HYPOGONADOTROPIC HYPOGONADISM IN HUMAN IMMUNODEFICIENCY VIRUS INFECTED MEN: UNCOMMONLY LOW TESTOSTERONE LEVELS

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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)

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

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

Laboratory and Imagiology (2)

Variable	Values (Patient 1)	Values (Patient 2)	Values (Patient 3)	Reference Values
TSH (µg/mL)	2.22	1.46	0.829	0.55-4.78
FT_4 (ng/dL)	1.13	1.14	0.95	0.80-1.76
ACTH (pg/mL)	35.3	21.9	8.77	0-46.0
Cortisol (µg/dL)	11.7	17.8	11.55	4.3-23.0
GH (ng/mL)	0.51	0.17		< 8.0
IGF-1 (ng/mL)	170	219	214	87.0-238.0

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

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

Variable	Values (Patient 1)	Values (Patient 2)	Values (Patient 3)	Reference Values
CD4+ (cel/uL)	1321.9	562.9	718.3	≥500

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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