Introduction

Hypogonadism is common and occurs prematurely in human immunodeficiency virus (HIV)-infected men, being hypogonadotropic hypogonadism (HH) more frequent. However, HH with very low testosterone has not been described. We present three HIV-infected men with severe HH and normal pubertal development.

Clinical Presentation

- Three HIV-infected men, with HIV-1 diagnosis at the ages of 22, 34 and 35 years.
- Two of them had depressive syndrome, one treated with escitalopram and the other with mirtazapine.

HIV diagnosis at 22 years

- 25 years ⇒ Antiretroviral drugs (protease inhibitor and reverse-transcriptase inhibitors)
- 32 years ⇒ Decreased libido, anejaculation and erectile dysfunction

HIV diagnosis at 34 years

- Six months later ⇒ Decreased libido, anejaculation and hair loss in androgen-dependent areas

HIV diagnosis at 35 years

- At the time of diagnosis ⇒ Antiretroviral drugs (reverse-transcriptase inhibitors)
- 36 years ⇒ Anejaculation and decreased libido

Laboratory and Imagiology (1)

- Laboratory tests revealed isolated hypogonadotropic hypogonadism in all of them (Table 1A and 1B)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Values (Patient 1)</th>
<th>Values (Patient 2)</th>
<th>Values (Patient 3)</th>
<th>Reference Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSH (U/L)</td>
<td>1.48</td>
<td>0.7</td>
<td>&lt;0.07</td>
<td>23.0-116.3</td>
</tr>
<tr>
<td>LH (U/L)</td>
<td>0.46</td>
<td>&lt;0.12</td>
<td>&lt;0.07</td>
<td>15.9-54.0</td>
</tr>
<tr>
<td>Total Testosterone (ng/dL)</td>
<td>24.2</td>
<td>&lt;10</td>
<td>37</td>
<td>240-830</td>
</tr>
<tr>
<td>Free Testosterone (pg/mL)</td>
<td>0.66</td>
<td>0.46</td>
<td></td>
<td>8.8-27</td>
</tr>
<tr>
<td>Estradiol (pg/mL)</td>
<td>&lt;10</td>
<td>29</td>
<td>&lt;40</td>
<td></td>
</tr>
<tr>
<td>Prolactin (ng/mL)</td>
<td>5.1</td>
<td>6.1</td>
<td>4.1</td>
<td>1.8-20.0</td>
</tr>
</tbody>
</table>

Table 1A – Laboratory tests on admission to the Endocrinology Consultation

Laboratory and Imagiology (2)

- CD4 count at the time of hypogonadotropic hypogonadism diagnosis ⇒ Normal in all of the patients (Table 2)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Values (Patient 1)</th>
<th>Values (Patient 2)</th>
<th>Values (Patient 3)</th>
<th>Reference Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD4+ (cel/µL)</td>
<td>1321.9</td>
<td>562.9</td>
<td>718.3</td>
<td>≥500</td>
</tr>
</tbody>
</table>

Table 2 – CD4 count at the time of hypogonadotropic hypogonadism diagnosis

- Sellar and head tomography scan ⇒ Normal in all of the patients

Treatment

- Testosterone replacement therapy
- Total testosterone normalization and symptoms improvement

Discussion

- Causes of hypogonadotropic hypogonadism in HIV-infected men include treatment with protease inhibitors, undernutrition, severe illness, drugs (such as psychotropics), pituitary dysfunction and co-morbid conditions, as antibody to HCV seropositivity and injection drug use. However, this hypogonadism is usually mild.
- Despite having none of these features (except one patient that did a protease inhibitor and two patients that were treated with low-dose psychotropics), our patients had hypogonadotropic hypogonadism with uncommonly low testosterone.
- This suggests that a different mechanism could contribute to severe hypogonadotropic hypogonadism in HIV-infected men.

Screening for hypogonadism in all HIV-infected men might help to understand its etiology.

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