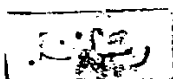


**Polymerase Chain Reaction (PCR),
a novel technique for screening of
chlamydial infection in cases of
Pelvic Inflammatory Disease (PID),
comparative methodological study**



**Thesis
Submitted To
Faculty of Science
Ain Shams University**

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Science in Biochemistry**

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DEDICATED TO
MY MOTHER
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THE MEMORY OF
MY FATHER
AND
MY HUSBAND AND SON

I declare that this thesis has been composed by myself
and the work of which it is a record has been done by
myself. It has not been submitted for a degree at this
or any other university

Odette Wahba Hindy

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Abstract

Abstract

Odette Wahba Hindy : Polymerase Chain Reaction (PCR). A novel technique for the screening of chlamydial infection in cases of Pelvic Inflammatory Disease (PID), comparative methodological study.

This study was undertaken to screen for *Chlamydia trachomatis* infection as a possible cause of Pelvic Inflammatory Disease (PID), in 50 female patients using a novel DNA amplification technique "Polymerase Chain Reaction (PCR)" with comparative methodological study by using two other laboratory techniques viz, ELISA *Chlamydia trachomatis* IgG antibodies in patient's sera, and *Chlamydia trachomatis* antigen detection on cervical swabs by Clearview test.

The positive qualitative detection of *Chlamydia trachomatis* in tested patients with clinically diagnosed PID, using PCR, Clearview and ELISA methods were 36%, 50% and 28% respectively. Sensitivity and specificity of the three methods were 95.24% & 100% in PCR & 83.33% & 68.75% in Clearview and 50% & 84.38% in ELISA. The predictive values (PV^+ & PV^-) of Clearview test were 60% & 88% respectively and in ELISA they were 64.29% & 75% respectively. Finally with the calculation of Likelihood ratio (LR^+ & LR^-) were in the following pattern: for PCR, 7.2 & 2.1; Clearview, 2.70 & 4.12 and ELISA, 3.2 & 1.7.

Conclusion : Polymerase Chain Reaction (PCR) technique is the most specific and sensitive method when compared with the two other methods "Clearview and ELISA", for detection of *Chlamydia trachomatis*. Although PCR technique is rather expensive and required skilled personnel to be carried out, its specificity and sensitivity and accuracy in laboratory diagnosis of *Chlamydia trachomatis* infection outweigh these factors.

