E0209 **Genital tract pathogens isolated from infertile women and possible impact on in vitro fertilization**

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Background: Assisted reproductive techniques such as *in vitro* fertilization (IVF) are increasingly being used worldwide, and screening for different genital tract pathogens is recommended before undergoing treatment since their presence could affect the success rates of an IVF programme. We aimed to study the prevalence of sexually transmitted pathogens and their possible association with successful or failed IVF, if any, in a group of infertile women undergoing IVF.

Materials/methods: We included 111 infertile women enrolled in an IVF programme and 104 fertile women, presenting for microbiological screening of their vaginal and cervical samples. All samples were cultured for aerobic pathogens and examined through wet mount and Gram staining, to identify *Trichomonas vaginalis*, fungi and clue cells as well as to further diagnose bacterial vaginosis using Amsel and Nugent criteria. The identification of pathogens was accomplished with the automated system VITEK2 (BioMerieux, Marcy l'Etoile, France). Furthermore, *Ureaplasma urealyticum* and *Mycoplasma hominis* were identified with the *Mycoplasma* IST2 (BioMerieux, Marcy l'Etoile, France), *Chlamydia trachomatis* with the COBAS AMPLICOR *Chlamydia trachomatis* test (Roche Diagnostics, Indianapolis, USA) and *Human Papilloma Virus* (HPV) with the LINEAR ARRAY HPV Genotyping test (Roche Diagnostics, Indianapolis, USA).

Results: Although both groups were comparable in age, more infertile women were over 30 years old (p=0.0064), had a higher education level (p=0.0001) and were smokers (p=0.007). Bacterial vaginosis was more often diagnosed in infertile women (p=0.0013). Out of the 111 infertile women who were scheduled for IVF, 32 had a successful pregnancy in contrast to the remaining 79 who failed to have a successful pregnancy. Tubal factor [RR=1.32; 95% CI (1.064–1.649); p=0.012], E_2 levels <2500pg/mL [RR=1.78; 95% CI (1.265–2.501); p=0.0009] and infection by genital mycoplasmas [RR=1.36; 95% CI (1.110–1.660); p=0.003] were found to be the strongest predictors for IVF failure.

Conclusions: This study has determined an increased prevalence of bacterial vaginosis in infertile women, suggesting that this clinical entity might negatively affect the delicate environment required for successful embryo implantation. Further studies are warranted to confirm if implantation rates would improve by treating women for these factors before enrolling in an IVF programme.