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 meningitis, 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.


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. 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. U. urealyticum is an important genital mycoplasma and is found in the cervix or vagina of 40-80% of sexually mature asymptomatic women. The presence of U. urealyticum in a large proportion of healthy women complicates the assessment of the pathogenic roles of this