Author’s response to reviews

Title: The Relation Between Neutrophil-to-Lymphocyte Ratio and Coronary Chronic Total Occlusions

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Author's response to reviews: see over
Answers the Reviewers

Reviewer: Ujjawal Gandhi

Major revisions:

1. In ROC analysis, a cut point 2.08 for NLR was identified in patients with CAD group (area under the curve=0.64; 95% CI, 0.56-0.73). A NLR value of more than 2.08 demonstrated a specificity of 69.3% and a sensitivity of 48%. The specificities of NLR values are similar for a cut point 2.08-2.09 between CTO group and CAD group, but the sensitivities of NLR values are different. The CTO group sensitivity was higher than CAD group (61% vs. 48%).

![ROC Curve](image1)

2. We performed bivariate correlation analysis between NLR and Gensini score. And, we found a positive correlation. We added the correlation analysis in manuscript.

![Correlation Chart](image2)
Minor Revisions:

1. The term “Healthy persons” was changed, and the term “Controls” was used.

2. We believe that the persons with CAD who have too high NLR values may have to be considered for CTO.

3. We cited the reference for the modified Simpson rule.

Discretionary Revision:

1. Reviewer’s suggestions were added to the limitations in manuscript.

Reviewer: Vikram Agarwal

1. The median value of Syntax score was 13 in our study population. CAD and CTO groups were divided two groups for Syntax score (<13 and >13). The means of the NLR values were compared between the each groups.

Syntax Score:

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean±SD</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 13 CAD</td>
<td>53</td>
<td>2.15±0.66</td>
<td>0.006</td>
</tr>
<tr>
<td>&lt; 13 CTO</td>
<td>17</td>
<td>2.86±1.44</td>
<td></td>
</tr>
<tr>
<td>&gt; 13 CAD</td>
<td>22</td>
<td>2.09±0.60</td>
<td>0.002</td>
</tr>
<tr>
<td>&gt; 13 CTO</td>
<td>58</td>
<td>2.98±1.26</td>
<td></td>
</tr>
</tbody>
</table>

The median value of Gensini score was 44 in our study population. CAD and CTO groups were divided two groups for Gensini score (<44 and >44). The means of the NLR values were compared between the each groups.

Gensini Score:

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean±SD</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;44 CAD</td>
<td>59</td>
<td>2.10±0.66</td>
<td>0.001</td>
</tr>
<tr>
<td>&lt;44 CTO</td>
<td>17</td>
<td>2.95±1.53</td>
<td></td>
</tr>
<tr>
<td>&gt;44 CAD</td>
<td>16</td>
<td>2.22±0.57</td>
<td>0.02</td>
</tr>
<tr>
<td>&gt;44 CTO</td>
<td>58</td>
<td>2.96±1.23</td>
<td></td>
</tr>
</tbody>
</table>

2. We chose the patients for inclusion and exclusion criteria. When the group counts reached 75, the intake of new patients in that group was terminated.

3. We added the positive correlation between NLR and Gensini score. We deleted the “statistically significant” for Syntax score in manuscript.
4. We investigated the Arbel et al. study. “The cohort was divided into 3 groups according to the NLR value. Group 1 (NLR < 2) included 30% of the patients, Group 2 (NLR 2-3) included another 30%, and group 3 (NLR>3) included 40% of the patients.” So, 60% patients’s NLR value lower than 3. Also, in this study, “approximately half of the cohort underwent angiography due to acute coronary syndrome while the other half were stable at presentation”. In our study, all patients were stable coronary artery disease. Therefore, our study’s the NLR cut off value may have lower than the other study.

5. The people underwent diagnostic coronary angiography. All of the patients were stable coronary heart disease. Therefore, they did not receive specific treatment before the procedure.

6. We added the result of univariate and multivariate analysis in discussion section.

*Corrected and added new informations are red colored.*

*NOTE: Our paper revised to improve the style of written English by the Edanz (www.edanzediting.com/bmc1).*

Sincerely yours,

Ass.Prof.Dr.Kenan Demir