Cellular and molecular interactions in HIV infections: a review

Abstract:

To review the cellular and molecular interactions between HIV and the host immune system that lead to full-blown AIDS. DATA SOURCES: Published reports on HIV/host interaction during a fifteen year period beginning from 1987. STUDY SELECTION: Only those studies involving humans and non-human primates were selected. The studies included original articles and state-of-the-art reviews covering in vivo and in vitro findings. DATA EXTRACTION AND SYNTHESIS: This article presents a critical review of the cellular and molecular mechanisms of HIV infection and their relationship to the onset of AIDS. CONCLUSION: HIV has elaborated diverse and somewhat complicated mechanisms for the subversion and evasion of the host immune defence strategies. These include escape through mutation, prolonged latency of the infection, masking of the viral envelope proteins, down-regulation of MHC-I and up-regulation of the Fas-ligand on infected cell surfaces. This review enhances our understanding of HIV/AIDS disease and presents a basis on which management strategies could be developed.