

Determination the genotype of *Trichomonas vaginalis* isolated from women referred to Tabriz health centres using Actin gene by PCR-RFLP method in 2013- 2014

S.Taghizadeh Eghtedar, A.Shahbazi, M.Mahami Oskouei

Department of Parasitology and Mycology, Faculty of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran

Abstract

Introduction & Objectives:

Trichomoniasis as a sexually transmitted disease (STD) is characterized by various genotypic traits and different clinical signs in asymptomatic to symptomatic women. The definitive discrimination of *Trichomonas vaginalis* strains is principally carried out by sequencing strategy. However, the application of polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) patterns is not generally used as a result of heterogeneity traits of *Trichomonas* genomes. Therefore, employing a standardized pattern should indigenously be noticed in understudied areas.

Materials & Methods:

Sampling was taken from 30 asymptomatic women to *T. vaginalis* in northwestern Iran. The obtained samples were smeared and cultured. 30 DNA samples were extracted, amplified and identified by nested polymerase chain reaction of actin gene and PCR-RFLP using two endonuclease enzymes: *Mse*I and *Rsa*I. Subsequently, an *in silico* mapping was designed and conducted for identifying of *T. vaginalis* strains. Amplicons of actin gene were directly sequenced in order to identify the strains/haplotypes.

Results:

PCR-RFLP patterns, sequencing and phylogenetic analyses revealed definitely the presence of the G and E strains containing two haplotypes and two amino acid substitutions in codons 192 and 211 although, no other expected strains were found based on designed profiles.

Conclusion:

Findings elucidate that the accurate identification of *T. vaginalis* isolates based on a standardized profile and discrimination of unknown haplotypes of *T. vaginalis* isolates particularly those which are impacted on protein translation should be considered in parasite status, drug resistance, mixed infection with HIV and monitoring of asymptomatic Trichomoniasis in the region

Key words: *Trichomonas vaginalis*, Actin gene, Genotypes, PCR