Zika Virus Genital Tract Shedding in Infected Women of Childbearing age

TO THE EDITOR—Zika virus (ZikV) is associated with adverse fetal outcomes in pregnant women [1], and Prisant et al [2] have recently demonstrated its presence in the female genital tract. Thus, its clearance pattern and possible genital chronicity are important issues for women of childbearing age.

We followed up 5 women of childbearing age enrolled in a fertility preservation program at Pointe-à-Pitre University Hospital (Guadeloupe, French West Indies, France), a current ZikV outbreak area. Their ZikV status was monitored regularly as part of their clinical management during the ovarian stimulation process. All patients presented with ZikV-like clinical symptoms and recovered rapidly. They agreed to practice safe sex using condoms, following Agency of Biomedicine recommendations (http://www.agence-biomedecine.fr/IMG/pdf/2016_recommandations__amp_zika_v3.pdf. Accessed 28 July 2016.). All 5 women tested positive for ZikV RNA in initial blood samples, and 3 in urine samples as well.

We followed up with a genital samples panel (genital and endocervix swab and cervical mucus samples) within the first week after ZikV detection and then once a week for 1 month and once a month for a 3-month period. Molecular tools were used (RealStar Zika Virus RT-PCR Kit 1.0 [European Union approved]; Altona Diagnostics). All patients initially tested positive in the genital panel. After 10 days, no ZikV genome was detected in blood, but some genital samples still tested positive for 2 patients. In the third week, all genital samples were negative. One patient had positive urine samples until day 27 (Table 1).

In this study, we establish for the first time the ZikV genital tract clearance pattern in women of childbearing age. Because our patients were engaged in safe sex, the presence of ZikV in their genital tracts were proved to proceed
from systemic infection. In addition, persistence of ZikV genome within the female genital tract implies potential direct infectiousness, either in vertical maternal-fetal transmission or in sexual transmission; woman-to-man sexual transmission; woman-to-man sexual transmission has been described [3]. Finally, contrary to findings in men, with ZikV persisting in semen for up to 80 days [4] or even 6 months [5], we show that the presence of ZikV may be more transient in women. ZikV disappeared from the genital tract 3 weeks after the symptom onset, which is known to occur 2–12 days after exposure, with no reappearance during a 3-month period.

A recent murine study [6] showed the vaginal mucosa in mice to be permissive to ZikV replication, controlling it by means of innate RNA sensors and type I interferons. Vaginal ZikV infection in pregnant mice was associated in that study with fetal brain infection.

Our understanding of the risks associated with viral persistence and/or replication in the female genital tract is still limited, however. Larger case-control or cohort studies are needed to assess the risk of sexual or vertical transmission of ZikV through the female genital tract and enable better counseling for women of childbearing age.

Notes

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