COMPARISON OF CULTURE WITH POLYMERASE CHAIN REACTION FOR DETECTION OF *UREAPLASMA UREALYTICUM* IN ENDOCERVICAL SPECIMENS

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ABSTRACT

Background: *Ureaplasma urealyticum* is known as a sexually transmitted agent, causing mainly urethritis, pelvic inflammatory disease, spontaneous abortion, pyelonephritis, infertility, stillbirth, low birth weight, neonatal meningititis, and neonatal pneumonia. *U. urealyticum* infections not only jeopardize fertility but also pose a risk for infertility treatment and resulting pregnancies. Diagnosis of *U. urealyticum* infections by bacterial conventional methods is very difficult. The aim of this study was to compare culture with polymerase chain reaction (PCR) to determine the prevalence of *U. urealyticum* in endocervical specimens from infertile women.

Methods: 312 endocervical swab samples were taken from infertile women, and transported with mycoplasma transport media. The culture was done with liquid-solid methods. DNA was extracted by Cadieux method, and analyzed by PCR protocol with species-specific U4&U5 primers.

Results: *U. urealyticum* was detected in 26.2% (82/312) of specimens by both culture and PCR methods. 12.5% (39/312) of samples were PCR positive as well as culture positive, 11.2% (35/312) were positive only by PCR, and 2.5%(8/312) were positive only by culture.

Conclusion: A sensitivity of 90% and 57% was found for PCR and culture respectively. PCR is therefore sensitive and more rapid (<24 hour) than culture (2-5 days) for the detection of *U. urealyticum* in endocervical secretions.

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Keywords: *Ureaplasma urealyticum*, infertility, PCR, mycoplasma, genitourinary tract diseases.

INTRODUCTION

The genus *Ureaplasma*, a genus within the family *Mycoplasmataceae*, class *Mollicutes*, has been defined by its ability to hydrolyze urea.[1] Subdivisions within this genus have been based largely on the host species and antigenic heterogeneity. *Ureaplasma urealyticum* is the designation for all ureaplasmas isolated from humans.[2,3] *U. urealyticum* is an important genital mycoplasma and is found in the cervix or vagina of 40-80% of sexually mature asymptomatic women.[4] The presence of *U. urealyticum* in a large proportion of healthy women complicates the assessment of the pathogenic roles of this

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