Peer Review File

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<mark>Reviewer A</mark>

Comment 1: This is a case report of a CD5+DLBCL that was evaluated using a large panel of genes by NGS. It is a case of personalized medicine. The case report is well written, it is easy to read, and to understand. More details of the NGs procedure and results would improve the report.

Reply 1: Thanks for the comments. We added and cited a recent published paper on our NGS procedure. In addition, we added more details of the NGS results inside (see Page 10, line 151-152; see supplementary table 1).

Comment 2: In the introduction, could you please explain why BTK inhibitors are recommended in the MCD subtype of DLBCL with CD79B and MYD88L265P mutation?

Reply 2: Thanks and we included the *in vitro* mechanism study which showed that cell lines of *CD79A/B* and *MYD88L265P* mutations confers ibrutinib sensitivity (see Page 7, line 93-95).

Comment 3: In the introduction, what is the pathological mechanism associated with the use of PD-1 inhibitor (torepalimab)? Why is PD-1 inhibition recommended in DLBCL?

Reply 3: We added the pathological mechanism of torepalimab in the introduction part (see Page 8, line 108-110). One publication for recommending PD-1 inhibition in DLBCL has also been cited, which showed that elevated PD-1 expression is associated with poor prognosis and the *in vitro* study showed that PD-1 blockade could restore the T cell function (see Page 8, line 114-117).

Comment 4: For Mum-1, please also mention the name IRF4. **Reply 4:** Thank for your comments, we have revised this word into interferon regulatory factor 4 /multiple myeloma oncogene-1 (IRF4/MUM-1, diffusely positive) (see Page 10, line 145)

Comment 5: Please define "starry sky phenomenon".

Reply 5: We have added more details for the "starry sky" phenomenon, which was characterized by uniform, medium-sized lymphoma cells with multiple basophilic small, inconspicuous, centrally located nucleoli, and basophilic cytoplasm (see Page 10, line 139-142)

Comment 6: Could you please provide more information regarding the 689 gene panel?

Reply 6: Sorry that the panel should be 688 genes and we have cited a previous publication, which showed the included 688 genes and more detailed information on this panel (see Page 10, line 151-152).

Comment 7: The different mutated genes are shown, including the VAF, but is it possible to include the detailed description of the mutations? I imagine the mutations were annotated using anovar, and later the high confidence calls were identified using a series of parameters.

chr, start, end, ref, alt, func.ref.gene, etc. etc...

Reply 7: Thanks for your suggestions. We added the detailed description of the mutations inside and attached another file with the mutation details inside (see supplementary Table 1)

Comment 8: Line 197. Could you please confirm "glaucoma"? **Reply 8:** Yes, we have confirmed that variants in the *CDKN2B/CDKN2B-AS1* gene have been reported to influence the risk of developing glaucoma in multiple genome-wide association studies conducted on diverse populations (see Page 14, line 214).

Comment 9: Is it correct to evaluate the TMB using this panel of genes? **Reply 9:** Thanks for the valuable comments, we have included relevant articles that shows the advantages of evaluate the TMB using this panel of genes (see Page 16, line 248-252).

Comment 10: Do you have access to histological images, including the immunohistochemistry?

Reply 10: Thanks for your suggestions and we have provided the histological images, including the hematoxylin-eosin (HE) staining and part of the immunohistochemical staining results (see supplementary Figure 1).

<mark>Reviewer B</mark>

Comment 1: As suggested by the CARE reporting checklist, "case report" should be included in the keywords.

Reply 1: Thanks for the comments. We added the "case report" in the keywords and modified this section (Page 4, line 55-56).

Comment 2: The item #12 of CARE checklist should be "N/A" if the patient's perspective was not mentioned in the text. Please add it to the manuscript or revise the checklist.

Reply 2: Thanks for the comments. We revised the checklist and changed it to "N/A" for item #12 in CARE checklist (see CARE reporting checklist).

Comment 3: You refer to "studies" with only one literature citation couple times in the text. Please check and revise.

Reply 3: Thanks for the comments. We have modified the citation and added ref 21 (Quan L, et al), which is a citation in the original ref 20 (see Page 9, line 120; see Page 23, line 374-376).

Comment 4: Subfigures should be cited consecutively. **Reply 4:** Thanks for the comments. We revised and cited the subfigures consecutively according to the figure details (see Page 10, line 146-151).

Comment 5: Provide an overview caption for Figure 2, 3, and S2. **Reply 5:** Thanks for the comments. We added the overview caption for Figure 2, 3, S1 and S2 as suggested (see Page 27, line 427-438; see supplementary figure 1/2).

Comment 6: Add age units where necessary in the main text of the manuscript. **Reply 6:** Thanks so much for the suggestions. We added the age units in the main text as advised (see Page 8, line 100/103/104; Page 17, line 272).

Comment 7: All abbreviations should be spelled out on first occurrence in Abstract/ Highlight Box/ Main Text/ Figure/ Table.

Reply 7: Thanks for the comments. We spelled out all the abbreviations on first occurrence in Abstract / Highlight Box / Main Text / Figure / Table (see Page 3, line 42/45; see Page 5, line 58; see Page 6, line 74-78; see Page 17, line 263; see Page 27, line 433; see supplementary figures and tables)

Comment 8: Indicate which time is correct.

- In August 2022, the patient became "less talkative" and the Magnetic Resonance
- 233 Imaging (MRI) results suggested a central recurrence with diffuse and nodular
- gray matter swelling with perilesional edema (measuring 28x20 mm) in left
- 235 frontal lobe (Figure 3A-B). Afterwards, she was administrated four courses of
- 455 **Figure 3**. Magnetic Resonance Imaging of the brain for the patient. Magnetic
- 456 Resonance Imaging with relapse in September 2022 (A,B); Magnetic Resonance

Reply 8: Thanks so much for the comments and we have confirmed that the time should be September 2022 (Page 8, line 239).

Comment 9: Check whether this time should be June 2023.

- 467 **Supplementary Figure 2**. Computed tomography of the lung for the patient.
- 468 Computed tomography after <u>toripalimab</u> and rituximab treatment in March 2023
- 469 (A-D); Computed tomography of progressive disease in July 2023 (E-H).

Reply 9: Thanks so much for the comments and we have confirmed that the time should be June 2023 (Page 15, line 477).