

Global Asymptotic Stable Eradication for the Siv Epidemic Model with Impulsive Vaccination and Infection-Age

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摘要 We study the application of a pulse vaccination strategy to eradicate the slowly progressing diseases that have infectiousness in latent period. We derive the condition in which eradication solution is a global attractor, this condition depends on pulse vaccination proportion ρ . We also obtain the condition of the global asymptotic stability of the solution. The condition shows that large enough pulse vaccination proportion and relatively small interpulse time lead to the eradication of the diseases. Moreover the results of the theoretical study might be instructive to the epidemiology of HIV.

关键词 [Epidemic model](#) [global attractor](#) [global asymptotic stability](#) [impulsive vaccination](#) [infection-age](#)

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Abstract We study the application of a pulse vaccination strategy to eradicate the slowly progressing diseases that have infectiousness in latent period. We derive the condition in which eradication solution is a global attractor, this condition depends on pulse vaccination proportion ρ . We also obtain the condition of the global asymptotic stability of the solution. The condition shows that large enough pulse vaccination proportion and relatively small interpulse time lead to the eradication of the diseases. Moreover the results of the theoretical study might be instructive to the epidemiology of HIV.

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