Type: Poster Presentation

Sexually transmitted infections and infertility in Rwanda: Diagnostic significance of IgG and IgA antibodies testing

C.M. Muvunyi [1,*], N. Dhont [2], G. Cleays [2], E. Padalko [2], F. Masaisa [3]

[1] National Reference Laboratory, Kigali, Rwanda
[2] Ghent University, Ghent, Belgium
[3] University of Rwanda, Huye, Rwanda

Background: In many developing countries, little is known about the prevalence of genital Chlamydia trachomatis infections and complications, such as infertility, thus preventing any policy from being formulated regarding screening for C. trachomatis of patients at risk for infertility. The objective of the present study was to determine the prevalence of C. trachomatis and evaluate the diagnostic utility of serological markers namely anti-*C. trachomatis* IgG and IgA antibodies in women attending an infertility clinic.

Methods & Materials: Two commercial species-specific ELISA to determine serum IgG and IgA antibodies to C. trachomatis, PCR on vaginal swabs specimens and Hysterosalpingography (HSG) was performed on Serum and vaginal swab specimens of 303 women presenting with infertility to the infertility clinic of the Kigali University Teaching Hospital and 312 fertile controls in subfertile women.

Results: The prevalence of C. trachomatis infection by PCR and serological test (IgG and IgA) were relatively low in both subfertile and fertile women and no significant differences in overall prevalence rates of C. trachomatis among both groups were observed. The only factor associated with C. trachomatis infection in our study population was age 25 years. Evidence of tubal pathology identified by HSG was found in 185 patients in the subfertile group (67.8%). All the serological markers measured in this study had very low sensitivities and negative predictive values in predicting tubal pathology. The specificities for ANILabsystems IgG, Vircell IgG, Anilabsystem IgA and positive C. trachomatis DNA to predict tubal pathology were 84, 86, 95 and 98%, respectively, whereas their respective positive predictive values were 73, 76, 81 and 80%.

Conclusion: The prevalence of C. trachomatis in our study population in Rwanda appears to be low and women aged 25 years are more likely to have genital infection with C. trachomatis. Since serological testing for Chlamydia shows an excellent negative predictive value for lower genital tract infection, specific peptide-based serological assays may be of use for screening in low prevalence settings. Our data suggest that C. trachomatis is not the primary pathogen responsible for tubal pathology in Rwandan women.

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Bacterial vaginosis and vaginal microorganisms in pregnant women with a history of adverse pregnancy outcomes at Dr George Mukhari Academic Hospital, Pretoria, South Africa

R.M.M. Ditsele [1,*], M. Le Roux [2], K. Matebane [1], M. Nchabeleng [1], S. Monokoane [1]

[1] University of Limpopo, Medunsa, South Africa
[2] University of Limpopo, Pretoria, South Africa

Background: Genitourinary tract infections can cause preterm delivery. Gonococcal cervicitis and bacterial vaginosis are strongly associated with preterm delivery. The role of *Chlamydia trachomatis* and *Trichomonasvaginalis* is less clear. This study was done to determine and compare the prevalence of BV and vaginal microorganisms in pregnant women with and without a history of adverse pregnancy outcomes in a tertiary hospital in Pretoria, South Africa.

Methods & Materials: Vaginal specimens were collected from 100 consenting pregnant women attending the ante-natal clinic of the Dr George Mukhari Academic Hospital in Pretoria, South Africa. Of these, 50 had a history of adverse pregnancy outcomes. BV was detected by Nugent scoring of Gram stained smears, as well as PCR targeting *Atopobiumvaginae* and *Gardnerellavaginalis*. *Neisseria gonorrhoeae* and *Chlamydia trachomatis* were detected by realtime PCR and *Trichomonasvaginalis* by standard PCR.

Results: The mean ages of the women with and without a poor obstetric history were 29.38 and 27.02 years respectively, gravity was 3.56 vs 2.04 and parity 2.00 vs 1.06. The overall presence of BV was high (49%), but there was no significant difference between the two groups (46% in those with and 51% in those without a bad obstetric history). *T. vaginalis* was seen significantly more in women with a history of adverse pregnancy outcomes (22% vs 6%). *N. gonorrhoeae* and *C. trachomatis* were seen equally in both groups (2% and 6% respectively).

Conclusion: Sexually transmitted infections, especially BV were frequently detected in these women. There were no significant differences in the detection of BV, gonorrhoea or chlamydia among women with and without a risk of poor obstetric outcome. *Trichomonasvaginalis* was detected significantly more in the high risk group. By diagnosing and treating genitourinary infections the risk of adverse pregnancy outcomes can be decreased.