

DYNAMICS OF HSV-2 INFECTION WITH A THERAPEUTIC VACCINE

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Herpes-Simplex Virus type 2 (HSV-2) is a lifelong infection [1, 2] which can be treated with episodic and suppressive antiviral treatments, [4, 5] although none of the currently available therapies can clear the virus from the body of an infected person. Most individuals with initial episode experience symptomatic recurrences, [3], with especially high rates in individuals with an extended first episode of symptomatic disease. Therefore there is an interest in developing therapeutic vaccines. Due to the limited data from clinical trials of HSV-2 therapeutic vaccines, [1, 2, 6] models have been of limited help in evaluating the impact of vaccination. In this study, we propose a simple compartmental deterministic model for the dynamics of HSV-2 and extend it to include vaccination. The proposed model is relatively simple with few parameters and does not address the complexity of the disease and variability of individual and infection characteristics. However, it can illustrate the potential effect of vaccination and build the foundation for future studies that involve more heterogeneous characteristics of the disease and individuals.

References

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