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HOW TO CONQUER HIV: LESSONS FROM IMMUNOPATHOLOGY INVESTIGATIONS

ABSTRACT

HIV has been around for millennia and its natural hosts had found ways to adapt to this infection resulting in a "peaceful" coexistence rather than fighting the infection by classical immune responses. HIV infection in nonnatural hosts like humans results in aggressive activation of the immune system. However, HIV's ability to rapidly mutate and effectively evade the immune system gives HIV a significant advantage that results in the typical sequelae in humans with rapid occurrence of overt signs of disease and premature death.

A significant difference in the initial cytokine storm following HIV infection in natural hosts and nonnatural host will be discussed. Furthermore, the talk will cover the role and limitation of adaptive immune responses in HIV infection in natural hosts and nonnatural hosts. Finally, currently ongoing attempts to conquer the HIV pandemic will be outlined by addressing passive and active immunization strategies.

The field clearly has made progress in understanding possible Achilles heals of HIV. However, progress remains incremental and the ultimate goal to generate an effective HIV vaccine will likely still take many years.

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