

# CANCER DYNAMICS IN HIV INFECTED PATIENTS UNDER DIFFERENT IMMUNE FUNCTIONS

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It is known that cancer is more prevalent among people infected with the human immunodeficiency virus (HIV) than in the general population [1, 2]. Individuals in the final stage of the HIV infection, i.e., with acquired immune deficiency syndrome (AIDS) are more vulnerable to the emergence of various types of cancers. The most common are: Kaposi sarcoma, non-Hodgkin lymphoma (NHL) of high-grade pathologic type and of B cell or unknown immunologic phenotype, and invasive cervical carcinoma [3]. In this paper we propose a mathematical model incorporating HIV and cancer growth dynamics, and immune response, under highly antiretroviral therapy (HAART) and chemotherapy. The model is analysed theoretical and numerically. The simulations reveal distinct patterns with respect to two immune functions and for different values of some important parameters, namely, the elimination rate of cancer cells by T cells, HIV infection rate and HAART. We discuss the obtained results from a biological point of view.

## References

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