Reviewer's report

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

Version: 2  Date: 26 August 2008

Reviewer: Chris CW Whitehouse

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General Comments

This manuscript describes a case report of CCHF in the Balkanian (European?) part of Istanbul, Turkey caused by a CCHFV strain similar to Greek strain, AP92. The report goes on to describe a serosurvey for CCHF in the region. I believe this an important and significant report; however, the main drawback is the focus of the manuscript as written. The current focus of the manuscript, and as written in the title, is the identification of a “new CCHFV strain” in Turkey. While it is true that is particular strain has not been seen in Turkey previously, it is not a new strain, as suggested by the title. The truly interesting and significant data of this report is the identification of a strain so closely related to AP92 (based only on the S segment, however) that is causing clinical disease. The AP92 strain was first identified in Greece in 1980 and had not been associated with clinical disease since. This is the first report of clinical disease being caused by an AP92-like CCHFV strain. This should be the main focus of the manuscript. The fact that this strain is circulating in the Balkanian part of Istanbul, given the close proximity to Greece is interesting, but should be a secondary point. I would suggest a change in the title to reflect this focus: “Case report of Crimean-Congo hemorrhagic fever caused by an AP92-like strain and serosurvey for the disease in Istanbul, Turkey.” Also, it needs to be made clear that the serological data obtained here is NOT specific for this particular strain of CCHF, but reflects overall CCHF infection/exposure; this should be mentioned in the Discussion. Future work needs to be targeted at culturing the virus and/or obtaining the full-length sequence to fully determine the relatedness to the AP92 strain. Also, overall, the English grammar of the manuscript needs improvement.

Specific Comments

1. Title needs modified to reflect proper focus of the manuscript
2. Abstract: The “Background” as written is not correct. This is not background, and furthermore, the authors did not attempt to describe the extent of this strain in Turkey, but only regions around Istanbul.
3. Methods: “The sera was re-studied for IgM and IgG.” This was a second collection of sera, so it was not “re-studied”
5. Methods: “RNA extraction, PCR procedures and construction of phylogenetic tree” should be “RNA extractions, PCR, and phylogenetic analysis”

6. Not sure why the authors decided to design their own CCHF RT-PCR assay? There are several validated assays in the published literature. This brings into question the performance of this assay as there is no indication that it was fully validated. Also, nested PCR assays are notoriously problematic and prone to contamination. If there are any validation data on this assay, suggest including it.

7. “0.25 ul Taq” need to include the Unit concentration.

8. “ABI 310 Foster City, USA” need to include the state (Calif.)

9. Results: Useful to include the normal ranges for the laboratory results (these should be the normal ranges specific for the laboratory where the tests were performed)

10. Was the tick that bit the patient recovered and tested? Was it identified? This would be important information to include if known. Although Hyalomma ticks are the most important vector of CCHF, it should be kept in mind that AP92 strain was originally isolated from Rhipicephalus bursa ticks, thus these species should also be targeted in any future tick surveillance studies as well as Hyalomma ticks.

11. Conclusions: Not appropriate to refer to an “attack rate” of a virus. More appropriate to refer to an “infection rate”

12. Figure 2. Need to indicate significance of the shading in the figure legend. Perhaps it would be more appropriate to shade only the Turkish strains, instead of the entire clade?