

HIV-1 target cells in foreskins of African men with varying histories of sexually transmitted infections

Abstract:

Numerous epidemiologic studies have found significant associations between lack of circumcision and HIV-1 acquisition in men. To our knowledge, this is the first study of human foreskin tissue that examines biologic mechanisms that increase susceptibility of uncircumcised African men to HIV-1. Foreskin specimens from 20 men with and 19 men with no history of sexually transmitted infections were examined for HIV-1 target cells. Most Langerhans cells were found in the epithelium; most CD4⁺ T cells and macrophages were in the submucosa. There were no differences in HIV-1 target cells between men with and those without history of sexually transmitted infections. However Langerhans cells and macrophages were more abundant in the group with a history of infection. The densities and positions of HIV-1 target cells in the foreskin tissue of these Kenyan men indicate that the inner mucosal surface of the human foreskin contains cells that make it highly susceptible to HIV infection.