ORIGINAL ARTICLE

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Identification of Herpes Simplex Virus's DNA and RNA in the Breast Tumor, Using Polymerase Chain Reaction Technique

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Abstract

Introduction: Several studies have proven that human cancer cells can develop as a result of infection with the herpes simplex virus. Regarding this observation, the presence of this virus' DNA in the paraffin tissue of breast cancer in some tumor samples can be a risk factor for the formation of breast carcinoma. The aim of this study was to investigate the frequency rate of RNA and DNA of human herpes simplex virus in fresh and paraffined breast tumor samples.

Methods: In this study, 70 fresh and paraffined breast tumor samples were collected from patients with breast cancer that were surgically treated in Golsar, Aria, and Rasoul-e-Akram hospitals on Rasht, Iran, in 2016. After rapid transfer of samples to the laboratory, RNA and DNA extraction was performed using one-stage kit (Genall, Korea), and the extracted RNA was converted to cDNA. Next, the UL30 gene of herpes simplex virus from exclusive primer was used for proliferation.

Results: Out of 70 samples of breast cancer, none was positive in the fresh and paraffined tissues. This issue indicates the absence of the genome of herpes simplex virus in the breast tumor in this study.

Conclusions: The role of herpes viruses has been proven in the formation of cervical cancers, Hodgkin's, Burkitt's lymphoma, and blood vessels cancer in the past decade. However, there is also evidence that HSV genome was not identified in tumors. Therefore, further studies are needed to understand the association of these viruses with the formation of breast tumors.

Keywords: Breast Cancer, Tumors, Herpes Simplex Virus.