Conclusion Women with a history of testing for an STI are at significantly higher risk of not having a pregnancy and reporting a higher use of ART, suggesting that STI testing and a positive CT or NG test result is associated with adverse reproductive health outcomes.
Disclosure No significant relationships.

P479 IMMUNOPROFILING OF *CHLAMYDIA TRACHOMATIS* COMBINING WHOLE-PROTEOME MICROARRAYS AND HIGH-THROUGHPUT MULTIPLEX SEROLOGY

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Background Chronic infections with *Chlamydia trachomatis* (Ct) can give rise to sequelae that include pelvic inflammatory disease (PID), chronic pelvic pain (CPP), ectopic pregnancy (EP) and tubal factor infertility (TFI), and may contribute to cervical and ovarian cancer development in women. The humoral immune system of an infected individual recognizes and responds to different Ct antigens by eliciting a variety of antibodies. Based on differential protein expression, antibody patterns may represent infection-specific phases of the chlamydial life cycle or disease-specific stages. The selection of potential antigens for the development of serological assays is usually based on prior knowledge about antigenic properties and thus restricted to few selected proteins.
Methods To overcome this bias, we have developed a novel method to generate Ct whole-proteome microarrays directly from bacterial genomic DNA using a combination of multiple spotting technique and cell-free, on-chip protein expression based on expression constructs generated by two successive PCRs. Based on e.g. case-control comparisons, informative antigens are identified and validated in sero-epidemiological studies using low-density, high-throughput Luminex-based multiplex suspension array technology.
Results Establishment of the method for Ct serovar D with 895 open reading frames (ORFs) yielded several novel infection markers, and revealed an association between specific Ct antibodies and the development of cervical carcinoma (adjusted odds ratio (OR) 3.9, 95% confidence interval (CI) 1.8–8.3 for CT_117, and OR 3.1, 95% CI 1.3–7.1 for CT_223).
Conclusion Following this initial screening we aim to identify Ct antigens associated with PID, EP, TFI and ovarian cancer as well as antibody responses associated with protection from Ct re-infection. The newly developed technique for generation of fast and efficient proteome immunoassays can easily be adapted to other complex microorganisms, not only in the field of sexually transmitted infections but in all areas of infection research.
Disclosure No significant relationships.

P480 ENHANCED PREVALENCE OF *CHLAMYDIA TRACHOMATIS* DNA IN CLINICAL SAMPLES OF PATIENTS WITH STIS CO-INFECTION

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Background *Chlamydia trachomatis* (CT) is one of the most commonly diagnosed asymptomatic bacterial cause among sexually transmitted infection (STI) worldwide. We assessed the prevalence of CT in random STI patients to evaluate the presence of CT as either a single infection or in co-infection with other STI.
Methods A total of 422 urogenital samples were collected from patients who attended the Diagnostic Centre in Saratov Region to be tested for specific DNA of CT and other STIs (*Neisseria gonorrhoeae/Trichomonas vaginalis/Mycoplasma hominis/Mycoplasma genitalium/Human papillomavirus* (HPV 16/18)/*Cytomegalovirus/Herpes simplex virus* (HSV 1/2)/*Candida albicans/Gardnerella vaginalis/Ureaplasma species*. Each clinical sample was carefully screened with the use of commercial kits, either as conventional PCR targeting CT plasmid, or real-time multiplex set (Vector-Best, Russia) validated further by additional confirmatory PCR for the CT-positive samples.
Results CT was detected in 17/194 (4,02%) patients who were screened only for the presence of CT DNA (194/422, 45,97%). However, when all 422 patients were systematically screened for CT, along with all other STIs, CT infections were significantly higher (about 4-fold larger) in the patients with other STIs (70/422, 16.58%). Moreover, 56/70 (80%) CT DNA samples were successfully genotyped as CT genovars: E (50%), G (21,42%), D (17,85%), J (5,35%) and K (3,57%).
Conclusion Chlamydial asymptomatic infection cases can be frequently masked by clinical symptoms of other STIs. Diagnostic testing for multiple STIs should provide a broader diagnostic coverage for asymptomatic CT patients in order to improve significantly CT early detection, prevention of transmission, and treatment strategies.
Disclosure No significant relationships.

P481 PATIENTS WITH REPEAT *CHLAMYDIA TRACHOMATIS* AND *NEISSERIA GONORRHOEAE* ARE DIFFERENT COMPARED TO THOSE WITH SINGLE INFECTIONS

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Background Recently it was proposed that patients repeatedly infected with *Chlamydia trachomatis*(CT) or *Neisseria gonorrhoeae*(NG), so called core groups, likely have high impact on