

Disclosure No significant relationships.

**P622 THE USE OF SEEGENE'S ALLPLEX™MG & AZIR ASSAY FOR THE DETECTION OF MYCOPLASMA GENITALIUM AND MACROLIDE RESISTANCE IN WALES**

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**Background** *Mycoplasma genitalium* (Mgent) is a sexually transmitted bacteria, associated with cervicitis and pelvic inflammatory disease in women and non-gonococcal urethritis in men. These bacteria lack cell walls and many prokaryotic metabolic pathways, mediating inherent resistance to most antimicrobials. Furthermore, Mgent has garnered concern as the prevalence of both fluoroquinolone and macrolide resistance has increased significantly in recent years, further restricting possible therapeutic avenues. In January 2019, Public Health Wales deployed the Seegene Allplex™MG & AziR assay to determine the presence of MG and its susceptibility to macrolides from genitourinary samples. This kit is novel in its ability to not only detect MG, but also define which specific 23S rRNA gene macrolide-resistance mediating mutations (MRM) are present without requirement for sequencing.

**Methods** 170 clinical samples (collected Jan-March 2019) were investigated: 83 clinical samples submitted from symptomatic patients (suspected MG infections by BASHH guidelines) combined with 87 samples randomly selected from clinical samples submitted for Cobas gonorrhoea/chlamydia (NG/CT) testing (non-targeted). All samples were from patients attending a genitourinary medicine (GUM) clinic in South Wales. Samples were extracted and prepared using the Hamilton Microlab Nimbus, STARMag universal cartridge extraction kit and Allplex™MG & AziR assay. Amplification and detection were performed by a Bio-Rad CFX96 equipped with SeeGene interpretative software.

**Results** Mgent prevalence with suspected NG/CT patients was 5/87 (5.7%) with 4 (80%) containing MRM (2x A2058G and 2x A2059G), while prevalence within the Mgent-suspected group was 11/83 (13.3%) with 5 (45.5%) containing MRM (4x A2059G and 1x A2058G mutations). Further up-to-date cumulative data to be presented at IUSTI.

**Conclusion** Mgent prevalence was 5.7% in the non-targeted cohort, while targeted patients gave 13.3% prevalence for a South Wales GUM clinic. Macrolide resistance prevalence was 56% on average. These results justify the implementation of routine Mgent and macrolide resistance testing in South Wales, abiding by European and BASHH guidelines.

Disclosure No significant relationships.

**P623 POST-TRANSCRIPTIONAL REGULATION OF GENES BY NON-CODING RNA IN NEISSERIA GONORRHOEAE, AN OBLIGATE HUMAN PATHOGEN**

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**Background** Small non-coding RNAs (sRNAs) play an important role in bacterial gene expression and regulation. The

knowledge of sRNA in *Neisseria gonorrhoeae* is scarce despite of its clinical significance. We utilized the available RNA-seq data under aerobic and anaerobic condition to identify non-coding RNA. We further identified sRNAs which are differentially expressed under anaerobic condition and their mRNA targets.

**Methods** The normalized reads (RPKM) under aerobic and anaerobic conditions were compared and a three-fold or greater difference in the expression level of sRNAs was scored as differentially expressed sRNA. sRNA targets were found using online available tools (CoproRNA, targetRNA2). We further predicted the sRNA-mRNA interactions using intaRNA tool.

**Results** A total of 26 sRNAs were identified. Out of which, ten sRNAs were differentially expressed under anaerobic condition, physiologically important stage during infection. We further identified mRNA targets of these sRNAs based on deep sequencing of *N. gonorrhoeae* transcriptome under aerobic and anaerobic conditions. These results indicated that several sRNAs target genes that are involved in energy metabolism processes, stress response and various other networks.

**Conclusion** Our results provide new insights into the post-transcriptional regulation of genes by sRNAs in *Neisseria gonorrhoeae*.

Disclosure No significant relationships.

**P624 CULTURE FOR URETHRAL GONORRHEA FROM ASYMPTOMATIC MEN POSITIVE FOR NEISSERIA GONORRHOEAE BY URINE APTIMA COMBO 2 TESTING**

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**Background** In a previous study of men attending Melbourne Sexual Health Centre who had *N. gonorrhoeae* detected by urine Aptima Combo 2 (AC2) testing, 11% were asymptomatic, reporting no urethral symptoms. This study aimed to determine if *N. gonorrhoeae* can be cultured from asymptomatic men screening positive for *N. gonorrhoeae* by nucleic acid amplification testing (NAAT) of urine.

**Methods** Between 1 July 2017 and 30 September 2018, men reporting sex with men attending Melbourne Sexual Health Centre who did not report urethral symptoms were screened for *N. gonorrhoeae* by AC2 testing of urine. NAAT positive men were recalled and a urethral swab performed for gonococcal culture using modified Thayer Martin media with determination of minimum inhibitory concentrations (MICs) for penicillin, azithromycin, ceftriaxone and ciprofloxacin by agar dilution.

**Results** There were 612 cases (538 individuals) positive for *N. gonorrhoeae* by urine AC2: 548 (90%) reported urethral symptoms; 64 (10%) did not report symptoms. Thirteen asymptomatic cases were excluded because of antibiotic use at or following screening. Of the remaining 51 asymptomatic men, 25 (49%) had a urethral swab performed a median of 4 days after screening. Thirteen men had urethral discharge at the return visit, 7 of whom reported the discharge at the return visit. Of the 25 men who were swabbed, 18 (72%) were culture positive for *N. gonorrhoeae*. Among the 12 men who remained asymptomatic with no discharge at the return

visit, 7 were culture positive. MIC profiles were obtained from all isolates.

**Conclusion** Gonorrhoea was isolated in most asymptomatic men screening positive for *N. gonorrhoeae* by urine NAAT. Clinicians should consider culture in such men to ensure optimal surveillance for antimicrobial resistance. Isolation of *N. gonorrhoeae* in men without discharge indicates these are true infections with viable organisms.

**Disclosure** No significant relationships.

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#### TRENDS IN SYMPTOMATIC PRESENTATION AMONG REPORTED GONORRHEA CASES, STD SURVEILLANCE NETWORK (SSUN), 2010–2017

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**Background** Rates of reported gonorrhea cases have increased in recent years among all groups in the U.S. Expanded screening, particularly extragenital screening among men who have sex with men (MSM), results in increased case finding, complicating interpretation of reported case rates. Monitoring trends in symptomatic presentation through enhanced surveillance may provide insight into changes in case rates.

**Methods** Randomly sampled cases from 54 counties in 5 U.S. states 2010–2017 were interviewed; symptom status (patient report of ‘any STD symptoms’) and sex-of-sex partner(s) were elicited. Interviewed cases were weighted to be representative of all reported cases in participating jurisdictions. Proportion of cases presenting with symptoms and symptomatic rate per 100,000 were calculated, stratified by gender and sex-of-sex partners. Trends over time were evaluated by Cochran-Armitage and Pearson’s trend tests.

**Results** During 2010–2017, 21,006 cases were interviewed, representing over 500,000 reported cases. Symptom status was available for 97.1%; the estimated number of symptomatic cases increased 125.9% (30,883 to 69,772). The proportion of women and non-MSM males reporting symptoms increased by 15.3% (48.3% to 55.7%) and 11.5% (80.1% to 89.3%), respectively. Conversely, the proportion of MSM cases reporting symptoms decreased by 23.2% (72.5% to 55.7%). Relative increase in estimated symptomatic case rate from 2010 to 2017 was 82.8% among women (56.0 to 102.4 per 100,000), 82.8% among non-MSM males (67.0 to 122.5 per 100,000) and 185.9% among MSM (946.2 to 2705.2 per 100,000). All trends were significant at  $p < 0.05$ .

**Conclusion** Decreases in the proportion of MSM cases reporting symptoms suggests increased case rates among MSM are partially attributable to expanded screening. Yet a significant, increasing trend in the symptomatic case rate among MSM suggests a real increase in gonorrhea transmission. The proportion symptomatic and symptomatic case rates for non-MSM males and females are also rising, suggesting more transmissions in these groups as well.

**Disclosure** No significant relationships.

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#### NEISSERIA GONORRHOEAE AS AN UNRECOGNIZED CAUSE OF PRESEPTAL CELLULITIS

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**Background** Preseptal cellulitis is an infection of the anterior portion of the eyelid and can present with chemosis and eye pain. Preseptal cellulitis and conjunctivitis is a rare, sight threatening infection, is less common in adults, and is usually caused by *Streptococcus* or *Staphylococcus* species. *Neisseria gonorrhoea* rarely causes preseptal cellulitis with only four cases previously described.

**Methods** We describe a case of preseptal cellulitis caused by *Neisseria gonorrhoea*.

**Results: Case A** 43-year-old woman presented with progressive pain and swelling of her left eye, a low-grade fever and dysuria. On exam, she was afebrile, had significant mucopurulent discharge, eyelid erythema, and a normal cornea. A CT scan of the orbit showed left periorbital preseptal soft tissue swelling. A nucleic acid amplification test (NAAT) for *Neisseria gonorrhoea* was positive in both the left eye swab and a urine specimen. Bacterial cultures from swabs from the eye were also positive for *Neisseria gonorrhoea*. She initially received intravenous (IV) cefepime, vancomycin, piperacillin/tazobactam that were subsequently changed to ceftriaxone, daptomycin and one dose of oral azithromycin. She completed a course of IV ceftriaxone daily for 4 days and 6 additional days of oral cefixime, tobramycin eye drops, and trimethoprim-sulfamethoxazole. She had significant clinical improvement within 3 days and her eye healed well.

**Conclusion** Clinicians must consider *N. gonorrhoea* infection in patients presenting with acute, unilateral, mucopurulent conjunctivitis and preseptal cellulitis. Rapid diagnosis is critical and we demonstrate the utility of NAAT on an eye specimen. Contact isolation precautions are encouraged, as there is evidence of transmission through fomites and contaminated hands. Treatment data are limited, but we recommend at least 3 days of IV ceftriaxone in combination with azithromycin before transitioning to oral antibiotics based on susceptibilities. In the era of antibiotic resistant gonorrhea, clinicians must be vigilant to ensure appropriate antibiotic treatment of this severe eye infection.

**Disclosure** No significant relationships.