Reviewer's report

Title: Emergence of A New Crimean-Congo Hemorrhagic Fever Virus Strain in Turkey

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Reviewer: Christian Drosten

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This important article presents highly relevant facts that may change our understanding of CCHFV ecology and epidemiology. However, because of their importance these data deserve a better methodological foundation (see point 5). If for any reason authors cannot provide extra testing in due time, they might want to report these important data in a more preliminary format.

Major compulsory points:

1. Authors should be more careful about claims regarding circulation and traits of the AP92-like virus. They have no identification of virus from vectors and reservoir, and they have no exact idea regarding time of exposure and reliability of reporting in people. Definition of infected persons only relies on an IgM result in a single EIA test that has not been in use in many studies. In this light, sentences like "This difference can be explained by different virulences among the circulating strains" (Page 8) sound overstated. If authors want to raise hypotheses, these should be clearly identified as such, and developed a bit further (see below).

2. The Abstract suggests that antibody testing was done specifically against the new AP92-like strain, which is almost certainly not the case. Please identify the test antigen in the EIA test. Authors should also keep in mind that there are no differential CCHFV serotypes, and should avoid any indirect implications into this direction unless they have proof of it.

3. Has virus isolation from patient blood been attempted? It would be a very high priority to have an isolate of an AP92-like strain (pathogenicity modelling / vaccine template). This should be discussed.

4. Page 5 "Since the original kit didn’t contain any reagent for hindering false IgM seropositivities due to IgG type antibodies, before IgM detection, IgG was eliminated using a commercial IgG removal kit (Zeus®, USA)." - To my knowledge IgG is removed from plasma before IgM detection in order to prevent shielding of antigens by IgG if both isotypes are co-existing. To exclude the effect of rheumatoid factor, authors should conduct a rheumatoid factor test in all patients positive for IgM. Positives should not be counted as anti-CCHFV IgM positives.

5. All antibody-positive sera (or ideally, all sera) should be re-tested by a second
EIA test, or by IFA.

6. Figure 2: This seems to be an unrooted cladogram. The phylogeny should be rooted with Dugbe virus, which is a well acceptable outgroup.

Minor essential points:

7. Page 6, "Thirty four out of 35 (97.4%) IgG positive patients were also IgM positive." – Please state how many patients had IgM positive / IgG negative status in total (I calculate five).

8. Page 6, "All the IgM positivities except one, converted to IgG positivity." – Does this mean that all patients who had only IgM / no IgG in the first test seroconverted to IgG positive?

9. Page 7: In the population survey, have people been asked for tick morphology and have they been shown Boophilus / Rhipicephalus / Hyalomma ticks as examples? Can any conclusions been made in this direction?

Level of interest: An article of importance in its field

Quality of written English: Not suitable for publication unless extensively edited

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests