Immunological Memory And Role Of T Lymphocytes During Viral Infection

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Abstract
T lymphocytes are part of the adaptive immune response, a sophisticated defense system present only at higher levels of evolution. The hallmark of adaptive immune responses is the capacity to “remember” the first encounter with a pathogen and to respond more rapidly and effectively following re-infection with the same pathogen. This process named “immunological memory” is at the basis of vaccination, a practice that has successfully eradicated deadly viruses such as variola virus (small pox) and which to date represents the most effective means of controlling human infectious disease. T cells play a key role in the protective immunity towards viruses. The anti-viral T cell response that is generated during infection is shaped by the nature of the virus infection (acute versus chronic infection), with important implications for disease outcome. In this talk I will illustrate how T cell responses are generated during viral infection and how memory T cells are maintained to provide life-long immunity to the virus. The different methodologies that are currently available for the characterization of T cell responses will also be described. A better understanding of human T cell responses during infection is needed for the design of optimal vaccines.

Selected Publications for Reference