

project was denominated PW1 and LB1, and the group without participation in the MPPCS project was denominated PW2 and LB2. These groups were followed from beginning until the end of pregnancy. Were selected 5391 pregnant women (1781 of the PW1 and 3610 of the PW2), and 4044 LB (1376 of the LB1 and 2668 of the LB2). The statistical analyses were done by Chi-square test of Pearson with a 5% significance level.

**Results** The results showed that VT rates of syphilis were lower in the group where the partners have adhered to the MPPCS. The VT rate found were: 0.7% in LB1% and 1.5% in LB2 ( $p=0.04$ ). The syphilis rate found in the partners participating in the MPPCS was 1.3%. In the pregnant women, there was no association between the occurrence of syphilis between PW1 (1.6%) and PW2 (2.0%), with  $p=0.20$ . The main variable that have influenced partner's adherence rate in the MPPCS project was the commitment of the health care team, with some units presenting 98% of partner's adhesion and others with less than 20%.

**Conclusions** The adherence of partners in the MPPCS was very important in the identification and treatment of male-pregnant women with syphilis, and significantly reduced the TV rate of syphilis. The commitment of the health care team is the most important variable in the adherence of the partner to the MPPCS.

## Oral Presentation Session 5

### *Neisseria gonorrhoeae*

#### 005.1 AN ANALYSIS OF THE EFFICACY OF CLINICALLY RELEVANT NEW DUAL DRUG COMBINATIONS FOR TREATMENT OF MULTI- AND EXTENSIVELY-DRUG RESISTANT *NEISSERIA GONORRHOEAE*

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**Introduction** With the emerging potential crisis of untreatable gonorrhoea CDC and WHO have issued a call for new therapeutics options. Hence, this study was conducted to evaluate the *in vitro* efficacy of 21 dual antibiotic combinations of currently recommended as well as not in-use antibiotics, for treatment of multidrug resistant (MDR) and extensively drug resistant (XDR) *Neisseria gonorrhoeae* strains.

**Methods** Minimum inhibitory concentration (MIC) of 83 *N. gonorrhoeae* strains including 67 MDR and one XDR strain was determined by Etest for cefixime (IX), ceftriaxone (CRO), spectinomycin (SC), azithromycin (AZ), gentamicin (GM), moxifloxacin (MX) and ertapenem (ETP) alone and as 21 antimicrobial combinations by E-test fixed ratio method. Fractional inhibitory concentration index (FICI) was calculated for each combination and geometric means were determined. A FICI value of  $\leq 0.5$ ,  $>0.5$  to  $\leq 1.0$ ,  $>1.0$  to  $\leq 4.0$  and  $>4.0$  denotes synergistic, additive, indifferent and antagonistic effects respectively. Statistical significance was determined by Mann-Whitney's *U*-test.

**Results** The synergy/additive effect without any antagonism was observed in antimicrobial combinations of GM+ETP (34.9%/38.6%), MX+ETP (32.5%/36.2%), AZ+MX (20.5%/25.3%), IX+AZ (9.6%/13.3%) and CRO+AZ (4.8%/30.1%).

Geometric mean of FICI for these combinations was 0.57, 0.76, 0.91, 1.0 and 1.15 respectively. Mean MICs of GM+ETP, MX+ETP and AZ+MX was significantly ( $p$  value  $<0.0001$ ) less than that of the individual drugs. The combinations of SC+AZ, GM+MX, TX+GM and AZ+GM revealed 14.4%, 9.5%, 7.2% and 7.2% of antagonism with 0%, 8.4%, 15.7%, and 13.3% of synergistic effect respectively. No significant effects were observed with IX+SC, IX+MX, IX+ETP, TX+SC, TX+MX, TX+ETP, SC+GM, SC+MX, SC+ETP and AZ+ETP.

**Conclusion** The study highlights the higher efficacy of GM+ETP, MX+ETP and AZ+MX combinations for MDR and XDR strains than currently recommended CRO+AZ and IX+AZ combinations. In the context of no new classes of antibiotics available, this presents a glimmer of hope to clinical management of the superbug *N. gonorrhoeae*.

#### 005.2 PHARYNGEAL GONOCOCCAL INFECTION: SPONTANEOUS CLEARANCE AND PERSISTENCE AFTER TREATMENT

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**Introduction** Infection of *Neisseria gonorrhoeae* in the pharynx (pharyngeal Ng) is associated with gonococcal transmission and development of antimicrobial resistance. We aimed to assess determinants for: (1) spontaneous clearance and (2) persistence after treatment of pharyngeal Ng.

**Methods** At the sexually transmitted infections clinic Amsterdam, females-at-risk and men who have sex with men are routinely screened for pharyngeal Ng using an RNA-based nucleic acid amplification test (NAAT; Aptima Combo 2). A test-of-cure (TOC) 7 days after treatment is suggested for positive cases. We retrospectively examined medical records of pharyngeal Ng patients (January 2012–August 2015). To evaluate spontaneous clearance (sub-study 1), we included patients who had follow-up NAAT result prior to antibiotic treatment. To evaluate persistence after treatment (sub-study 2), we included patients who received 500 mg ceftriaxone intramuscular injection and returned for a TOC 7–28 days after treatment.

**Results** In sub-study 1, 1266 cases (median time between first consultation and follow-up of 10 days [interquartile range/IQR 7–14]) were included; spontaneous clearance was found in 139 (11.0%) and was associated with age  $>45$  years (vs 16–24 years) (aOR=1.96 [95% CI 1.06–3.60]), and with time from first consultation to follow-up (aOR=1.08 [1.06–1.10], per extra day). In sub-study 2, 781 cases (median time between first treatment and TOC of 8 days [IQR 7–12]) were included; persistence after treatment was found in 36 (4.6%), and was less likely among patients who received ceftriaxone in combination with other antibiotics (vs monotherapy) (aOR=0.36 [0.12–1.04]), and with longer time from treatment to TOC (aOR=0.74 [0.60–0.90], per extra day). In TOC 15–28 days after treatment, only 1/105 cases (1.0%) persisted.

**Conclusion** Spontaneous clearance of pharyngeal Ng is associated with later time of follow-up and higher age. Combining