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MMTV-Env like sequence and high-risk human papillomavirus in a group of women with breast cancer in Iran

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Viral etiology has been suspected but not yet proven for human breast cancer. Mouse Mammary Tumor Virus (MMTV) is the well-established etiologic agent of mammary tumors in mice. Some studies have revealed a possible role, of the human Papillomavirus and MMTV-Env like sequences (HMLTV) in the pathogenesis of human breast cancer. The aim of this study was to investigate the presence of MMTV-Env gene like sequences and HPV-DNA in a group of Iranian women with and without breast cancer. A total of 65 breast cancer and 65 non-cancerous breast specimens were collected from the Department of Pathology in the city of Tabriz, in the Iranian province of East Azerbaijan, and analyzed by Nested-PCR. All breast cancer and benign breast samples were negative for the MMTV-Env gene like DNA, however HPV-DNA was found in 22 (33.8%) of the breast cancer specimens. All non-cancerous specimens were negative. Low and high-risk HPV types, including HPV-6 (26.2%), HPV-16 (1.5%), HPV-35 (1.5%), HPV-52 (1.5%), and HPV-11 (1.5%) were detected in our study. HPV-6 was the most prevalent type in the breast cancer specimens. These results indicate that the MMTV-Env gene like virus and high-risk HPV types may not play a significant role in the etiology of breast cancer among Iranian women. The data presented in this study indicates a strong need for epidemiological studies focusing on the correlating role of viruses in human breast cancer.

Biography

Hossein Bannazadeh Baghi is the holder of a PhD awarded to him by the Department of Virology, Parasitology and Immunology at Ghent University, Belgium. He completed his BSc and his MSc with honors and received National Awards in his home country, Iran, for being the top student in the field of Virology. Currently, he is working as an Assistant Professor in the Department of Microbiology at Tabriz University of Medical Sciences, Tabriz, Iran.

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