Searching for Human Herpesvirus 8 Antibodies in Serum Samples from Patients Infected with Human Immunodeficiency Virus Type 1 and Blood Donors from São Paulo, Brazil

To the Editor—Several articles published in the last few issues of *Journal of Infectious Diseases* have shown the seroprevalence of human herpesvirus 8 (HHV-8) antibodies in populations from different geographic areas and have shown a strong relationship between seropositive individuals and behavioral risk factors and region of birth [1–4]. In this respect, Blackbourn et al. [1] described a high prevalence of HHV-8 infection among young homosexual men from San Francisco who have multiple homosexual contacts with different partners. Zhang et al. [2] also provided data supporting preferential sexual transmission of HHV-8 in a study of persons from several epidemiologic groups of Brazil and Colorado, and they pointed out the high prevalence of HHV-8 in persons with Kaposi’s sarcoma (KS) and in human immunodeficiency virus type 1 (HIV-1)–seropositive homosexual men without KS.

A high seroprevalence of HHV-8 was also documented among women attending a sexually transmitted diseases clinic and an HIV clinic at a London hospital. Seropositivity varied according to the place of birth: 24.7% of women born in Africa were seropositive, as opposed to 11.5% of those born elsewhere [3]. In addition, 51.15% of HIV-1–infected and 47.35% of non-infected pregnant women in Zambia were seropositive for HHV-8 [4]. These and other data indicate that HHV-8 is endemic in Africa, and they explain the high incidence of KS among African women and children.

In another *Journal* article, Angeloni et al. [5] presented data from a survey for HHV-8 antibodies conducted in Sardinia. The data showed a high prevalence of HHV-8 infection in relatives of patients with KS, suggesting intrafamilial person-to-person or vertical transmission of the virus. Indeed, LaDuca et al. [6] detected HHV-8 DNA sequences in several body fluids from patients with KS, suggesting that saliva could be more important than semen or stool in the transmission of HHV-8.

Considering all of these data and knowing that the routes of transmission and groups at risk around the world are not completely defined, we conducted a pilot study to contribute data concerning this matter in São Paulo, the largest city in Brazil, which has a mixed-race population and the highest incidence of HIV-1 and AIDS cases. Using an immunofluorescence assay according to the method of Simpson et al. [7], we detected antibodies to latent nuclear antigens in BCP-1 cells (derived from an HIV-seronegative patient with body cavity–based lymphoma) infected with HHV-8, using a serum dilution of 1:200 instead of 1:150. In indeterminate cases, serum dilutions of 1:150 and 1:300 were also used. Two cross-sectional groups of serum samples randomly selected from a bank of the Immunology Department of Instituto Adolfo Lutz, São Paulo, were tested. The samples belonged to a cohort of 162 individuals: 81 patients infected with HIV-1 from Instituto de Infectologia Emílio Ribas and 81 blood donors from Fundação Pró-Sangue/Hemocentro Hospital das Clínicas, São Paulo, who tested seronegative for all blood bank markers.

Of the patients infected with HIV-1, 51 were men (median age, 33 years; range, 16–54) and 30 were women (median age, 28 years; range, 16–47). The patients had the following risk factors for acquiring HIV-1 infection: 62 were at sexual risk (23 homosexual or bisexual men, 26 heterosexual women, and 13 heterosexual men), 10 were intravenous drug users (IVDUs; 8 men and 2 women), and 9 had unknown risk factors. Twenty-three of the 81 patients were asymptomatic, and the remaining 58 had AIDS. The overall frequency of HHV-8 antibodies was 16% but varied according to risk factor: the highest percentage of seropositivity was detected among homosexual or bisexual men (30.4% of cases), followed by heterosexual men (23.1%) and heterosexual women (7.8%). Only 1 case of HHV-8 seropositivity was detected among IVDUs. Table 1 presents the characteristics of HHV-8 seropositive cases according to age, gender, and HIV-1 stage, revealing a high incidence of HHV-8 antibodies among young homosexual men and patients with AIDS. Of note, although most patients infected with HHV-8 had AIDS, only 1 of them (patient 549) developed KS during a 3-year follow-up, and he was an asymptomatic patient infected with HIV-1.

Table 1. Characteristics of 13 human herpesvirus 8–seropositive and patients infected with human immunodeficiency virus type 1 (HIV-1).

<table>
<thead>
<tr>
<th>Patient no.</th>
<th>Age (years)</th>
<th>Sex</th>
<th>HIV status</th>
<th>Risk factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>276</td>
<td>25</td>
<td>M</td>
<td>AIDS</td>
<td>Homosexual</td>
</tr>
<tr>
<td>302</td>
<td>49</td>
<td>M</td>
<td>AIDS</td>
<td>Homosexual</td>
</tr>
<tr>
<td>303</td>
<td>39</td>
<td>M</td>
<td>AIDS</td>
<td>Bisexual</td>
</tr>
<tr>
<td>304</td>
<td>37</td>
<td>M</td>
<td>AIDS</td>
<td>Bisexual</td>
</tr>
<tr>
<td>310</td>
<td>44</td>
<td>M</td>
<td>AIDS</td>
<td>Heterosexual</td>
</tr>
<tr>
<td>311</td>
<td>27</td>
<td>M</td>
<td>AIDS</td>
<td>IVDU</td>
</tr>
<tr>
<td>318</td>
<td>23</td>
<td>F</td>
<td>Asym</td>
<td>Heterosexual</td>
</tr>
<tr>
<td>322</td>
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<td>M</td>
<td>AIDS</td>
<td>Homosexual</td>
</tr>
<tr>
<td>323</td>
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<td>M</td>
<td>AIDS</td>
<td>Homosexual</td>
</tr>
<tr>
<td>531</td>
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<td>F</td>
<td>AIDS</td>
<td>Heterosexual</td>
</tr>
<tr>
<td>538</td>
<td>52</td>
<td>M</td>
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<td>Heterosexual</td>
</tr>
<tr>
<td>549</td>
<td>34</td>
<td>M</td>
<td>Asym</td>
<td>Homosexual</td>
</tr>
<tr>
<td>551</td>
<td>45</td>
<td>M</td>
<td>AIDS</td>
<td>Heterosexual</td>
</tr>
</tbody>
</table>

NOTE. Asym = asymptomatic patient infected with HIV-1; IVDU = intravenous drug user.

Although the end-point titers of antibodies were not deter-
mained, we observed strong reactivity among sera from patients infected with HIV-1 and weak reactivity of antibodies in sera from blood donors.

Despite these considerations, this preliminary study supports the view that HHV-8 is easily transmitted by sexual routes, mostly among homosexual or bisexual men and patients with AIDS. It also emphasizes that HHV-8 circulates among healthy men in São Paulo. We are currently interested in expanding these data and searching for routes of HHV-8 transmission.

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References

Increased Incidence of Methicillin-Resistant Strains of Staphylococcus aureus in the Community

To the Editor—Adcock et al. [1] recently reported the frequent isolation of community strains of methicillin-resistant Staph-

ylococcus aureus (cMRSA) at two child care centers in Dallas. There has also been a recent increase in the number of community isolates with similar sensitivity patterns on the east coast of Australia [2]. Data of my colleagues and mine [3] and others [4] support the conclusions of Adcock et al. that there are now strains of MRSA that have become established in the community. These strains are unlikely to have been hospital strains that have gone into the community [1, 2]; instead, they represent strains of MRSA that are becoming more widespread in the community and are now coming into hospitals.

These isolates differ in their sensitivity patterns from those that are found in hospitals. They usually remain sensitive to gentamicin, erythromycin, and tetracycline. This, however, may not continue. Many of the first strains of MRSA in an Australian hospital were sensitive to erythromycin and aminoglycosides [5]; however, within a number of years, multiresistance quickly developed.

My belief is that these strains are more widespread and are more common in the community than is commonly appreciated. In one area of New Zealand, 10% of all community S. aureus infections are now caused by cMRSA [3]. This has major implications, particularly for patients presenting with life-threatening infections. Standard therapy with β-lactam antibiotics is unlikely to be effective against cMRSA, and it may take 48 h before the methicillin resistance is determined. Indeed, given problems with identifying methicillin resistance, the resistance may not be detected at all, particularly if the organism is not multiresistant.

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