

The prevalence of syphilis with RP and TPHA was 0.9% (12/1400). RTs for syphilis showed > 90% sensitivity and 100% specificity. RTs for *C. trachomatis* showed a low sensitivity between 22–37% and a 99% specificity, RTs for *N. gonorrhoeae* showed 97%.

**Conclusions** In women with symptoms of LGTIs RTs used at the point of care for syphilis have a sensitivity > 90%. RTs for CT have sensitivity < 40% and RTs for NG have sensitivity < 12.5% %.

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#### P2.021 PREVALENCE OF SEXUALLY TRANSMITTED INFECTIONS IN YOUNG PEOPLE IN ST. PETERSBURG, RUSSIA, AS DETERMINED USING SELF-COLLECTED NON-INVASIVE SPECIMENS

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**Background** Young people are worldwide a risk group for sexually transmitted infections (STIs) and a primary target for screening. Knowledge on STI prevalence in the youths is essential to elaborate preventive measures. Self-sampling has been shown to be an effective approach in screening and epidemiological programmes. This study aimed to assess the prevalence of *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, *Mycoplasma genitalium* and *Trichomonas vaginalis* in young people in St. Petersburg, Russia using self-collected non-invasive specimens.

**Methods** In total, 1207 consecutive sexually active attendees (1053 female and 154 male) of the youth centre Yuventa in St. Petersburg, Russia, aged 15–25 years and consenting to participate, were enrolled in the study from June through November 2011. The mean age of the women was 20.2 ± 2.8 years, and the men 20.2 ± 2.9 years. Vaginal and male urine samples were self-collected using Self-Collection Specimen Kit (Central Research Institute for Epidemiology, Russia) and UriSWAB (Copan, Italy), respectively. Testing for the STIs was performed by multiplex real-time PCR (AmpliSens *N.gonorrhoeae/C.trachomatis/M.genitalium/T.vaginalis*-MULTIPRIME-FRT, Central Research Institute for Epidemiology).

**Results** The overall prevalence of the examined STIs was 8.1% (85 of 1053) in the women and 7.8% (12 of 154) in the men. *C. trachomatis*, *N. gonorrhoeae*, *M. genitalium* and *T. vaginalis* were detected in 70 (6.6%), 6 (0.6%), 12 (1.1%) and 3 (0.3%) women, respectively. The prevalence of *C. trachomatis* and *M. genitalium* in the men was 6.5% (10 of 154) and 1.3% (2 of 154). *N. gonorrhoeae* or *T. vaginalis* were not detected in any men. In 7 women, multiple agents were found, i.e., *C. trachomatis* and *N. gonorrhoeae* (n = 3), *C. trachomatis* and *M. genitalium* (n = 2), and *M. genitalium* and *T. vaginalis* (n = 1).

#### P2.022 LABORATORY DIAGNOSIS OF GENITAL NEISSERIA GONORRHOEAE INFECTIONS IN THREE REGIONS OF UKRAINE

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**Background** The knowledge about approaches used for diagnosis of STIs in Ukraine is scarce. Aiming to optimise the laboratory diagnosis of STIs and introduce antimicrobial resistance surveillance for *Neisseria gonorrhoeae*, we aimed to survey the algorithms, methodologies and reagents used, and the laboratory capacities and possibilities in three regions of Ukraine.

**Methods** Laboratories of three regions of Ukraine, namely Dnepropetrovsk, Ternopil and Zaporozh, were visited and detailed interviews were conducted.

**Results** The three main dispensaries visited serve both the corresponding region as well as the city needs, and also have their own outpatient clinics. Large number of samples is tested, for example in Dnepropetrovsk and Zaporozh yearly 41,000 and 26,000 samples are tested by culture for gonococci, respectively. The majority of samples are coming from gynaecologists and only 0–0.4% contains gonococci. In contrast, testing 4,000 to 10,000 venereology patients per dispensary and year reveals 4–9% of positive samples in all three regions. PCR equipment is available in Dnepropetrovsk and Zaporozh, however, this is rarely used because of lack of funding from the state. Nevertheless, in the private laboratories PCR is run using variety of reagents. Gonococcal culture is primarily performed using Russian or Ukrainian selective growth media. *Chlamydia trachomatis* and *Trichomonas vaginalis* diagnosed using cytochrome staining, direct immunofluorescence and/or serology. For the diagnosis of syphilis Wasserman reaction is still frequently used; screening is conducted using non-treponemal microprecipitation test, an analogue of the VDRL test. Laboratory quality management systems are unavailable.

**Conclusion** Optimization and quality assurance of the laboratory diagnosis of STIs in the three interviewed and visited laboratories is crucial. Both methods for testing, reagents as well as the populations tested have to be revised and adjusted to international evidence-based standards.

#### P2.023 ORGANISATION OF THE LABORATORY SERVICES FOR DIAGNOSIS OF SEXUALLY TRANSMITTED INFECTIONS IN TVER, RUSSIA

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**Background** The structure of laboratory services differs among different regions of Russia. In order to apply to international standards initially analysis of the organisational structure, methods and methodologies used is necessary. This study reviewed the features of the laboratory diagnosis of STIs in the Tver region, central Russia.

**Methods** A questionnaire-based survey concerning STI laboratory services in the Tver region was conducted.

**Results** The Tver region consists of 36 districts, populated by 1.3 million citizens (406,000 in the Tver city). The vast majority of the laboratories are owned by the State, however, a few privately owned laboratories are also present. The State-owned laboratories are divided into peripheral-district branches, most of them run mainly serology of syphilis and microscopy of genital smears. The remaining laboratory diagnostics is performed at the centralised laboratory at Center of Specialized Medical Aid in Tver. This laboratory examines samples sent from the regional branches and different city medical institutions, as well as samples collected from patients consulting physicians at its own Center. The test result is delivered either to the treating physicians or directly to the patient. Microscopy of Gram and methylene blue stained smears were the main

methods for diagnosis of *Neisseria gonorrhoeae* and *Trichomonas vaginalis* infections. However, PCR was available for testing for *Chlamydia trachomatis*, *N. gonorrhoeae*, *Mycoplasma genitalium*, *Gardnerella vaginalis*, *M. hominis* and *Ureaplasma urealyticum* using Russia-produced diagnostic tests. Serology remained in use for diagnosis of chlamydial infection and trichomoniasis. No appropriate and complete quality assurance and control system was available.

**Conclusions** In Tver, Russia, the detection of several STI agents has to be optimised, and international evidence-based standards and appropriate quality management systems introduced. Beneficially, the laboratory diagnosis is further centralised, which makes it easier to implement appropriate international evidence-based STI guidelines.

**P2.024 EVALUATION OF THE GENITAL MICROBIOTA IN MEN AND WOMEN USING AN AUTOMATED SYSTEM FOR ANALYSIS OF MICROSCOPY IMAGES OF WET AND STAINED SMEARS**

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**Background** In Russia, microscopy of the genital microbiota in both women and men are performed at laboratory, not at physician's office. Microscopy is a simple and cheap method, which, together with a clinical presentation, provides sufficient information for diagnosis of bacterial vaginosis, vulvovaginal candidiasis, trichomoniasis, cervicitis, urethritis. Improvement of microscopy diagnostic methods with the use of automated computerised system is important.

**Methods** Clinical samples were obtained from 100 men and 150 women of reproductive age. In total, 150 vaginal, cervical and female urethral samples, 73 male urethral samples and 17 prostatic samples were analysed using microscopy of Gram and methylene blue stained preparations. The presence of polymorphonuclear leukocytes, lactobacilli, "clue" cells, yeasts, trichomonads, gram-negative diplococci was assessed. Vaginal samples were also assessed for bacterial vaginosis using the Nugent score. For analysis, image analyzer including a Biological Microscope MT5000 Series, Neiji Techno Co., Ltd (Japan), digital colour camera Progress CT3 and software UroGyn were used.

**Results** In 17.33%, 11.33% and 2% of the vaginal samples, "clue" cells, yeasts and trichomonads were visualised by microscopy. Signs of cervicitis were detected in 2% of the women, in none of the female samples signs of urethritis were seen. In men, signs of urethritis were revealed in 3.45%, and prostatitis - in 29.4% of the samples. In none of the samples, Gram-negative diplococci were detected. There was complete agreement between the results obtained using the image analyzer and those obtained using traditional light microscopy.

**Conclusion** An automated system for the analysis of images obtained by microscopy investigation of urogenital samples from women and men is easy to use, allows documentation of results and facilitates their interpretation.

**P2.025 ETIOLOGY OF RESPIRATORY TRACT INFECTION IN HIV/AIDS PATIENTS AT THE NATIONAL HOSPITAL OF TROPICAL DISEASES (NHTD) HANOI, VIETNAM**

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**Background** Respiratory tract infection is leading causes of death among patients infected with human immunodeficiency virus in Vietnam. Identification the agents caused RTIs is very important to give specific treatment and to reduce mortality rate among HIV/AIDS patients suffering from RTI.

**Methods** We conducted a cross-sectional study of 170 HIV/AIDS patients with signs and symptoms (clinical manifestations and/or broncho aveolar lesions through X-ray chest film) of respiratory tract to indentify the common agents by analysing bronchoaveolar-lavage (BAL).

**Results** A total of 170 HIV/AIDS patients (138 male and 32 female) involved in the study and 170 BAL samples had been taken to identify the common agents caused RTIs. 148/170 (87.1%) patients had been diagnosed RTIs with following agents: *Mycobacterium tuberculosis* 79/148 (53.4%), PJP 12/148 (8.1%), bacteria 59/148 (39.9%), fungi 54/148 (36.5%) and CMV 2/148 (1.4%). 52/148 (35.1%) patients had been isolated 2 differential agents at a moment. Most patients have very low CD4+ count (80.4%  $\leq$  100cells/mm<sup>3</sup>; mean = 74.6; SD = 118.7; median = 22). The more common bacteria are: *Pseudomonas* (*Paeruginosa*, *P.putida*, *P.pneumotropica*) 15/59 (25.4%), *Streptococcus* (*S.pneumoniae*, *S.pyogene*) 11/59 (18.6%), *Acinobacter* (*Aci.baumani*, *Aci.juni*, *Aci.minimus*) 6/59 (10.2%), *E.coli* 3/59 (5.1%) and *S.aureus* 3/59 (5.1%). Other include: *H.influenza* 2/59 and each following spp have 1: *Achromobacter xylooxidans*, *K.pneumoniae*, *Enterobacter clocae*, *Moraxella catarhalis*, and *Rhodococcus equi*. Isolated fungal spp include: *Candida albicans* 32/54 (59.2%), *Penicillium marneffeii* 14/54 (25.9%), *Aspergillus* spp 4 (7.4%), *Candida* spp 3/54 (5.6%) and *Cryptococcus neoformans* 1/54 (1.9%). The common complex infections are MTB-Fungi (16 patients), MTB-Bacteria (14 patients) and Bacteria-Fungi (11patients).

**Conclusion** *Mycobacterium tuberculosis*, bacteria (*Paeruginosa*, *P.putida*, *P.pneumotropica*, *S.pneumoniae*, *S.pyogene*, and *Aci.baumani*) and fungi (*Candida albicans* and *Penicillium marneffeii*) are the more common in HIV/AIDS patients who have RTIs. Because of advanced immune depression, patients may have complex infections in a moment.

**P2.026 AUDIT OF ADHERENCE TO UK NATIONAL GUIDELINE FOR MANAGEMENT OF EPIDIDYMO-ORCHITIS**

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**Background** The UK guideline for epididymo-orchitis management makes recommendations about appropriate diagnostic tests, treatment regimes and health promotion principles. This audit compares our clinic's performance with reference to these guidelines.

**Methods** Case notes of patients diagnosed with epididymo-orchitis over seven months were reviewed. Details of sexual orientation, investigations, treatment and management were recorded.

**Results** There were 84 patients comprising 61(71.2%) heterosexual men, 22(26.2%) men who had sex with men (MSM), and 1(1.2%) bisexual man. Fifty one (60.7%) men had all four recommended microbiological investigations of gramme stained urethral smear, urethral swab for *N. gonorrhoeae* culture, first pass urine (FPU) for nucleic acid amplification tests for *N. gonorrhoeae* and *C. trachomatis*, and microscopy and culture of mid-stream urine (MSSU) for bacteria. Of the 84 patients, 81(96.4%) had 3 tests taken of urethral smear, swabs and FPU, but MSSU was only performed in 57(67.9%) men. Ten (11.9%) men were diagnosed with chlamydia and 3(3.6%) with gonorrhoea, and 82(97.6%) patients received appropriate antibiotic treatment according to the guidelines. Advice on rest, analgesia and scrotal support was poorly documented (9.5%; 9.5%; 8.3% respectively). Guidance about abstinence from sex and partner notification (PN) was documented in 65(77.4%) cases and explanation about the condition recorded in 54(64.3%) cases. A leaflet was offered in 3(3.6%) cases. Seventy six (90.5%) patients had a follow up appointment offered at 2 weeks but only 42(55.3%) patients attended. At the review, PN was completed for all patients. A written action plan was recorded in 100% of men with ongoing symptoms.