Reviewer's report

Title: Prognostic significance of interim PET/CT based on visual, SUV-based, and MTV-based assessment in the treatment of peripheral T-cell lymphoma

Version: 2
Date: 25 November 2014
Reviewer: Marcelo Queiroz

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- Major Compulsory Revisions

The main drawback is the presentation of the results. Sometimes, they are disorganized, repetitive and lacking statistical significance (p value). The topics “Prediction of disease progression using interim PET/CT” and “Survival outcomes and prognostic significance of interim PET/CT assessed by the three parameters” are somehow more about the same and hard to understand. The first phrase of the first topic talks about “prognostic significance” that is part of the title of the second topic. Where exactly will you present the prognostic value? It would be more interesting to rearrange them showing the results more organized, avoiding repetitions. I suggest you to present sequentially the prognostic significance, the relapse rates for each assessment at interim PET/CT and lastly the survival outcomes. Or maybe, you could try to present your results according to the assessment done: I. Visual; II. Quantitative; and III. Combined. Although more hard working, the latter would be more comprehensive.

- Minor Essential and Discretionary Revisions

Material and Methods

1. P. 5 / L. 14 # Follow-up restaging was done every 3 months during the first year, and every 6 months thereafter. How? Clinically? By PET/CT? How recurrence has been confirmed?

Results

Patient’s characteristics

2. P. 9 / L. 10-12 # the numbers regarding treatment are confusing. Of the total of 63 patients, how many underwent chemotherapy? All? And how many underwent IFRT - 12 (in the text) or 15 (in the table)?

3. P. 9 / L. 13 # Why have you included the four patients without interim PET/CT? They should be excluded.

4. P. 9 / L. 14 # Positive metabolic uptake (grade 1-3). It should be negative or (grades 4 and 5);

5. P. 9 / L. 24-25 # You should specify the optimal cutoff value here (e.g. #SUVmax higher than 67.6%).
6. P. 9 / L. 26-27 and P.10 / L. 1-3 # What is the rationale for this? You are evaluating the visual and quantitative parameters of interim PET/CT and not of initial diagnostic PET/CT. You have shown the prognostic value of interim PET/CT using visual assessment and the prognostic value of initial PET/CT using quantitative assessment. Or you present the prognostic value of initial PET/CT using all parameters or you only show the prognostic value of interim PET/CT using all parameters (this is the aim of your study).

7. P.10 / L. 9-11 “Seven patients with a positive uptake (grade 4 or 5) based on visual assessment were determined to show false-positive uptake during primary chemotherapy” # How was it proved - biopsy? And, please, list the confounding sites.

8. Several p values are missing (p. 10 / L. 22, 24; P. 11 / L. 9, 23);

9. P. 11 / L. 25 “showed better discriminatory ability for predicting the outcomes than single-parameter assessment” # By which statistic test it has been shown?

Discussion

10. P. 12 / L. 9 # lack of uniformITY

11. P. 13 / L. 5-6 “which calculated the tumor volume using delineating the tumor margins with SUV cutoff of 2.5” # must be omitted. It has been already mentioned before. Avoid repetitions.

12. P. 13 / L. 6 “could be a prognostic factor for predicting the progression during mid-therapy” # it makes no sense. Please rephrase it.

13. P. 13 / L. 12-13 “no significant difference was observed between the visual and quantitative assessments for predicting the progression”# this result has not been shown.

14. P. 13 / L. 22-25 “The definition of positivity using grade 1-2 reported relatively low PPV with high NPV compared to quantitative assessments in ROC analysis. Low PPV of visual assessment could make it difficult to intensify the treatment strategy regarding the concern of overtreatment of a substantial portion in poor responders” # this is not very clear. PPV of visual assessment (87,8%) is probably not significantly lower than the #SUVmax assessment (92,8%), which could make it difficult to intensify treatment strategy. And the main concern in poor responders is the undertreatment, since they usually require higher doses/more treatment. Please rephrase it.

Figures and Tables

15. It would be very interesting and valuable include a figure showing one example of the proposed visual and quantitative assessments.

Level of interest: An article of importance in its field

Quality of written English: Acceptable
**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.