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Letter to the Editor

Zika virus and HIV co-infection in five patients from two areas of Colombia☆

To the Editor,

We have recently read comments on emerging issues related to Zika raised by Joob and Wiwanitkit,[1] as well from the review of Wong et al.,[2] the significant global expansion of the virus, including Asia, but also implications such as the asymptomatic cases, local transmission and surveillance in countries such as Taiwan. Whilst we agree on such importance, we would like to add also the implications of another aspect such as coinfections with other arboviruses and other relevant agents, such as HIV.

Zika virus (ZIKV) extended to 48 countries in the Americas. Still there is a concern that patients with comorbidities and/or immunosuppression may evolve more severely,[3] however there is lack of reports about HIV/ZIKV coinfection.[4] We describe five HIV+ patients who developed ZIKV infection (RT-PCR confirmed) during the epidemics (2015–2016) in two Colombian areas, Risaralda (Western) and Sucre (North) (Table 1).

Case 1. A 33-year-old man known with 16-years of HIV infection, presented with a diffuse erythematous maculopapular rash, arthralgia and malaise, without conjunctivitis, as well diarrhea. He received symptomatic treatment with a successful evolution, being confirmed with ZIKV infection. He was receiving antiretroviral therapy (ART), with good immune and virological response. *Case 2.* A 40-year-old woman with 15-years living with HIV (and controlled high blood pressure), presented a diffuse erythematous maculopapular rash and conjunctival hyperemia without other alterations, ZIKV confirmed. Symptomatic treatment was indicated with a successful evolution and later ZIKV infection confirmation. She was receiving ART, with good immune and virological response. She also had a history of past dengue and chikungunya virus infection. *Case 3.* A 28-year-old man recently diagnosed with HIV (<1-year), presented fever, exanthema and conjunctivitis, as well as a decrease in muscular strength, limitation of the gait and compromise of the facial nerve, ZIKV confirmed. At the electromyography, demyelination was found. He received 10 days of immunoglobulin with a satisfactory evolution. He was receiving ART, with good immune and virological response. *Case 4.* A 49-year-old woman during her 1-year of HIV, presented diarrhea, hypotension, dysarthria, decreased muscle strength, relaxation of sphincters, areflexia and basal bilateral crackles in the lungs, ZIKV confirmed. CT-scan had images compatibles with CNS toxoplasmosis and pneumonic infiltrates. She developed ADRS and sepsis and was admitted to the ICU, where a lumbar puncture was performed. She received antimicrobial therapy and immunoglobulin with successful evolution. She was receiving ART, with good virological response and still immunosuppressed. *Case 5.* A 45-year-old woman diagnosed 1-year ago with HIV, presented fever, exanthema, conjunctivitis, diarrhea, emesis, abdominal pain, decrease in muscular strength, areflexia and facial nerve compromise, ZIKV confirmed. Demyelination was found at the electromyography. She presented metabolic acidosis and ADRS being admitted to ICU. She received immunoglobulin with a successful evolution. She was receiving ART, with good immune and virological response.

Only four HIV/ZIKV cases were previously reported.[4–6] Despite epidemiological overlap between arboviruses and HIV, there is still unknown issues regarding these coinfections.[6] AIDS patients may experience more severe clinical evolution with arboviral infections, then requiring close monitoring, as occurred in the fourth case.[4] Fortunately, most of the patients described (including this report), had good immune and virological control when ZIKV infected, without relevant differences with those ZIKV infected patients without HIV.[6] However, further studies are required to better understand the interplays between HIV/ZIKV coinfection on immune response, severity and control of

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Table 1 Main clinical and laboratory findings in five HIV/ZIKV patients from Colombia.

Findings	Cases				
	#1	#2	#3	#4	#5
Cardiac frequency (beats/min)	78	78	80	90	140
Blood pressure (systolic/diastolic, mmHg)	120/70	125/75	110/70	100/60	90/50
Body temperature (°C)	36.5	36.5	36.5	36.5	36.5
Lymphocytes T CD4+ count (cells/mm^3)	300	516	450	98	380
HIV Viral Load (RNA copies/mL)	UD	UD	100	1800	800
Antiretroviral therapy	3TC, ABC, ATV, FTC, LPV/RTV, TDF	3TC, EFV, ZDV	3TC, LPV/RTV, ZDV	3TC, ABC, EFV	3TC, ABC, EFV
Leucocytes (cells/mL)	N/A	N/A	9500	10,000	8500
Neutrophils (cells/mL)	N/A	N/A	5430	7500	6800
Hemoglobin (g/dL)	N/A	N/A	14.2	12	9.5
Hematocrit (%)	N/A	N/A	41	38	40
Platelets (cells/mL)	N/A	N/A	321,000	250,000	320,000
Serum creatinine (mg/dL)	N/A	N/A	0.94	1.2	0.8
Glycemia (mg%)	N/A	N/A	98	174	80
Lumbar puncture proteins (mg/dL)	N/A	N/A	500	800	600

UD = undetectable viral load. 3TC = Lamivudine. ABC = Abacavir. ATV = Atazanavir. EFV = Efavirenz. FTC = Emtricitabine. LPV = Lopinavir. RTV = Ritonavir. TDF = Tenofovir. ZDV = Zidovudine.
N/A = Not available, not applicable.

disease, as well if it could impose additional risks during pregnancy.[5]

Conflicts of interest

The authors have no conflicts of interest relevant to this article.

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