Reviewer’s report

Title: Immunopathological changes associated with adenovirus type 55 infection severity

Version: 1 Date: 19 August 2013

Reviewer: Paul F Lewis

Reviewer’s report:

When assessing the work, please consider the following points:

1. Is the question posed by the authors well defined? The objectives are defined but no question is posed; this is a descriptive study of some victims of an adenovirus outbreak among military recruits. If there is an hypothesis, it is that there may be differences peripheral blood laboratory markers among adenovirus infection victims with disease of varying severity and between adenovirus victims and uninfected controls. Should differences be found, then these could be used to generate more specific hypotheses and to help design more specific studies.

2. Are the methods appropriate and well described? The hematology, flow cytometry, and cytokine assays are standard and well described. The serologic studies are less well standardized but appear to distinguish between victims of these outbreaks and healthy controls from bases that did not have outbreaks. The method for detecting RNA from throat swabs is not well defined nor is the rationale for this test; furthermore, the validity for this test being useful for detecting infection, acute infection, or severe infection is not demonstrated. –discretionary revision

3. Are the data sound? The data from the standardized, commercial tests are likely sound. The data from the tests developed internally is harder to evaluate. For example, figure 1 shows the levels of IF intensity for three different groups; they differ but not in a biologically plausible way (silent infection and severe infection are similar but minor infection is far different)

4. Does the manuscript adhere to the relevant standards for reporting and data deposition? Yes

5. Are the discussion and conclusions well balanced and adequately supported by the data? I think the discussion is more extensive than justified by the simple descriptive nature of the study. I suggest it be shortened and focus on generation of hypotheses that could be tested in future studies.-discretionary revision

6. Are limitations of the work clearly stated? I disagree with their limitation/conclusion ‘Nevertheless, the characterization of PBL parameters provided a considerable direction for the prediction of disease progression.’ I do not think this advances the prediction of disease progression since they did not provide information about whether the PBL parameters were obtained before,
during, or after severe manifestations of disease had become clinically apparent.-compulsory revision

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished? Yes

8. Do the title and abstract accurately convey what has been found? No, the title should reflect that this is a descriptive study of peripheral blood among adenovirus 55 infection victims; no immunopathology was demonstrated.-compulsory revision. Abstract is acceptable

9. Is the writing acceptable? Yes

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**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'