Introduction Penicillin is the treatment of choice for syphilis worldwide. Macrolides (e.g. azithromycin [AZM]) have been used as a convenient oral and cost-effective alternative for syphilis treatment in many countries globally. High prevalence of macrolide resistance, resulting in treatment failure for primary syphilis in USA, Europe and China has been attributed to an adenine (A) to guanine (G) transition in the 2058 or 2059 position of the Treponema pallidum 23S rRNA gene, resulting in target site alteration due to methylation. In 2014, AZM was added to the syndromic management guidelines for genital discharge in South Africa (SA). Individuals exposed to macrolides are twice as likely to have a resistant strain of T. pallidum within the next year. We sought to ascertain the prevalence of macrolide resistance-associated T. pallidum in genital ulcer disease (GUD) specimens from patients, presenting to nine primary health care facilities (PHCs) (one PHC per province) in SA, between 2008 and 2016.

Methods Swab samples from genital ulcers were collected from 2338 adult patients (>18 years of age) presenting to PHCs throughout SA. Macrolide resistance testing was done using established polymerase chain reaction (PCR) and restriction digest assays described by Lukehart et al., (2004) and Matejkova et al., (2009) on the G-Storm platforms (Vacutec). The resultant 628 base-pair (bp) fragment of the 23S rRNA gene was submitted to digestion with BsaI- and MboI-restriction enzymes to screen for the A2059G and A2058G mutations respectively. Amplicons with A2058G and A2059G mutations resulted in 2 distinct band sizes for each mutation. The SS14 strain (A2058G mutation), the A2059G (+) strain, and the wild-type Nichols strain were included as controls.

Results: T. pallidum was detected in 105/2,238 (4.7%) GUD specimens collected over a nine-year surveillance period. The A2058G mutation was detected in 4/105 (3.8%) specimens. The A2059G mutation was not identified. All specimens having macrolide resistance-associated mutations in T. pallidum were obtained in the years 2013 to 2016.

Conclusion This is the first report of macrolide resistance-associated mutations detected among T. pallidum in SA. Ongoing surveillance for AZM resistance is essential to inform future management guidelines.
professionals who were injured were not using gloves when administering medication, and 15.3% and 14.7%, respectively, did not do so in the procedures of blood collection and laboratory collection. Glove use during accident in surgical and dental procedures occurred in 96.7% and 95.3%, respectively. The outpatient discharge of the injured professionals occurred in 39.6% (49,557) after confirming a negative source for hepatitis B, C and HIV (human immunodeficiency virus), in 22.1% (27,674) after six months of follow-up without serological conversion and in 11.6% due to abandonment of follow-up. In this period there were no cases of conversion to HIV.

Conclusion Reporting accidents with biological material is a great monitoring tool. Inadequate disposal of needles is an important cause of accidents, and their frequency remains unchanged over the years. The accidents in procedures of realisation of blood test and recapping needles had a decrease. Much more can be done to prevent accidents and improve the follow-up of accidents.

CHLAMYDIA TRACHOMATIS: GEOGRAPHICAL VARIATION IN TEST PRACTICES OF GENERAL PRACTITIONERS, 2011–2015

Introduction Retesting Chlamydia trachomatis (CT) treated people after 3–12 months is recommended as it can yield substantial numbers of reinfections. A test-of-cure (TOC) shortly after treatment (within 3 months) is not advisable due to the likelihood of false positive findings leading to overtreatment. Spatial analyses are useful to detect geographical areas of low guideline adherence to inform local testing policies and targeted interventions. The aim was to assess geographical variation in test practices of general practitioners (GPs) in The Netherlands.

Methods Retrospective laboratory data containing CT tests of 48 GPs in 4 municipalities were obtained (2011–2015) from the public laboratory in the southern western part of the Netherlands (183 thousand residents). First recorded urogenital positive CT tests of men (n=249; 39.2%) and women (n=386;60.8%;)≥16 years between January 2011 and July 2015 were included in the analyses and TOC and retests were outcomes. Logistic regression was used for analyses.

Results Overall, 8,275 CT tests were performed (positivity 8.4%; n=691);only 0.4% (n=43) from extra genital sites. On a GP level, the number of CT tests varied geographically from 1 to 2421 (p<0.001). A TOC was performed in 19.1% of the CT cases (n=123;13.8% positive), TOC was more often performed in south Maastricht in comparison with the centre of Maastricht (p=0.02, OR 3.0,95% CI 1.23–7.33). A retest was performed in 23% of the CT cases (n=146;10.3% positive). The rate of retests non-significantly varied geographically between 6.3% and 30.2% p=0.33. Patients with a TOC were more likely to have a retest in comparison with cases without a TOC (p=0.02).

Conclusion Testing at extra genital sites and the overall proportion of retests was low at GP practices. Almost one out of five CT cases returned within three months, and many (re-)infections were probably missed. Moreover, it seems that there are geographical variations in test practices of GPs. Thus, targeted interventions at the local level are needed to increase CT testing and retesting practices of GPs.

P3.235 PARENTAL ACCEPTANCE OF HPV VACCINE IS HIGH AND BASED ON POOR KNOWLEDGE

Introduction Vaccination coverage levels of the National Immunisation Program (PNI) in Brazil ranges from 80% to 95%, suggesting that parental acceptance of these vaccines is high. In 2014, HPV vaccine was introduced in the PNI. We conducted a survey to estimate parental acceptance of HPV vaccine and its determinants.

Methods This was a random digit calling telephone survey performed in seven large cities from all five regions in Brazil. Eligible parents had to have one or more child less than 18 years old. We selected at least 100 subjects in each city. A standardised questionnaire was used to collect sociodemographic information and data on knowledge, attitudes and practices related to HPV vaccine, cervical cancer and HPV.

Results Overall 826 parents were included in the survey (73% response rate). Parental acceptance for vaccinating against HPV was similarly high for female or male children, 92.8% and 91.7%, respectively. It did not change significantly among the cities studied (range 86.3%–95.5%). Parents’s main reasons to give the HPV vaccine to their children were: “Vaccines are good/important”(85.6%), “Prevents cervical cancer”(6.6%), and “Vaccine is in the PNI”(3.3%). Only 0.7% reported “Prevents genital warts”. Among parents with girls eligible for HPV vaccination (10–14 years old) under the PNI (n=291), 71.4% had their daughters vaccinated.

Conclusion Parental acceptance of HPV vaccine is high (92% %), but a lower percentage results in actual vaccination. Moreover, the main reason to vaccinate is based on a vague assumption (“Vaccines are good/important”). Only few parents reported that HPV vaccination prevents cervical cancer. Parents whose vaccine acceptance is ill founded and based on poor knowledge are more vulnerable to change their mind when challenged by stress related mass reactions to HPV vaccine reported by the media or when facing false arguments against vaccination by anti-vax reports.

STUDY OF GENITAL CANCER AETIOLOGY: ASSOCIATION OF HUMAN PAPILLOMAVIRUS (HPV) AND MERKEL CELL POLYOMAVIRUS (MCPYV)

1Rocha WM, 2CF Bazz, 1A Afonso, 1NY Caristiato, 2BB Varand, 3SMB Cauacanti, 1Universidade Federal Fluminense – Instituto Biomédico – Laboratório de Diagnóstico Viroológico, Brazil; 2Universidade Federal do Rio de Janeiro – Departamento de Medicina Preventiva, Brazil

Introduction The aim was to study the association of HPV and MCPYV with genital cancer.

Methods A nested case-control study was conducted in Mauá, São Paulo State, Brazil. A random selection of 357 patients with genital cancer (173 cases, 184 controls) were enrolled.

Results The prevalence of HPV DNA was 85% (150/173) and 3.8% (7/184) in cases and controls, respectively. MCPYV DNA was 7% (12/173) and 0.5% (1/184) in cases and controls, respectively.

Conclusion The association of HPV and MCPYV with genital cancer is suggestive. Further studies are needed to confirm these findings.

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**Abstracts**

**Introduction** The genital infection by the HPV is among the most frequent sexually transmitted diseases (STD) worldwide, and it may result in lesions that can lead to the carcinogenesis of the genital tract. However, other factors may be associated with the onset or progression of the tissue malignancy process, such as the MCPyV, which may present oncogenic profile in the epithelial tissue. This study aims to investigate the presence of MCPyV and HPV in malignant lesions of the male and female genital tract, in order to contribute to the elucidation of the role of these viruses in the cellular malignancy process and to the epidemiological knowledge regarding the prevalence of both viruses in neoplastic lesions.

**Methods** This is a cross-sectional study evaluating the prevalence of HPV and MCPyV infection in samples of cervical carcinoma and penile cancer. To date, we have obtained 112 samples of penile carcinoma and 31 samples of cervical carcinoma. So, we aim to detect the presence of HPV DNA by the polymerase chain reaction (PCR) technique using the generic primers MY09/MY11; to genotype HPVs by specific PCR to the E6 gene; to detect and quantify DNA of the MCPyV by the Nested PCR technique and real-time PCR; to investigate the presence of truncation mutations in the major T antigen of MCPyV.

**Results** Results are partial. To date, all the male samples were analysed. We verified the presence of HPV in 54 (48.2%) of these samples, in which the most prevalent type was the HPV16 (66%). The cervical carcinoma samples are still under analysis.

**Conclusion** The collection of cervical neoplasia samples is still being performed. In 2015, our research group found a case of multiple infection by HPV, MCPyV and Epstein-Barr virus in a case of squamous cell carcinoma of the penis in Rio de Janeiro. This was the first report of the presence of MCPyV in this type of penile lesion. Thus, we look forward to find results that contribute to the presence of MCPyV in genital malignant lesions and to elucidate its role in the oncogenic pathway of malignant lesions.

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**P3.238 DIRECT DETECTION OF MOSAIC PENA IN CLINICAL SAMPLES CONTAINING NEISSERIA GONORRHOEAE**

1PFG Wolffs, 1BMW van der Veer, 1,2CPA Hoebe, 1,Dukers-Muijrers NHTM, 1,2van Alphen LB, 1RHM van Loo. 1Maastricht University Medical Centre, Care and Public Health Research Institute (CAPHRI), Maastricht, the Netherlands; 2Public Health Service South Limburg, Department of Sexual Health, Infectious Diseases and Environmental Health, Geleen, the Netherlands

**Introduction** Current surveillance of antibiotic resistance in Neisseria gonorrhoeae (NG) relies heavily on the culture of NG. However, culture of NG is challenging due to demanding nutritional and growth requirements of this micro-organism. As a result, surveillance data are limited to only cultured strains while of >50% of Dutch NG positive patients no NG is cultured (data from Dutch Gonococcal Surveillance Program). In this study we compared results from direct detection of mosaic penA with detection of cultured strains to investigate feasibility of direct molecular resistance surveillance.

**Methods** A convenience sample of 106 NG positive samples of which positive NG culture results were available (46 urine, 9 genital swabs, 35 anorectal swabs and 16 oropharyngeal swabs) were collected between 2013–2015. Presence of mosaic penA was determined by real-time PCR. All positive findings were confirmed with sequencing. MICs on cultured NG were determined using E-tests.

**Results** LOD determinations of the in-house mosaic penA PCR in comparison to routine NAAT (using COBAS 4800, Roche Diagnostics) showed that the mosaic penA assay was slightly less sensitive than the commercial NAAT. In samples with very low NG loads, mosaic penA detection might be false-negative. Of 106 NG positive samples, 11 samples showed the presence of mosaic penA (6 urine, 4 oropharyngeal and 1 anorectal swab). Of these 11 samples, NG isolates were re-cultured from 8 samples and all isolates contained the mosaic penA gene. MIC values for ceftriaxone varied between 0.016 and 0.094 mg/L and thus no reduced susceptibility was observed. Although cross-detection with mosaic penA from N. meningitidis is possible, no evidence of this was shown in this study.

**Conclusion** In conclusion, this study indicates that detection of mosaic penA directly from clinical samples is feasible and that results match detection of penA from clinical isolates obtained from these samples. Direct detection of antibiotic resistance genes would show an insight in resistance surveillance of strains that are not or cannot be cultured.

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**P3.238 SYphilis infection status and the associated factors among partners of syphilis-infected pregnant women in Shenzhen, China**

X. Wu, F. Yang, L. Lan, Y. Guan, C. Zhang, T. Feng. Shenzhen Centre for Chronic Disease Control, Shenzhen, China

**Introduction** The goal of this study is to investigate syphilis infection status among partners of syphilis-infected pregnant women, and to analyse the associated factors from the perspective of both pregnant women and their partners.

**Methods** This study was based on Shenzhen Program for Prevention of Mother-to-Child Transmission of Syphilis. Follow-up survey and contact tracing were conducted among syphilis-infected pregnant women diagnosed from 2008 to 2015. Both toludine red unheated serum test (TRUST) and treponema pallidum particle agglutination (TPPA) were applied to partners attending antenatal care clinics. Structural questionnaire was used to collect information. Binary logistic regression model was applied to analyse the factors associated with partners’ syphilis infection.

**Results** During the studied years, 6318 pregnant women were identified with syphilis infection and 5351 partners of these women visited the antenatal care clinics and took the serological testing. From the laboratory record and clinical examination results, 1148 partners were diagnosed with syphilis infection. The infection rate decreased from 26.23% in 2008 to 2015. Both toludine red unheated serum test (TRUST) and treponema pallidum particle agglutination (TPPA) were applied to partners attending antenatal care clinics. Structural questionnaire was used to collect information. Binary logistic regression model was applied to analyse the factors associated with partners’ syphilis infection.

**Conclusion** Syphilis infection rate among partners of syphilis-infected pregnant women is high. Pregnant women’s levels of TRUST titer and disease stage as well as partners’ sexual behaviours were important factors associated with partners’ syphilis infection. Partner notification and contact tracing is an important way to identify syphilis patients.