

To the Editor,

Journal of Immunoassay and Immunochemistry

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Re: Sero-evidence of silent Japanese Encephalitis Virus infection among inhabitants of Ilorin, North-central Nigeria: a call for active surveillance

<https://www.tandfonline.com/doi/abs/10.1080/15321819.2021.1993897>

We read with interest the recent article published in the Journal of Immunoassay and Immunochemistry reporting Japanese encephalitis virus (JEV) serological testing in Nigeria. There is no doubt that there are ongoing changes in the geographical distribution of flaviviruses (1), and surveillance for the relevant disease syndromes would be helpful. To our knowledge, serological testing of this kind has not been performed in Nigeria. JEV RNA was apparently detected in a patient with confirmed yellow fever in Angola; however, acute JEV infection was not corroborated by conventional IgM ELISA or seroneutralisation (2).

As the authors discuss in the article, there is high cross-reactivity of flaviviruses, and very significant false positives with ELISA tests (3). We urge caution in the interpretation of the results. Anti-JEV IgG results cannot be interpreted alone, they require to be reported alongside testing for other endemic flaviviruses, most importantly anti-dengue and yellow fever virus IgG (4), and flavivirus vaccination history. Yellow fever is reported in Nigeria, and yellow fever vaccine is widely used. There are minimal data on the use of anti-JEV IgG, particularly the cited Diagnostic Automation assay, and the authors do not report any in-house validation. The optimal approach for detection of previous exposure or vaccination is a seroneutralisation assay involving contemporaneous testing to other flaviviruses (5). We understand that seroneutralisation requires considerable resources and technical expertise, but we would suggest that the authors consider verifying the anti-JEV IgG results by sending the samples to a reference laboratory for seroneutralisation testing.

There is unequivocal evidence for the hyperendemicity of dengue virus and yellow fever vaccine use in Nigeria. In the absence of further testing, these results may be explained entirely by cross-reactivity with other flaviviruses, and do not represent any evidence of JEV circulation in Nigeria.

Kind regards,

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