## Immunological and Virological Progression in HIV Controllers

### Characteristics of the study population

<table>
<thead>
<tr>
<th>Characteristics of the study population</th>
<th>Immune Inflammatory Progressors (n=10)</th>
<th>Virologic Progressors (n=5)</th>
<th>Non-Progressors (n=20)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male gender, %</td>
<td>3 (30)</td>
<td>1 (20)</td>
<td>16 (80)</td>
<td>0.03</td>
</tr>
<tr>
<td>Age (years)</td>
<td>48 (41-53)</td>
<td>34 (32-34)***</td>
<td>45 (39-50)</td>
<td></td>
</tr>
<tr>
<td>Duration of known HIV infection (years)</td>
<td>18 (12-25)</td>
<td>5 (4-7)***</td>
<td>13 (8-20)</td>
<td></td>
</tr>
<tr>
<td>HLA B57 (%)</td>
<td>3 (30)</td>
<td>1 (20)</td>
<td>16 (80)</td>
<td>0.03</td>
</tr>
<tr>
<td>HCV+ status, %</td>
<td>3 (30)</td>
<td>1 (20)</td>
<td>16 (80)</td>
<td>0.03</td>
</tr>
<tr>
<td>CD4 T cell nadir (median)</td>
<td>245.5 (203.5-259.8)**</td>
<td>433 (405.8-455.8)***</td>
<td>496 (476-517.5)***</td>
<td></td>
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<tr>
<td>CD4 T cell count (median)</td>
<td>416.5 (266-420)****</td>
<td>647 (537-1467)***</td>
<td>765.1 (593-1450.3)***</td>
<td></td>
</tr>
<tr>
<td>Viremic HIV RNA copies/mL</td>
<td>11 (7-23)**</td>
<td>118 (70-1922)**</td>
<td>34 (11-89)</td>
<td>0.02</td>
</tr>
<tr>
<td>Total HIV DNA/mL</td>
<td>18 (13-21) PBMCs</td>
<td>219 (104-466)**</td>
<td>30 (13-66)**</td>
<td>0.02</td>
</tr>
<tr>
<td>% of memory T cells during history</td>
<td>31 (17-52)**</td>
<td>32 (17-47)</td>
<td>21 (18-25)</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Results are quoted as the median (IQR) or as percentage. All comparisons were performed relative to the group of non-progressors. 
**p < 0.05; **p < 0.01; ***p < 0.001.

### Clinical events prior to progression

- **2 of the 5 patients with VP reported unprotected sexual intercourse in the previous 3 months (also reported by 63 of the 197 non-progressors (31.9%) having provided information).**
- **3/50 patients displayed ImmP in the months following an infectious event (diarrhea and Chlamydia trachomatis infections in one patient, two episodes of bronchitis in a second patient, and the third patient experienced two episodes of prostatitis, an episode of gastro-enteritis and a whiteta).**
- **1 patient underwent an epidural injection of corticosteroids in the month before immunological progression.** Patient 1 was diagnosed with a B-cell lymphoma four months after immunological progression.

### Discussion and conclusion

- **The frequency of progression in our French cohort of HICs was 6.9% (considering only confirmed progressors) over a 5-year period.**
- **The CD4 T cell count, a history of blips, and a higher HIV RNA VL at inclusion are possible determinants for immunological progression.**
- **The blood level of HIV DNA (reflecting the HIV reservoir) and a higher HIV RNA VL at inclusion appear to be associated with virologic progression.**
- **Patients with higher CD4+ or CD8+ T cell activation and IP10 levels at inclusion are at risk of progression.**
- **All these parameters should be taken into account when stratifying at-risk patients, in order to adjust their follow-up and optimize the time at which CART is initiated.**