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To the Editor: Reply to Sarmati

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Reply

To the Editor—The letter by Sarmati et al. [1] presents data indicating that they were unable to find a significant correlation between human herpesvirus (HHV)-8 seropositivity and a history of spontaneous abortion in a group of 245 human immunodeficiency virus (HIV) type 1-seronegative women but that they did observe a correlation between high HHV-8 antibody titers ($\geq 1:1280$) and spontaneous abortion. Although it is possible that an increased risk of spontaneous abortion may be associated with active infection with HHV-8, at this point there is not enough evidence to support such an association. Given that several human herpesviruses are well-known agents of fetal and/or perinatal infection and that primary maternal herpesvirus infection prior to 20 weeks of gestation in some women has been associated with spontaneous abortion [2], and given the dearth of information about the clinical manifestations of HHV-8 infection, Sarmati et al. are correct in suggesting that this question should be investigated further.

However, it is premature to assume on the basis of the evidence presented by Sarmati et al. [1] that an association between high HHV-8 antibody titers and spontaneous abortion exists. There are still a number of questions that need to be addressed in relation to spontaneous abortion and maternal HHV-8 infection. In the study by Sarmati et al., it is not clear whether the women who had higher antibody titers were undergoing primary infection with HHV-8, as might be suggested by reactive HHV-8 IgM titers. Were any of the products of conception necropsied and examined for possible viral cytopathology? It is also likely that other factors, such as other opportunistic infections, may have increased the risk for both spon-

taneous abortion and elevated HHV-8 IgG titers. Furthermore, no mention of a time frame between abortion and HHV-8 testing was presented, nor was there any information on the number of abortions experienced, only a history of abortion. Antibody titers likely fluctuate with time, so it would be difficult to correlate the HHV-8 antibody titer from a current pregnancy with a previous spontaneous abortion event. Nevertheless, Sarmati et al. have presented an interesting observation of HHV-8 infection in relation to pregnancy in a population of HIV-1-seronegative women. Further analysis will need to be performed on a larger population of HHV-8-seropositive mothers with high HHV-8 antibody titers ($\geq 1:1280$), to substantiate the increased risk of spontaneous abortion among women with high HHV-8 antibody titers.

We agree with Sarmati et al. [1] that the role of maternal HHV-8 infection during pregnancy and the outcome of infants born to HHV-8-seropositive mothers have not been fully investigated. With regard to the outcome of infants born to HHV-8-seropositive women in our study [3], Sarmati et al. are correct to note that we did not see a significant difference in infant mortality between infants born to HHV-8-seropositive and -seronegative mothers by 12 months after delivery. However, we did observe a modest increase in mortality among infants born to HHV-8-seropositive mothers, compared with those born to HHV-8-seronegative mothers (1.8 times more likely), by 36 months after delivery (authors' unpublished data). The mortality was exacerbated in the presence of HIV-1 coinfection. Our ongoing cohort study of mother-infant pairs in Zambia focuses primarily on in utero infection, vertical transmission of HHV-8, and risk factors

associated with transmission. For this reason, the outcome of previous pregnancies, with regard to maternal HHV-8 serostatus or maternal HHV-8 antibody titer, was not a focus of our study; nevertheless, we did analyze the number of reported miscarriages experienced in prior pregnancies, using the same population described in our previous study [3]. SAS software (version 8; SAS Institute) was used to generate odds ratios (ORs) and 95% confidence intervals (CIs), and significance was measured using the χ^2 test. A total of 316 mothers who gave birth at the University Teaching Hospital in Lusaka, Zambia, reported a previous pregnancy; 155 were HHV-8 seropositive, and 161 were HHV-8 seronegative, as determined by lytic immunofluorescence assay, using BC-3 cells. Forty (12.7%) of those women reported a miscarriage in a prior pregnancy; of these, 23 were HHV-8 seropositive, and 17 were HHV-8 seronegative. Similar to what was reported by Sarmati et al. with regard to spontaneous abortion, no significant association was observed between HHV-8 seropositivity in the mother at delivery and a history of miscarriage in a prior pregnancy (OR, 1.48; 95% CI, 0.75–2.88; $P = .25$). As indicated above, HHV-8 antibody titers in the mothers at delivery were not examined, so any relationship to miscarriages cannot be assessed at this time, nor would they be relevant to any previous spontaneous abortion event.

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