J Antivir Antiretrovir 2017, 9:3 (Suppl)
DOI: 10.4172/1948-5964-C1-037

Detection of Human Papillomavirus (HPV) genotypes and its association with p53 codon 72 polymorphism in prostate carcinomas

Farhad Babaei
Kermanshah University of Medical Sciences, Iran

Aim & Background: Prostate cancer (PCa) is one of the most common cancers that its etiology has not been fully determined, but different studies have focused on human papillomavirus detection and its possible correlation with prostate cancer. On the other hand, P53 is one of the most important tumor suppressor genes, controlling cell cycle that its polymorphisms may play a role in some cancers. In the present study, we focused on the TP53 codon 72 polymorphism and HPV infections as a possible factor contributing in the susceptibility to prostate cancer.

Materials & Methods: In this case-control study, cases were individuals diagnosed with prostate cancer and their age and sex matched with controls. Eighty paraffin embedded tissue samples (40 prostate tissues and 40 benign prostate hyperplasia (BPH) were included. After DNA extraction, polymerase chain reaction method using HPV L1 specific primers were performed. Also, total samples were screened for the presence of the Arg72Pro polymorphism of the p53 gene. Phylogenetic analysis performed on papillomavirus positive samples and precise genotype of viruses were determined.

Results: The data demonstrates HPV infection in 2. 2.5% (9/40) of cancer biopsies and 15% (6/40) in benign prostate hyperplasia (BPH) are selected as controls in this study. Frequency of HPV infection between both groups was statistically significant. Distribution of proline and arginine homozygosity and heterozygosity between two group, prostate cancer and normal samples were statistically significant (p=0.0004). Distribution of proline and arginine homozygosity and heterozygosity in patients with HPV-positive and HPV-negative was significant (p=0.0002). Genotyping revealed that all of the papillomavirus samples belong to 6, 16, 18, and 26 genotypes.

Conclusions: In addition to a significant association between P53 polymorphism and HPV presence, P53 Arg72Pro polymorphism and HPV had an increased overall risk for PCa. Our results showed that HPV infection along with p53 Arg72 variant as an inherited susceptibility marker may contribute to the development of prostate cancer..

farhadbabaii@gmail.com