Reviewer’s report

Title: Transformation of nodular lymphocyte predominant Hodgkin lymphoma into "LP type" diffuse large B cell lymphoma

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Reviewer: IRENE BIASOLI

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The present study is a retrospective analysis of 33 cases of Nodular Lymphocyte Predominant Hodgkin Lymphoma (NLPHL) with simultaneous or sequential transformation to Diffuse Large B-cell Lymphoma. Also, the authors studied 41 cases of DLBCL de novo in male patients. While this paper covers this important issue, this manuscript contains several problems that need to be addressed in all the sections of the article, and changes should be incorporated in the new version.

Major compulsory Revisions

1- The objective of the study was not precisely stated. Also, in the introduction, the exact reasons that lead the authors to develop the project were not clearly stated.

2- Methods

2.1 The period of the study is not clear. Were the 33 cases consecutive?

2.2 It is not clear how were the 33 cases selected from the archives (randomly? All the cases?). Also, is it possible to inform the total number of NLPHL cases from which these cases of composite lymphoma were selected?

2.3 Was the selection of cases based on the original reports? After the revision and immunophenotyping, were any cases reclassified as different lymphomas?

2.4 Which criteria were used for the diagnosis of the cases and selection of the antibody panel?

2.5 How many pathologists were involved in the process of reviewing the material? Were cases examined by the reviewers simultaneously or separately? How many discordant cases were found? How were the discordant cases analysed?

2.6 Which criteria were used to assess positivity? What is the definition for positive or weakly positive?

2.7 Were cases of THRLBCL excluded? It is written in the discussion, but in the methods it was not clearly stated. And if so, which criteria were used?

3- Results

3.1 The results of clinical findings were presented repeatedly in the text and in Table 1. I would suggest presenting these results preferentially in the Table and only highlighting the main findings on the text.
3.2 It is written that “frequent biopsy sites were axillary and intraabdominal”. However, in Table 1 the most frequent sites were axillary and cervical. Also, the percentages regarding biopsy sites in the two columns do not total 100%.

3.3 Regarding treatment of NLPHL – DLBCL composite, was the information available in only 20 out of 33 patients? Was it possible to accurately assess the response of patients in all 33, even not knowing the first treatment?

3.4 Was the median follow-up time calculated for all 33 patients? The median follow-up time for alive patients only should also be provided.

3.5 If the information about treatment, response and follow-up could not be accurately collected, I would suggest not calculating survival data and drawing conclusions based on that.

3.6 It would be nice to know the median time from the diagnosis of NLPHL to the date of transformation of all 33 cases.

3.7 As the objective of the study was not clearly stated, it is difficult to understand and interpret the results section. In page 7, there are results presented in text and tables. Also, it would be nice to indicate the Table number when referring to an specific number.

3.8 Table 2 is difficult to interpret. Maybe the information could be condensed, for example there are 3 columns showing reduced, enhanced or identical expression. The identical could be suppressed? Or the other 2?

3.9 It is not clear which was the real objective of studying the independent series of DLBCL. It must be stated in the objective and methods.

3.10 Were the criteria used to identify the potential cases of LP type DLBCL previously established or it was defined with the data of the article?

3.11 The description of the 4 clinical cases could be written in a separate section.

4. Discussion

The discussion should be rewritten, particularly emphasizing the aims of the study and the most relevant results, and taking in consideration the observations above. I would avoid drawing conclusions regarding survival and prognosis. Also, it is advisable to update the abstract accordingly.

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**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