Reviewer's report

Title: Clinical features and pitfalls in the laboratory diagnosis of dengue in travellers

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Reviewer: Benedito Fonseca

Reviewer's report:

General
The manuscript by Wichmann et al. describes the evaluation of clinical manifestations, haematologic findings and serology results obtained with a commercial ELISA kit to predict the correct diagnosis of dengue infections. Their conclusion that the ELISA kit used in their study has a positive predictive value of only 50% goes against the common knowledge of those who have used the very same kit. Also, their explanation for their findings is not convincing. They defend that, in their patient sample, other infections might have been involved in yielding false-positive results. That is hard to agree to, since in regions where several flavivirus co-circulate, these false-positive results have not been observed, and the sensitivity and specificity have been usually high.

The methods section is fairly written but lacks a more detailed description of the new E/M and NS1 ELISA kits since these kits are not widely used. Also, the results obtained with these kits have not been described on the results section, and appear only in the discussion section. Furthermore, their description of the patients enrolled on the study is confused and they have to redo their math. For example, they say that they enrolled 1,092 patients with travel-associated fever, but when the febrile patients returning from Asia (514), Africa (346), and South/Central America and Caribbean (230) are added together, the result is 1,090. They should review their data, and make a better description of them.

However, a major flaw of their work is that they have tested all samples without a clear definition of which day of the disease the sample was collected. It is well-known fact that if a test is performed on the febrile period, ELISA will be negative. That might explain their negative results. Even though they show on figure 1 that they have performed RT-PCR on these samples, the results are neither shown nor discussed.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Redo the math on their description of sample. Better description of the patients analysed with each diagnostic test shown on figure 1.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
Table 2 is not necessary.

Discretionary Revisions (which the author can choose to ignore)
What next?: Accept after minor essential revisions

Level of interest: An article of limited interest

Quality of written English: Needs some language corrections before being published

Statistical review: No

Declaration of competing interests:

I declare that I have no competing interests.