Association of serum *Chlamydia trachomatis* antibodies in patients with tubal factor infertility at the gynaecological clinic, Lasuth: A case control study

Tawakkalt Olawepo
Lagos State University Teaching Hospital, Nigeria

*Chlamydia trachomatis* infection is the most common cause of tubal infertility among women worldwide. Tubal factor infertility is more common in Africa compared to the rest of the world. The aim of this study is to determine the prevalence of serum *Chlamydia* antibodies in patients with tubal factor infertility diagnosed by HSG compared to patients with non-tubal factor infertility and correlate the relation between tubal factor infertility and *Chlamydia* antibodies. This was a prospective case control study involving 147 patients with tubal infertility and 147 patients with non-tubal infertility as controls being managed for infertility at the gynaecological clinic, LASUTH between June and December 2016. A semi-structured interviewer administered questionnaire containing socio-demographic and clinical characteristics was administered following informed consent. Five milliliters of venous blood was taken from each participant and tested for lymphogranuloma Venerum (LGV) type 2 broadly reacting antigen of *Chlamydia trachomatis*. Data gathered from the questionnaires and laboratory were imputed into the computer and analyzed using the SPSS, version 23.0 (Chicago, IL, USA). Frequency tables were generated for continuous variables and chi-square analysis was used to determine association between variables, with p values <0.05 considered to be statistically significant. A total of 294 women were studied with 147 in each study group. The prevalence of serum *Chlamydia* antibodies in both groups was 48%. The sensitivity of *Chlamydia* serology was 70.1% and specificity was 74.1%. Bilateral tubal blockage diagnosed with HSG in this study was significantly associated with positive *Chlamydia* Ig G index (p < 0.001). Tubal blockage, history of induced abortion and secondary infertility were significantly associated with positive *Chlamydia* index. Logistic regression revealed that women with tubal blockage had a six fold chance of having positive *Chlamydia* Ig G antibodies. The prevalence of chronic *Chlamydia* infection is high amongst infertile women with tubal factor infertility and it moderately predicts tubal blockage diagnosed by HSG. It could be adopted as a screening method for tubal blockage before invasive diagnostic procedures for assessing tubal patency are carried out.

botawakkalt@yahoo.com

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