The Role of Human Herpesvirus 8 (HHV-8) in the Diagnosis of Vascular Kaposi's Sarcoma in HIV-Positive and HIV-Negative Individuals

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Kaposi's sarcoma (KS) is a heterogeneous Angioproliferative neoplasm. At least four clinical forms of the disease have been described, among which the HIV-associated type is the most aggressive and can involve mucosal membranes or visceral organs. KS is associated with Human Herpesvirus 8 (HHV-8/KSHV), which plays a key role in tumor development. The virus infects endothelial cells, inducing angiogenesis, cellular proliferation, and tumorigenic transformation. This pathology is particularly common in HIV-infected individuals, where immunosuppression leads to viral activation and disease progression. Nevertheless, KS also occurs in HIV-negative patients, suggesting that the role and diagnostic significance of HHV-8 may differ across patient groups.

The aim of our study was to investigate a specific diagnostic marker in cases of Kaposi's sarcoma associated with co-infection of Human Herpesvirus 8 (HHV-8) and Human Immunodeficiency Virus (HIV). In the framework of our study, 32 patient samples were analyzed, including 12 cases of Kaposi's sarcoma and 20 cases of Dermatofibroma and Vascular Hemangioma. Among them, 5 were HIV-negative and 7 were HIV-positive KS patients. All cases were examined using Immunohistochemical markers: LANA, CD34, and CD31. The frequency and intensity of LANA expression were assessed in both HIV-positive and HIV-negative groups, and a comparative analysis was performed based on HIV status.

For differential diagnosis, we also examined 20 samples from patients diagnosed with Dermatofibroma and vascular Hemangioma. In some of these cases, CD34 and CD31 showed positive expression, while LANA antigen was negative in all of them. The Immunohistochemical analysis revealed that LANA antigen is a specific marker for Kaposi's sarcoma, with significantly higher expression in HIV-positive patients compared to HIV-negative ones. The combined use of the LANA marker with CD31 and CD34 improves diagnostic accuracy and enables differentiation between Kaposi's sarcoma and other vascular neoplastic lesions.