(NG). Antimicrobial resistant (AMR) NG is a global public health concern, which may emerge de novo or be imported to the UK when individuals infected abroad have subsequent sexual partners at home. We investigated whether patients who reported sex outside the UK ('sex abroad') were more or less likely to be diagnosed with AMR NG.

**Methods** Logistic regression was used to model the association between reported recent sex abroad and susceptibility (DS) to ceftriaxone (MIC (mg/L)>0.015) and cefixime (0.125) and azithromycin AMR (>1) stratifying by sexual orientation (men who have sex with men (MSM) and heterosexual men and women) from isolates in England and Wales collected within the Gonococcal Resistance to Antimicrobials Surveillance Programme, 2004–2015.

**Results** Over 10% of MSM and heterosexuals reported sex abroad. Among heterosexuals, infection with a strain of NG with DS to ceftriaxone was associated with sex abroad after adjusting for potential confounders: ceftriaxone (DS prevalence, adjusted odds ratio (95% confidence interval)): 14%, 1.8 (1.3–2.3). Infection with NG DS/AMR to cefixime or azithromycin was not associated with reported sex abroad after adjusting for potential confounders: cefixime 4%, 1.6 (0.9–2.7); azithromycin 2%, 1.5 (0.7–3.3). For MSM, no association was found between infections with DS/AMR NG and sex abroad.

**Conclusion** In the UK, heterosexuals with NG infection who report sex abroad are at a higher risk of DS to ceftriaxone, suggesting that sex abroad might be a source of some AMR NG within heterosexual networks and highlighting the importance of condom use for travellers. In contrast, DS/AMR NG was not associated with sex abroad among MSM, which might reflect established AMR within MSM networks in the UK. Genetic comparison of these isolates using whole genome sequencing might further elucidate how AMR NG is imported and disseminated in the UK.

---

**Oral Presentation Session 6**

**Host-Pathogen Interactions and Vaginal/ Urethral Microbiota**

006.1 INVESTIGATING THE INTERACTION OF THE STEALTH PATHOGEN AND CAUSATIVE AGENT OF SYPHILIS, TREPONEMA PALLIDUM, WITH HUMAN PLATELETS

1Brigette Church, 2John R Webb, 3Caroline E Cameron. 1University of Victoria, Victoria, Canada; 2BC Cancer Agency, Victoria, Canada

10.1136/sextrans-2017-053264.30

**Introduction** Multidrug-resistant N. gonorrhoeae infections are a threat to public health. In November 2015, UCLA Health began routine gyrase A (gyrA) genotyping all N. gonorrhoeae positive specimens, and reporting genotype and treatment recommendations for wild-type infections. Physicians were educated about wild-type gyrA genotypes predicting ciprofloxacin susceptibility. In May 2016 we began sending electronic reminders to providers of genotype results and treatment recommendations.

**Methods** We reviewed records for all laboratory confirmed N. gonorrhoeae cases from January 1st 2015 - November 30th 2016. Infections in different anatomic sites were considered unique infections, while unique infections in a single patient on the same date were considered a case. Empiric therapy was defined as treatment within one day of specimen collection.

**Results** Among 381 patients (32% HIV infected) there were 411 cases and 459 anatomic site-specific N. gonorrhoeae infections. Of cases, 290 (71%) were treated non-empirically. The average time to treatment among non-empirically treated cases (n=256) was 5.2 days (SD 4 days). After November 2015, there were 319 infections: 131 (41%) were wild-type gyrA genotypes, 92 (29%) mutant, 92 indeterminate and 4 were not attempted. Of the 92 indeterminate results 68 (74%) were from the pharynx, compared to 24 (26%) from other sites (p-value<0.001). Among non-empirically treated cases, ceftriaxone was used in 119 (96%) of 124 before versus 132 (72%) of 184 after assay introduction (p-value<0.001). Among 59 non-empirically treated wild-type gyrA infections, 17 (29%) were treated with ciprofloxacin; 2 (9%) of 23 before electronic reminders began compared to 15 (50%) of 30 after (p-value<0.001), six cases had missing data. There was no ciprofloxacin use prior to assay implementation.

**Conclusion** A large health system successfully implemented routine N. gonorrhoeae gyrA genotyping with a reduction in ceftriaxone use. Targeted ciprofloxacin therapy increased with the use of electronic provider reminders.

---

**Oral Presentation Session 6**

**Host-Pathogen Interactions and Vaginal/ Urethral Microbiota**

005.6 THE IMPACT OF A RAPID GENOTYPIC NEISSERIA GONORRHOEAE ASSAY ON TARGETED CIPROFLOXACIN THERAPY

1Lao-Tzu Allan-Blitz, 2Rommy N Humphries, 3Prema Hemarajata, 4Ashima Bhatti, 4Jeffrey D Klausner. 1David Geffen School of Medicine, Ucla, Los Angeles, USA; 2CMH Los Angeles, USA; 3Fielding School of Public Health, University of California Los Angeles, Los Angeles, USA; 4Division of Infectious Diseases: Department of Medicine, University of California Los Angeles, Los Angeles, USA

10.1136/sextrans-2017-053264.29

**Introduction** Multidrug-resistant N. gonorrhoeae infections are a threat to public health. In November 2015, UCLA Health began routine gyrase A (gyrA) genotyping all N. gonorrhoeae positive specimens, and reporting genotype and treatment recommendations for wild-type infections. Physicians were educated about wild-type gyrA genotypes predicting ciprofloxacin susceptibility. In May 2016 we began sending electronic reminders to providers of genotype results and treatment recommendations.

**Methods** We reviewed records for all laboratory confirmed N. gonorrhoeae cases from January 1st 2015 - November 30th 2016. Infections in different anatomic sites were considered unique infections, while unique infections in a single patient on the same date were considered a case. Empiric therapy was defined as treatment within one day of specimen collection.

**Results** Among 381 patients (32% HIV infected) there were 411 cases and 459 anatomic site-specific N. gonorrhoeae infections. Of cases, 290 (71%) were treated non-empirically. The average time to treatment among non-empirically treated cases (n=256) was 5.2 days (SD 4 days). After November 2015, there were 319 infections: 131 (41%) were wild-type gyrA genotypes, 92 (29%) mutant, 92 indeterminate and 4 were not attempted. Of the 92 indeterminate results 68 (74%) were from the pharynx, compared to 24 (26%) from other sites (p-value<0.001). Among non-empirically treated cases, ceftriaxone was used in 119 (96%) of 124 before versus 132 (72%) of 184 after assay introduction (p-value<0.001). Among 59 non-empirically treated wild-type gyrA infections, 17 (29%) were treated with ciprofloxacin; 2 (9%) of 23 before electronic reminders began compared to 15 (50%) of 30 after (p-value<0.001), six cases had missing data. There was no ciprofloxacin use prior to assay implementation.

**Conclusion** A large health system successfully implemented routine N. gonorrhoeae gyrA genotyping with a reduction in ceftriaxone use. Targeted ciprofloxacin therapy increased with the use of electronic provider reminders.
Results *Treponema pallidum* binds both the rounded and spread morphologies of activated platelets via a polar tip structure, maintaining a firm tether under fluidic conditions. A lack of interaction between heat-killed *T. pallidum* and platelets confirmed specificity and identified heat-labile *T. pallidum* surface components as mediators of this interaction. Viability assays illustrated *T. pallidum* retained viability in platelet rich plasma for >3 days under these conditions.

**Conclusion** The demonstration in this study of (1) prolonged *T. pallidum* survival within human platelet rich plasma and (2) *T. pallidum*-platelet interactions indicates that platelets do not exhibit a direct antimicrobial effect on *T. pallidum* and that *T. pallidum* mediates a strong and specific interaction with human platelets. These findings may reveal a novel mechanism of host survival employed by this elusive pathogen.

**Introduction** *HSV2* initially infects the stratified squamous epithelium of the anogenital mucosa prior to entering nerve endings, resulting in lifelong latent infection of neurons in the dorsal root ganglia. We have recently reported that topical application of HSV-1 to the inner surface of human foreskin explants, simulating *in vivo* infection, infects epidermal Langerhans cells (LCs) which then emigrate into the dermis. Here they formed large cell clusters with dermal dendritic cells (DCs). HSV-expressing LC fragments were observed inside the dermal DCs/macrophages.

**Methods** To define the mechanism of this interaction, we isolated LCs and dermal DCs from large human abdominal skin specimens by flow sorting. LCs were infected with HSV2 and co-cultured with dermal DCs.

**Results** All infected LCs developed apoptosis and fragments of them were observed within the dermal DC cytoplasm. HSV-infected LCs expressed several chemokines as RNA and protein, with corresponding receptors expressed on dermal DC subsets. These DCs also expressed several phagocytic/apoptotic receptors for phosphatidylinerine. In genital herpes lesions the selective contact of CD8 T cells with one of three dermal DC subsets was observed. The distribution of CD4 T cells and contact with these DC subsets is eventually being studied.

**Conclusion** Thus, we conclude that a viral antigen relay takes place whereby HSV infected LCs undergo apoptosis and are taken up by dermal DCs by phagocytosis for subsequent antigen presentation, probably via different pathways for CD4 and CD8 T cells. As dendritic cells are key targets for the new generation of vaccine adjuvants these studies define potential cellular targets for mucosal vaccines.

**Introduction** *Bacterial* cytotoxic proteins, such as *vaginolysin* (VLY) produced by *Gardnerella vaginalis*, are thought to be virulence factors that in *vitro* alter cell integrity and local immunity. VLY may play a significant role in bacterial vaginosis (BV), therefore we assessed whether *G. vaginalis* dominant