Reviewer's report

Title: De novo acute lymphoblastic leukemia-like disease of high grade B-cell lymphoma with MYC and BCL2 and/or BCL6 rearrangements: a case report and literature review

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Reviewer: Kung-Chao Chang

Reviewer's report:

Uchida et al. described a rare case of high-grade B-cell lymphoma (HGBL) with acute leukemia-like clinical presentation and MYC and BCL2 rearrangements. They also made a meta-analysis by the literature review of similar cases. This article is interesting and the figures shown are excellent. However, the including criteria of cases in the literature are misleading. Based on the updated WHO classification of lymphoid neoplasms (Ref. 3, Figure 4, page 2383), large B-cell lymphomas with MYC and BCL2 and/or BCL6 rearrangements should be designated HGBL with MYC and BCL2 and/or BCL6 rearrangements, except for cases that fulfill the criteria for a follicular or lymphoblastic lymphoma (acute lymphoblastic leukemia). Therefore, those cases, which in the literature show TdT expression, blastoid morphology (L2 morphology) and/or lack of surface immunoglobulin light chain expression, should be excluded (Table 1). MYC and BCL2 translocations in B-cell precursor acute lymphoblastic leukemia, although rare, have been reported (Pediatric Hematology and Oncology. 2015;8:535). Double hit per se is not the defining criteria for this entity.

Other minor issues are as follows.

1. TdT negativity for this case should be added in the abstract.

2. The lymphoblast-like tumor cells are mature B cells. "lymphoblasts" is not a suitable term for description.

3. The authors stated in Discussion that patients with DLBCL-HGBL have a better prognosis than those who with BL-like HGBL and AL-HGBL may carry a worse prognosis than any other morphological type of HGBL. The term "AL-HGBL" should be well characterized. What is "acute leukemia-like"? What is the cut-off value for the percentage of tumor cells in the bone marrow? Is there any lymphadenopathy on image study?

4. The statements in Discussion about AL-HGBL of immature B-cell phenotype should also be revised accordingly.
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.

Unable to assess

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?
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Not relevant to this manuscript

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