

## ABSTRACT

Human herpesvirus-8 (HHV-8) replication in the oropharynx may play an important role in HHV-8 transmission and contribute to the development of Kaposi sarcoma (KS) in some individuals. Studies in the United States and Europe report high rates of HHV-8 DNA detection in saliva of HHV-8 infected men, but little is known about the natural history of HHV-8 among persons in sub-Saharan Africa, where prevalence of HHV-8 infection and KS is greatest. To address this gap, this study evaluated oral HHV-8 replication in a cohort of 40 HHV-8 seropositive Kenyan women. Study clinicians collected daily oral swabs from participants for up to 30 consecutive days, and swab samples were tested for HHV-8 DNA using quantitative, real-time polymerase chain reaction. HHV-8 was detected at least once in 27 (68%) participants, and the overall shedding rate was 23%. On days with HHV-8 detection, mean HHV-8 quantity was  $4.5 \log_{10}$  copies/ml. Among HIV-infected women, CD4 count  $\geq 500$  cells/mm<sup>3</sup> versus  $< 500$  cells/mm<sup>3</sup> was associated with higher HHV-8 copy number ( $4.8 \log_{10}$  copies/ml vs.  $3.4 \log_{10}$  copies/ml; coef 1.2 [95% CI, 0.5–1.9];  $P = 0.001$ ) and a higher HHV-8 shedding rate (49% vs. 12%; RR, 4.2 [95% CI, 0.8–21.4];  $P = 0.08$ ). No other factors were associated with HHV-8 shedding rate or copy number. The study demonstrates high rates and quantity of HHV-8 in the oropharynx of HHV-8 seropositive African women. These findings support the observation that oral replication is an essential feature of HHV-8 infection, with likely implications for HHV-8 transmission and KS pathogenesis. *J. Med. Virol.* **86: 1759–1765, 2014.** © 2014 Wiley Periodicals, Inc.