antigens using immunoblot and immunoprecipitation experiments.

Results Although vaccination with WT dOMVs significantly enhanced gonococcal clearance relative to adjuvant-only controls, vaccination with ΔABR dOMVs resulted in clearance of a higher percentage of mice relative to WT dOMV-vaccinated mice one week post-immunization. Higher levels of clearance in ΔABR dOMV-immunized mice correlated with significantly increased vaginal IgA titers and enhanced immunogenicity of unique meningococcal protein antigens.

Conclusion Immunization with meningococcal dOMVs deleted for PorA, PorB, and RmpM promotes gonococcal clearance in a murine model. Deletion of the major porins likely enhances immunogenicity of proteins that are less abundant on the meningococcal surface but exhibit a high degree of homology with corresponding gonococcal proteins, suggesting the potential utility of these dOMVs as a broadly cross-protective Neisseria vaccine.

Disclosure No significant relationships.

002 – EXTRAGENITAL BACTERIAL STIS: EPIDEMIOLOGY, NATURAL HISTORY, TESTING AND ANTIMICROBIAL RESISTANCE

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10:45 AM – 12:15 PM

WHAT IS THE OPTIMAL TESTING STRATEGY FOR OROPHARYNGEAL NEISSERIA GONORRHOEA IN WOMEN VISITING STI CLINICS?

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Background Oropharyngeal Neisseria gonorrhoeae (N. gonorrhoeae) is not routinely tested for in women visiting Dutch STI clinics. It is hypothesized that many oropharyngeal N. gonorrhoeae infections remain undetected due to its asymptomatic nature, creating a reservoir for ongoing transmission and drug resistance. It is yet unknown what the optimal testing policy is for women, as data on universal screening are missing.

Methods Surveillance data 2008–2017 from all Dutch STI clinics were used (n=546,246 consultations). Oropharyngeal testing policy was defined as (1) universal screening, that is >85% of consultations included oropharyngeal testing per clinic per year, (2) selective testing (<85% tested) or (3) incidental testing (0.1–5% tested). The proportion infections missed using selective testing was calculated by extrapolating N. gonorrhoeae positivity found by routine universal screening. Independent risk factors for oropharyngeal N. gonorrhoeae were assessed among women routinely universally screened between 2016–2017 using backward multivariable logistic regression analyses.

Results Routine universal screening was used in 11% (n=57,359) of consultations, selective testing in 81% (n=444,283) and incidental testing in 8% (n=44,108). Oropharyngeal N. gonorrhoeae positivity was comparable between universal and selective; 1.4% (95%CI 1.3–1.5; n=703), 1.4% (95%CI 1.3–1.3; n=1858; P=0.68), and higher in incidental 2.8% (95%CI 1.9–3.9; n=30; P<0.01). Selective testing missed 89% (n=5,517) of oropharyngeal infections (95%CI 88–90%). The proportion oropharyngeal-only was 47% in routine universal screening and 52% in selective testing. Independent risk factors were being notified for any STI (OR1.3,95%CI 1.03–1.5), concurrent urogenital N. gonorrhoeae (OR80.0,95%CI 59.0–108.4) and commercial sex work (OR4.1,95%CI 2.8–5.9). When using the risk factors except urogenital N. gonorrhoeae as testing indicators, 27.8% (n=5,418) of all women would be tested, finding 55.6% (n=119) of infections.

Conclusion Selective testing potentially misses almost 90% of oropharyngeal N. gonorrhoeae in women, of which almost half were oropharyngeal-only infections. Using two risk factors as testing indicators, half of all oropharyngeal N. gonorrhoeae infections would be detected by testing almost one-third of women. This seems like a valid and minimal testing strategy for women, as is advocated in the Dutch STI-guidelines.

Disclosure No significant relationships.

OROPHARYNGEAL AND GENITAL GONORRHOEA AMONG HETEROSEXUALS WHO REPORT SEXUAL CONTACT WITH PARTNERS WITH GONORRHOEA

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Background Recent evidence has shown that the oropharynx may be the primary driver for gonorrhoea transmission among men who have sex with men, but there have been very limited studies on heterosexuals due to lack of routine screening of oropharyngeal gonorrhoea. The aim of this study was to examine oropharyngeal gonorrhoea positivity among heterosexuals reporting contact with sexual partners with gonorrhoea.

Methods At the Melbourne Sexual Health Centre, all heterosexual individuals reporting contact with sexual partners with gonorrhoea are tested for genital gonorrhoea. In May-2017, MSHC also included screening for oropharyngeal gonorrhoea in heterosexuals reporting sexual contact with partners with gonorrhoea. All contacts of gonorrhoea cases among heterosexuals between May-2017 and November-2018 were
Antimicrobial resistance in pharyngeal Neisseria gonorrhoeae infection: a cross-sectional study in men who have sex with men

Background Pharyngeal Neisseria gonorrhoeae (NG) infections are common among men who report sex with men (MSM). The pharynx is an important anatomic reservoir for the development of antimicrobial resistance due to the potential for exchange of genetic material between NG and other commensals of this niche, including other Neisseria species. We investigated whether there was an association between pharyngeal infection and reduced susceptibility (RS) or resistance to antimicrobials used to treat NG compared to genital and rectal infection.

Methods Logistic regression of odds ratios (OR) was used to model the association between the anatomical site of infection and RS or resistance to azithromycin, ceftriaxone, cefixime and ciprofloxacin using isolates from MSM in England and Wales collected within the Gonococcal Resistance to Antimicrobials Surveillance Programme (GRASP), 2012–2017.

Results Among 5,448 isolates from MSM, 729 (13.4%) were pharyngeal, 2,365 (43.4%) were rectal and 2,354 (43.2%) were genital samples. Pharyngeal infections were more likely to be associated with azithromycin resistance (minimum inhibitory concentration (MIC) >0.5 mg/L (adjusted OR (aOR) 1.62, 95%CI:1.13–2.31, P<0.001) and RS to ceftriaxone (MIC ≥0.015 mg/L (aOR 1.25, 95%CI:1.03–1.52, P=0.023) compared to genital infections. Pharyngeal infections were also more likely to be associated with azithromycin resistance (aOR 1.49, 95%CI:1.06–2.11, P<0.001) and RS to ceftriaxone (aOR 1.21, 95%CI:1.00–1.47, P=0.045) compared to rectal infections. No significant association was found between site of infection and cefixime or ciprofloxacin resistance.

Conclusion Pharyngeal NG infection among MSM are more likely to be RS to ceftriaxone and resistant to azithromycin compared to rectal and genital infections. Poor pharyngeal tissue drug penetration may lead to persistent infections, which would provide more time for exchange of genetic material that confer AMR. This highlights the importance of extra-genital testing and antimicrobial susceptibility testing in this population, to reduce the risk of treatment failure and onward transmission of resistant strains.

Disclosure No significant relationships.