**Title: Association of viral encoded proteins in cancer metastasis**

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**Abstract**

As a great contributor to mortality of cancer patients, metastasis has been described with the tumor movement from a primary site in order to colonize distant organ. Mounting evidence have demonstrated that some viral infections are involved in cancer metastasis through altering the implicated signaling pathways. However, the underlying mechanism of metastasis regulation by viral infections, as well as the metastatic function of two or more viral co-infection in cancerous tissues is yet to be identified. Molecular analysis concerning the association of viruses with cancer has established that they function, at least partly, via encoding proteins which can impede the function of tumor suppressor proteins which regulate pathways of growth arrest and apoptosis. It has been very well demonstrated that Hepatitis B Virus (HBV) and Epistein-Bar Virus (EBV) are among the greatest contributors to cancer metastasis particularly in Hepatocellular and Nasopharyngeal carcinoma, respectively. HBV x protein and EBV-encoded latent membrane protein 1 (LMP1) are two of the most critical viral encoded proteins with the ability to promote migration and invasion through degrading proteins involved in cell adhesion to invade the underlying tissue. Moreover, both HBx and LMP1 are capable of interfering with cellular signaling pathways resulting in alterations in the biology of tumor cells. Therefore, viral infections are significant risk factors contributing to the pathological spectrum of cancer metastasis and identifying the underlying mechanism of this association and triggering pathways is critical in cancer management.

**Key words:** Cancer metastasis, Viral Infection, Epstein–Barr virus, Latent Membrane Proteins