Reviewer’s report

Title: Case Report: A fatal case of disseminated adenovirus infection in a non-transplant adult haematology patient

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Reviewer: Thomas Lion

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In the present manuscript Joffe et al. describe a case of pulmonary and systemic human adenovirus (HAdV) infection with fatal outcome upon multiorgan failure in an adult patient with CLL on chemotherapy. The authors suggest that immunocompromised patients displaying "peripheral" infection with HAdV should be tested for the virus at least once in peripheral blood in order to provide a rationale for early antiviral therapy in attempts to prevent adverse outcome. In general, the risk of life-threatening HAdV infections in immunocompromised adult patients may be an underestimated phenomenon and in this regard the present manuscript may raise the awareness of this potential problem. However, the conclusions drawn from the reported observations need to be reconsidered.

Specific comments

1. The decision to initiate anti-adeno-viral treatment in the present case could have been based on the pulmonary symptoms and detection of HAdV in a BAL sample. If early initiation of treatment is important, as the authors claim in line with published data, what is the rationale for waiting until the detection of viremia before antiviral treatment is to be initiated?

2. The patient is reported to have experienced multiorgan failure which was attributed to invasive HAdV infection. Is this conclusion based merely on circumstantial evidence or was the organ affection demonstrated by detection of massively HAdV-infected organs post mortem?

3. The authors suggest performing a single HAdV screening test in peripheral blood in immunosuppressed patients with "peripheral" infection with this virus in order to facilitate the detection of invasive infection. This approach is questionable even if one were to agree that the onset of treatment should be triggered by the detection of viremia (which is a question per se). Since the time point of viral invasion into peripheral blood is not predictable, a single blood test could reveal a negative result, depending on the selected time point of investigation. In this regard systematic monitoring might be more reasonable.

4. What do the authors regard as a "peripheral" HAdV infection? Does a lung infection fit their definition?
The term HAdV "serotype" has been replaced by "type" because all HAdV recombinants discovered over the past ten years and accepted as novel types by the scientific community had been identified by molecular methods. The currently known number of HAdV types is far beyond 50.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

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If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

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