P602

MOLECULAR SCREENING & AMP: QUANTIFICATION OF MYCOPLASMA GENITALIUM IN INFERTILITY PATIENTS

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Background *N. gonorrhoeae* and *C. trachomatis* are the predominant agents causing infertility. However, role of *M. genitalium* and *U. urealyticum* remain to be addressed. In addition, the association of load of these organisms with infertility is still not clear. The aim of the study was to screening and quantification of *M. genitalium*, *Ureaplasma* sp. *N. gonorrhoeae* and *C. trachomatis* in an infertile patients.

Methods A total of 248 women (98 infertile patients and 150 healthy control) who attended the infertility clinic and antenatal clinic of gynaecology department, were recruited in the study. Endocervical swabs (ECS) were collected from both group based on inclusion and exclusion criteria. For analytical sensitivity of uniplex real-time PCR (qPCR), targeted regions of reference strains were cloned in pGEMT Easy vector and transformed to JM109 *E. coli* cells. Cloned plasmid DNA were 10-fold diluted to determine the limit of detection for each organism and all clinical samples were tested and quantified.

Results Of 98 infertile patients, *M. genitalium* and *U. parvum*, *C. trachomatis*, *N. gonorrhoeae*, were detected in 7 (7.1%) and 42 (32.8%), 15 (15.3%), 8 (8.1%), respectively. Of 98 patients, 43.8% (43/98) had single infection and 19.3% (19/98) had mixed infection. *U. parvum* was the only detected organism in healthy control (30.7%). Our findings also suggest bacterial load of two classical agents (*C. trachomatis* and *N. gonorrhoeae*) and *M. genitalium* was not significantly associated with infertile patients. However, we observed *U. parvum* load was high in healthy control than in infertile patients but not was not stastically significant.

Conclusion In addition to traditional agents which causes infertility (*C. trachomatis* and *N. gonorrhoeae*), *M. genitalium* is also important cause and should be looked for in infertility cases though organism load was not found to be significantly associated with infertility. More studies are needed particularly in developing countries to study such associations.

Disclosure No significant relationships.

P603

ESTIMATING POPULATION BURDEN OF PELVIC INFLAMMATORY DISEASE DUE TO MYCOPLASMA GENITALIUM IN ENGLAND: AN EVIDENCE SYNTHESIS

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Background Increasing evidence indicates that *Mycoplasma genitalium* (Mgen) is a sexually-transmitted infection that can lead to pelvic inflammatory disease (PID) and possibly infertility. Resistance to azithromycin, which has been the first-line treatment, has been widely reported. To develop optimal testing and treatment guidelines, it is necessary to understand the

natural history of Mgen and the burden of associated disease. Several observational studies have provided valuable data, but no study has synthesized the available evidence to estimate the population burden of Mgen-associated disease.

Methods The POPI study was a chlamydia screening trial recruiting sexually active female students aged ≤ 27 years in London, 2004–2006. Women provided vaginal samples at baseline and follow-up, and were assessed for one-year incidence of PID by genitourinary doctors using participant questionnaires and medical records. Mgen infections were identified retrospectively from stored samples, using NAATs. We used the published data on Mgen prevalence, persistence of infection over median 16 (range 12–21) months' follow-up, and one-year incidence of PID in women infected or not infected with Mgen at enrollment. We conducted a Bayesian evidence synthesis using a simple (Susceptible-Infected-Susceptible) mathematical model of infection, with uninformative priors on all parameters.

Results In the POPI trial, 6.26% (1.82, 15.11)% (posterior median; 95% credible interval) of Mgen infections led to PID. We estimate that there were 1.96 (0.16, 6.27) new Mgen-related PID cases per 1000 women per year, and a total of 6728 (537, 21547) cases per year in 16–27-year-old English women. 10.8% (0.9, 33.0)% of the current burden of PID is caused by Mgen infection.

Conclusion Our model synthesises different types of data to understand the burden of Mgen infection and PID. Further data will be included to increase the precision of estimates, which are currently subject to wide uncertainty. We recommend studies in men, with urethritis as the disease outcome, which could be analysed with a similar model.

Disclosure No significant relationships.

P604

PLATFORM-AGNOSTIC REAGENTS FOR DETECTION OF MYCOPLASMA GENITALIUM

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Background *Mycoplasma genitalium* (MG), an STI of renewed interest, is associated with urethritis in men and cervicitis in women. Epidemiologic studies of MG infection outcomes have been limited by diagnostic capabilities. Recent molecular technologies have been applied to detection of MG-specific nucleic acid sequences. Use of commercially available assays leads to comparability across studies if the performance characteristics of these assays are known. The Aptima MG assay is available in some settings but requires access to assay-specific instrumentation. BioGX (Birmingham AL, USA) offers a custom lyophilized reagent for MG detection that is platform-agnostic and can be used in many clinical diagnostic settings. We compared the performance of the BioGX reagents to the Aptima MG (AMG) assay using specimens collected in support of a study of infertility in Cameroon.

Methods Vaginal samples were collected using Dacron swabs and stored in M4 transport medium. 200 μ L of M4 was loaded into an AMG transport tube or a BD MAX SBT