1.28–2.09 in men) compared to the UK. Current gonorrhoea (aOR = 3.66, 95% CI 3.30–4.05) or chlamydia (aOR = 1.58, 95% CI 1.49–1.68) infection was an important risk factor for a diagnosis of *T. vaginalis* in women.

Conclusion This study has characterised important patient groups at risk of *T. vaginalis* infection and allowed identification of areas of higher prevalence. Our results suggest that further research is needed to identify the public health benefits and feasibility of changing clinic screening protocols among at risk groups in these areas.

P3.092 **PREVALENCE OF TRICHOMONAS VAGINALIS IN FRANCE AND COMPARISON WITH CHLAMYDIA TRACHOMATIS AND NEISSERIA GONORRHOEAE AS DETERMINED BY THE APTIMA TRICHOMONAS VAGINALIS NUCLEIC ACID AMPLIFICATION ASSAY**

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In France, few data on prevalence of *Trichomonas vaginalis* in the general population as well as in high-risk populations exist. We determined *Trichomonas vaginalis* (TV) together with *Chlamydia trachomatis* (CT) and *Neisseria gonorrhoeae* (NG) prevalence, in men and women with or without symptoms of sexually transmitted infection (STI), undergoing CT and NG screening in France.

683 men and 2432 women were enrolled on a basis of either urethral, cervical or vaginal swabs, urine or sperm samples, using the APTIMA *Trichomonas vaginalis* assay (ATV, Hologic|Gen-Probe) and the APTIMA Combo 2 assay for CT and NG (AC2, Hologic|Gen-Probe), respectively.

Overall TV, CT and NG prevalence in women was 0.7%, 6.13% and 0.49%, respectively, and in men 0.44%, 9.52% and 3.07%, respectively. All in all 20 patients were positive for TV, 17 women and 3 men, with the highest TV prevalence in women of > 40 years (1.59%), while CT (11.58%) and NG (0.87%) prevalence was highest in women < 30 years.

Co-infections were relatively low: No subject was coinfecting with CT/TV, most probably due to prevalence in different age groups, and 5 subjects were coinfecting with CT/NG, 3 women and 2 men.

The CT prevalence reported here is higher than what was reported in earlier epidemiologic studies in France. The low prevalence of TV may be due to a bias in tested population.

In this study we determined prevalence of the 3 infections in women and men in all age groups and in relation to the specimen type. Furthermore, we provide a detailed analysis of the results obtained from the 20 TV positive cases. Further studies are needed to estimate the prevalence of TV in other targeted populations.

P3.093 **SIMILAR, LOW PREVALENCE OF TRICHOMONAS VAGINALIS IN THREE PATIENT COHORTS FROM GENERAL PRACTITIONERS, A POPULATION BASED CHLAMYDIA SCREENING STUDY AND AN STI-CLINIC**

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Background Among sexually transmitted infections (STIs), *Trichomonas vaginalis* (TV) is the most common non-viral STI worldwide. However, in Europe, a limited number of studies, mostly on specific risk groups, have described a low TV prevalence. Therefore a large multi-cohort study was performed to investigate the prevalence of TV among three distinct Dutch patient populations. Additionally, the relationship between *Chlamydia trachomatis* (CT) and TV co-infection was assessed.

Methods 2089 participants, men and women, were included between 2008 and 2012 from three distinct cohorts. A total of 575 participants from the population-based national Chlamydia Screening Intervention (CSI) study, 465 attendees of the STI-clinic South Limburg and 602 patients from general practitioners (GPs) were included. An additional number of CT positives (n = 447) was included to assess TV and CT co-infection. All participants were assessed for TV using real-time PCR.

Results The overall prevalence of TV was 0.9% among the three distinct cohorts and no significant differences between the 3 study populations were observed (GP patients (1.5%), STI clinic (0.6%) and population-based cohort (0.7%)). TV was found in 0.7% of the CT positives and a similar 1.1% among CT negatives. In contrast to CT prevalence which significantly decreased with increasing age, TV prevalence was highest in the age group > 40 years (2%), but did not differ significantly from other age-groups.

Conclusion This large multi-cohort study confirms the low burden for TV in the Netherlands (< 2%) as in most European countries. We have no indication for standard TV testing in regular care.

P3.094 **TRICHOMONAS VAGINALIS INFECTION AMONG WOMEN OF REPRODUCTIVE AGE GROUP IN A COSMOPOLITAN SETUP**

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Trichomoniasis is one of the most common sexually transmitted infections in humans. In a prospective, observational study, 380 women attending the family planning (FP) clinic and Sexually Transmitted Diseases (STD) clinic in Kuala Lumpur were enrolled. Patient's information was obtained from the standardised medical records and voluntarily completed questionnaires. Three vaginal swabs from posterior fornix were taken from each patient. Different staining methods and cultivation in Diamonds medium were performed for the collected samples. Study subjects recruited in this survey were mostly young, with a geometric mean of 37.31 years (FP clinic) and 32.06 years (STD clinic). Malay, Chinese, Indians and others ethnic