Inclusion Criteria:
1) HIV diagnosed with negative HIV test within preceding 48 mos. Estimated seroconversion date was midpoint of HIV positive test date to last documented viral suppression on ART ≥ 6 months.
2) No evidence of viral hepatitis or liver disease, or any known chronic conditions.
3) On ART ≥ 6 months with documented viral suppression on at least 2 consecutive determinations.

Methods

71 patients were enrolled between July 2008 and September 2009. All patients had been on ART for at least 6 mos. The study was approved by the Institutional Review Board at National Naval Medical Center, Bethesda, MD.

Table 1. Comparison of Biomarkers and Immune Parameters Before and After ART in Patients Achieving Viral Suppression

<table>
<thead>
<tr>
<th>Biomarker/s</th>
<th>Before ART</th>
<th>After ART</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD4 (cells/mm³)</td>
<td>237 ± 28</td>
<td>532 ± 70</td>
<td>0.001</td>
</tr>
<tr>
<td>CD8 (cells/mm³)</td>
<td>568 ± 76</td>
<td>409 ± 68</td>
<td>0.001</td>
</tr>
<tr>
<td>CD4/CD8 ratio</td>
<td>0.41</td>
<td>1.31</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>CD4 cell count</td>
<td>194 ± 22</td>
<td>532 ± 70</td>
<td>0.001</td>
</tr>
<tr>
<td>CD4-CD8 ratio</td>
<td>0.39 ± 0.17</td>
<td>1.31 ± 0.31</td>
<td>&lt; 0.001</td>
</tr>
</tbody>
</table>

Results

1) In untreated patients, AG ratio is associated with IL-6, D-dimer, and CD4/CD8 ratio. B-cell dysfunction may be interrelated with other pathways of inflammation.
2) During viral suppression among the same patients, most of the associations were ameliorated. AG ratio remained only modestly associated with IL-6. Persistent B-cell activation may play a role in residual post-ART viral load.
3) AG ratio or calculated global variables have potential surrogate mark for excess immunoglobulin production caused by B-cell activation. Future studies will need to define their utility and significance for predicting clinical events (e.g. serious non-AIDS events).

Conclusions

References


Funding and Disclaimer

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