The immune response to HIV
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Since HIV was discovered as the causative agent of AIDS almost 30 years ago, HIV infection has become a devastating pandemic, with millions of individuals becoming infected and dying from HIV-related disease every year. A global research effort over the past three decades has discovered more about HIV than perhaps any other pathogen. Immunologists continue to be intrigued by the capacity of HIV to effectively knock out an essential component of the adaptive immune system — CD4+ T helper cells. This Poster summarizes how HIV establishes infection at mucosal surfaces, the ensuing immune response to the virus involving DCs, B cells and T cells, and how HIV subverts this response to establish a chronic infection. Based on a clearer understanding of HIV infection and the response to it, the field has now entered an era of renewed optimism for the development of a successful vaccine.

**Breaching the mucosal barrier**

- HIV enters the body by fusing to cell surfaces.
- HIV replication occurs in the mucosal layer.
- HIV spreads systemically.

**Amplification in draining lymph nodes**

- Local amplification of the virus occurs in a single focus of CD4+ T cells.
- HIV starts to infect other CD4+ T cells.

**The T cell response to HIV**

- CD4+ T cell response is initiated.
- T cell response is limited.
- T cell escape is observed.

**Broadly neutralizing HIV-specific antibodies**

- Neutralizing antibodies are rare.
- Neutralizing antibodies are found in the sera of a few individuals.
- Neutralizing antibodies are found in the sera of HIV-infected individuals.

**Advances in understanding HIV infection**

- Understanding of HIV infection has improved significantly.
- New insights into HIV infection have been discovered.
- Future research is needed to fully understand HIV infection.

**References**


**Supplementary information**

- Supplementary information is available online at the journal website.