Confirming Shedding of Human Herpesvirus 8 in Urine from Infected Patients in Brazil

Since the discovery of Kaposi’s sarcoma-associated herpesvirus, also known as human herpesvirus 8 (HHV-8), several studies have been conducted to identify the body fluids into which the virus is shed, with consequent potential virus transmission (7, 10). Although saliva has been pointed out as the main route of virus transmission, mostly in populations in areas where the virus is endemic, semen, blood, urine, and stool have also been suggested as vehicles of virus transmission-acquisition in populations at risk of infection, such as homosexual males and human immunodeficiency virus (HIV)-AIDS patients (4, 5, 11). Unfortunately, all specimens analyzed up to now have yielded controversial results except saliva, which tested positive for HHV-8 DNA for several asymptomatic carriers and for Kaposi’s sarcoma (KS) patients (3, 4, 9, 11, 12).

In the last years, a group of researchers published interesting studies conducted on Malawian people. First, they investigated the molecular epidemiology of HHV-8 and the routes of virus transmission (1, 8). Then, using PCR, sequencing, and other molecular approaches, they evaluated blood and several oral samples from KS patients and their relatives and identified the HHV-8 subtypes named B1, A2, and A5 that circulate in Malawi. They also detected infection with multiple HHV-8 subtypes in a single individual and mixed patterns of HHV-8 transmission (sexual and nonsexual transmission via intra- and extrafamilial routes), confirming HHV-8 shedding in oral fluids (1, 8). In recent issues of the Journal of Clinical Microbiology, Beyari et al. presented the results obtained for urine and oral rinse from the same Malawian people. Using PCR and sequencing of open reading frame (ORF) 26 and K1/V1, they detected HHV-8 DNA in 6.4% of urine samples (5 of 78 samples), identified monotypic virus in urine and multitypic virus in saliva, and pointed out urine as another site of virus shedding (2).

To add some information concerning this matter, we present the results obtained with a group of KS patients and HIV-infected patients in São Paulo, Brazil, whose urine was analyzed for the presence of HHV-8 DNA by PCR of ORF 26 and K1/V1, as previously described (1). The results obtained revealed HHV-8 DNA positivity in 6 out of 55 (11%) KS patients and in 5 out of 18 (28%) HIV-1-infected patients without clinical evidence of KS. Interestingly, the group without KS presented the higher prevalence rate of HHV-8 infection. On the basis of clinical and epidemiological data, we may speculate that these patients were recently infected with HHV-8 or had KS at sites not yet identified. In agreement with this hypothesis, two out of five HHV-8-infected patients were found to be HHV-8 seropositive in immunofluorescence assays (6). In contrast, the relatively low rate of HHV-8 infection detected in the urine of KS patients may be the result of highly active antiretroviral therapy and/or ABV treatment to which these patients were submitted, which can contribute to virus clearance in blood and urine.

We do not know the exact significance of HHV-8 DNA in urine, but we can hypothesize that when virions are present in urine, this specimen could be of importance for virus transmission-acquisition, mainly in populations of countries with poor socioeconomic and sanitary conditions where the virus is endemic and also in individuals with promiscuous behaviors. Additional investigations, including the determination of viral load using real-time PCR and primers for different regions of the HHV-8 genome, are needed to solve this question. If urine is confirmed to be another vehicle of virus transmission, it will be necessary to formulate recommendations to block the spread of the virus.

REFERENCES


Elizabeth Santos-Fortuna*
Adele Caterino-de-Araujo
Immunology Department
Instituto Adolfo Lutz
Av. Dr. Arnaldo 353. 11 andar
São Paulo 01246902
Brazil
*Phone: 55 11 30682898
Fax: 55 11 30682898
E-mail: efortuna@ial.sp.gov.br