

Human Herpesvirus 8 Infection and Kaposi's Sarcoma among Homosexual Men in the US

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Project Description: The uneven distribution of Kaposi's sarcoma across geographic populations and within HIV-infected populations in the same region had suggested the presence of an environmental, likely infectious, causative agent. A novel herpesvirus, termed human herpesvirus 8 (HHV-8) or Kaposi's sarcoma-associated herpesvirus (KSHV), has recently been described, and there is now consensus that it is a necessary, albeit not sufficient, cause of the tumor (see Martin and Osmond. *Current Opinion in Oncology* 11:508-515, 1999). Our group is conducting a series of studies examining the transmission and natural history of HHV-8 infection using both retrospective and prospective cohorts of homosexual men. The retrospective component uses the original San Francisco Men's Health Study Cohort, initiated in 1984, which because of its high incidence of Kaposi's sarcoma (described in Martin et al. *New England Journal of Medicine* 338:948-54, 1998) allows for the evaluation of various aspects of the association between HHV-8 infection and Kaposi's sarcoma (e.g., co-factors such as use of inhaled nitrites or degree of HIV-related immunocompromise). The prospective component is an examination of over 500 homosexual men where the objectives are to determine risk factors for HHV-8 seropositivity, patterns and determinants of HHV-8 shedding in body fluids among infected individuals, and host humoral and cellular immune responses to HHV-8 infection. This study involves collaboration with several laboratories involved in the development of assays to detect HHV-8 nucleic acid, antibodies to HHV-8, and cytotoxic T-cell responses to HHV-8.