Reviewer's report

Title: A case of atypical anti-GBM disease complicated by CMV pneumonitis and massive hemoptysis

Version: 0 Date: 25 Aug 2018

Reviewer: Scott Wenderfer

Reviewer's report:

The manuscript describes an interesting case of glomerulonephritis and subsequent CMV infection with pneumonitis and viremia that fortunately the patient survived but unfortunately resulted in progression to ESKD. The case and discussion nicely address (i.) the challenges of detecting in blood the autoantibodies implicated in anti-GBM disease, and (ii.) the importance of distinguishing disease recurrence vs. secondary infection after initiation of therapy.

The following suggestions might increase the impact of the manuscript:

1. It is important to distinguish, when possible, the etiology of hemoptysis when reporting on patients with anti-GBM disease. The manuscript suggests the patient never had Goodpasture disease, and that the hemoptysis on initial presentation was mild and likely due to hypervolemia from severe GN. It then implies that the second episode was due to pulmonary hemorrhage secondary to CMV pneumonitis. Was there evidence of diffuse alveolar hemorrhage on any of the BALs (hemosiderin-laden macrophage >20%, or elevated Golde score [see article by De Lassence, Fleury-Feith, et al. Alveolar hemorrhage. Diagnostic criteria and results in 194 immunocompromised hosts. American journal of respiratory and critical care medicine 1995])? Is it correct that bronchoscopy was not performed upon initial hospitalization? Etiology of hemoptysis should be clearly stated in discussion and title should be changed to "A case of atypical anti-GBM disease complicated by pulmonary hemorrhage from CMV pneumonitis" if appropriate.

2. Is there evidence that the CMV infection exacerbated the GN and contributed to the progression to ESKD? Or do authors think that viral sepsis and anemia secondary to the hemoptysis led to pre-renal AKI that in combo with GBM disease caused the ESKD? A third possibility was that the ESKD was inevitable after an initial modest improvement from the GBM disease, completely unrelated to the CMV infection. Answering this in the discussion would help readers form an opinion on the efficacy and safety of the initial immnosuppression regimen prescribed.

The following minor issues should be considered:
3. Page 6, lines 105-106 and page 9, line 184: statement "EM did not show any immune complex-type powdery linear densities along the GBM" from discussion should also be included in the pathology section of the case report.

4. Page 7, line 120: Please clarify: was patient treated with plasma exchange (with FFP as replacement fluid)? Or plasmapheresis with albumin as replacement fluid?

5. Page 7, line 122 and 132: Was CMV assayed in BAL at time of initial bronchoscopy, or only at time of 2nd bronchoscopy? Any negative blood tests for CMV prior to onset of viremia?

6. Page 7, line 134: should serum CMV viral load be greater than 10^6 instead of 2^6?

7. Page 9, line 180 - page 10, line 199: could be abbreviated, since these differential diagnoses do not relate to the CMV infection or progression to ESKD.

8. Fig 1: add arrows/arrowheads to identify (1) the mesangial hypercellularity, (2) the endocapillary hypercellularity, (3) the nodular mesangial sclerosis, and (4) the disruptions in Bowman's capsule. It might help to crop the images in A, B, and D to include all of each glomerulus, as was done for Fig 1C.

9. Are Fig 1C and 1D stained with PAS or silver stain? If 4 glomeruli are to be included in the figure, it would be nice to show one with a necrotizing lesion and one with the focal GBM duplication.

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

Yes

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

Yes

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

Yes
Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
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

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

Nothing to declare

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal.