Reviewer’s report

Title: Pre-treatment neutrophil-to-lymphocyte ratio is associated with neutrophil and T-cell infiltration and predicts clinical outcome in patients with glioblastoma

Version: 1
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Reviewer: Richard M Bambury

Reviewer’s report:

This manuscript is of interest to the field and is generally well written and presented. As well as validating the prognostic significance of NLR, the authors report two important novel findings. Firstly, they demonstrate a correlation between peripheral blood NLR and increased tumor neutrophil infiltration/decreased T cell infiltration. Secondly, they demonstrate that NLR is of prognostic significance independent of MGMT status. It would be suitable for publication pending revisions below:

Major Compulsory Revisions:

1. Table 1 and Table 2 should analyse and report Age as a categorical variable (>60 years vs. #60 years) which is in keeping with prior literature and prognostic nomograms (eg Gorlin et al, Lancet Oncol, 2007)

2. Similarly Table 1 and Table 2 should analyses and report KPS as a categorical variable (80-100 vs. <=70) in keeping with prior literature and prognostic nomograms.

3. Table 2 should explain whether variables are assessed as categorical or continuous variables. This could be stated in parentheses after the variables or in the Table legend.

4. The last paragraph of the "Pre-treatment NLR is superior to PLR" section describes ROC survival curves using NLR and PLR. The data does not add to the manuscript in a meaningful way so should be removed along with Figure 3.

5. Figure 2 would be better split into two figures with C and D as a separate figure highlighting the NLR - PLR correlation

Minor Essential Revisions

6. Figure 1 legend states pre-treatment NLR is associated with 2 yr survival rates but this is not the case as the p value is 0.218 so the statement should be removed.

7. Figure 2 legend should clarify whether NLR and PLR are being assessed as continuous or categorical variables.

8. Table 1 legend should explain how p-value was calculated.
9. In the "Study Population" section the authors list a number of medical conditions which precluded patients from this study due to possible aberrations in NLR. Please clarify why metabolic syndrome and hypertension were included in this list and cite any relevant literature.

10. The conclusion should be rewritten to include the fact that the data demonstrate a correlation between peripheral blood NLR and increased tumor neutrophil infiltration/decreased T cell infiltration. It should also state that NLR is of prognostic significance independent of MGMT status.

11. In the "Statistical analysis" section please clarify why a 30% residual tumor cut-off was used to differentiate between the degree subtotal resection and cite any relevant literature.

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