

Human Herpes Viruses Causing Cancer in Human

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Abstract

Human herpes viruses (HHVs) are very common among peoples of the world. They are distributed globally. These viruses are very contagious being easily transmitted via skin-to-skin contact, oral and nasal droplets, genital secretions, sharing the routine articles, kissing, pampering, courtship, sexual, oral and anal sex. As they are not problematic to us therefore, we have never been paid the due attention until and unless reactivated in some immunocompromised individuals to cause diseases and cancer in human. The present paper gives an outline description of the human herpes viruses developing diseases and cancer in human.

Keywords: HHVs; HHSVs; HZV; EBV; HCMV; Roseolovirus, KSHV; Human Diseases; Mononucleosis; Cancer

Abbreviations

P⁵³: Tumor Suppressor Gene; KS: Kaposi's Sarcoma; DNA: Deoxyribonucleic Acid; EVB: Epstein Barr Virus; HZV: Herpes Zoster Virus; KSHV: Kaposi Sarcoma Herpes Virus; HCMV: Human Cytomegalovirus; HHSVs: Human Herpes Simplex Viruses; HHVs: Human Herpes Viruses

Introduction

Human herpes is caused by the DNA viruses developing diseases and cancer in human [1]. Human herpes viruses (HHVs) cause both latent and lytic infections [2]. They usually known to cause venereal diseases in humans [3]. Some of them causing diseases and cancer in humans are as under:

1. Human Herpes Simplex Viruses (HHSVs) [4]
2. Herpes Zoster Virus (HZV) [5]
3. Epstein Barr Virus (EBV) [6]
4. Cytomegalovirus (HCMV) [7]
5. Roseolovirus [8]
6. Kaposi's Sarcoma Herpes Virus (KSHV) [9].

Human herpes viruses are very contagious usually disseminated by the following mode of transmissions as:

1. Skin to skin contact
2. Kissing, coughing, sneezing, sharing drinking and eating utensils
3. Sexual contact with the help of genital secretions
4. Oral and anal sex [10].

Discussion

These infections are quite known in the society as kissing disease, glandular, mononucleosis or “mono” of the teenagers. It appears that more than 90% of human individuals globally have been infected with the same viruses at least once in their childhood keeping them latent forever. And, if they are reactivated in future develop life- threatening diseases and cancer in humans.

Human herpes simplex viruses usually develop cold sores around the lips and genitals including rectum causing vulvar and cervical malignancies in human female [11,12]. Herpes zoster virus develops chicken pox and shingles in human. The development of shingles in older people is an outcome of reactivation of viruses and have always been treated as a marker for the development of cancer in future [13]. Similarly, the diseases developed by the Epstein Barr virus ranges from infectious mononucleosis to the cancerous Burkitt’s lymphoma [6]. Human cytomegalovirus (HCMV) causes congenital infections and the fetal abnormalities in human. In addition to fetal abnormalities the latent HCMV, if reactivated in future it causes the most common cancer of the salivary glands in the same individual [7].

Another human herpes virus as Roseolovirus develops the disease known as *Roseola infantum* in children. The disease is also called as the “Sixth disease” because entire life cycle of the virus completed in about 6 days and also being sixth in the series of rash developing diseases in human. The same virus remains latent and if reactivated also cause cancer. They cause p53 protein disorder developing demyelination and malignant tumors in human brains as Li- Fraumeni syndrome [8].

Last but not the least, Kaposi’s syndrome is caused by the Kaposi’s sarcoma herpes virus (KSHV) found all over the world. This is a kind of sexually transmitted soft tissue cancer of blood vessels and lymphatic system distributed globally characterized by the presence of purplish-red spots especially occurring on nose, face and mouth, genitals and the lower extremities. Unfortunately, no cure is available but the patients can be treated symptomatically for many years. KS is very rarely found in India [9]. Finally, this is a glimpse of human herpes viruses developing diseases and cancer in human.

Conclusion

The infection of human herpes viruses has always been very commonly found worldwide causing diseases and cancer in human. As the humans are natural reservoir of these viruses, they are easily being transmitted in densely populated individuals with the participation household of routine articles. They are also transmitted via oral and nasal drops disseminated by sneezing and wheezing coughs of individuals. In addition, these viruses are also sexually transmitted by pampering, kissing, courtship, vaginal, oral and anal sex.

There are various types of human herpes viruses found in humans like human herpes simplex viruses (HHSVs), herpes zoster virus (HZV), Epstein-Barr virus (EBV) and Kaposi sarcoma herpes virus (KSHV) causing diseases in human. Further, this is quite surprising that these diseases in due course of time cured and disappeared from the body but the viruses’ causing diseases remain latent in sufferer forever. But, in future, if these viruses are reactivated, they cause life-threatening and lethal diseases and cancer in immunocompromised as well as healthy individuals.

The present review is a glimpse of a variety of human herpes viruses with their disease-causing abilities and cancer in human.

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This piece of research work is dedicated to the memory of Madam Marie Curie, who was the first woman to win the Nobel prize in 1903 and won her second Nobel prize in 1911 to become the first person to win the award twice. She died most likely from the exposure of radiation with bone marrow failure.

Conflict of Interest

The authors have declared no conflict of interest. They have approved the final version of the manuscript contributing equally.

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