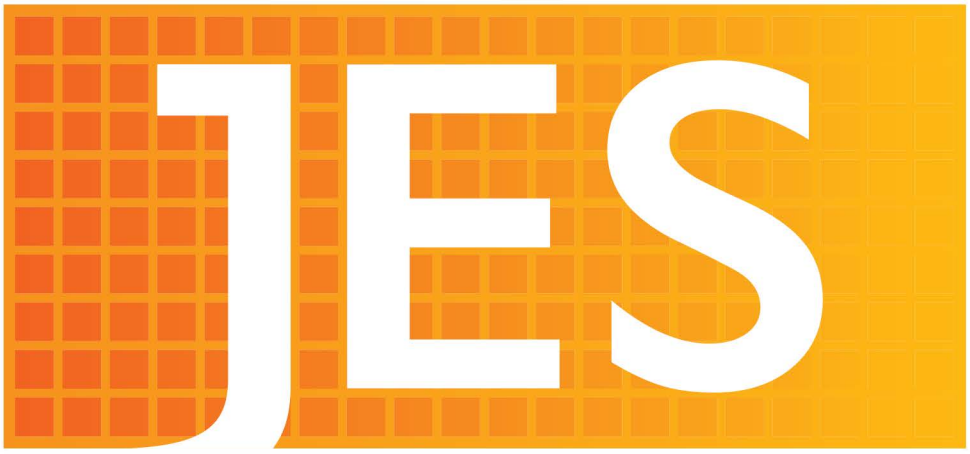

Journal of the Endocrine Society

AN OPEN ACCESS PUBLICATION

ENDO 2019 ABSTRACTS

101ST ANNUAL MEETING AND EXPO OF THE ENDOCRINE SOCIETY

OR18-3 Gonadal Function in Human Immunodeficiency Virus (HIV)-Infected Men Assessed by Isotopic Dilution-Liquid Chromatography-Tandem Mass Spectrometry (ID-LC-MS/MS) and Chemiluminescent Immunoassay

Sara De Vincentis, MD, Maria Chiara Decaroli, MD, Chiara Diazzi, MD, PhD, Fabio Morini, Davide Bertani, Flaminia Fanelli, MSc, PhD, Marco Mezzullo, MSc, Daniele Santi, MD, PhD, Enrica Baraldi, MSc, Simonetta Tagliavini, MSc, Uberto Pagotto, MD, PhD, Giovanni Guaraldi, MD, PhD, Vincenzo Rochira, MD, PhD

Journal of the Endocrine Society, Volume 3, Issue Supplement_1, April-May 2019, OR18-3, https://doi.org/10.1210/js.2019-OR18-3
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Abstract

BACKGROUND: HIV-infection is associated to premature decline of serum T[1,2]. However, prevalence and biochemical characterization of hypogonadism in HIV-infected men are still to be well defined[1,2]. **AIM:** To evaluate the gonadal status in HIV-infected men by assessing circulating total T (TT) with either ID-LC-MS/MS or chemiluminescent immunoassay. **METHODS**: Prospective, cross-sectional, observational study on HIV-infected men with ongoing Highly Active Antiretroviral Therapy (HAART). Serum TT, gonadotropins and sex hormone-binding globulin (SHBG) were measured by chemiluminescent immunoassay. TT was also assessed by the gold standard ID-LC-MS/MS. Free T (FT) was calculated by Vermeulen equation. Hypogonadism was defined as serum TT levels below 320 ng/dL and/or free T levels below 64 pg/ml. ***Statistical analysis:*** Categorical variables were compared using Chi-Square test, while correlations were performed using linear regression models. **RESULTS:** 315 consecutive HIV-infected men were enrolled (mean age 45.56±5.61 years; average duration of HIV-infection 16.57±10.45 years). Considering serum TT levels assessed by LC-MS/MS and immunoassay, 11 patients out of 233 (4.8%) and 10 patients out of 315 (3.2%) had T deficiency, respectively. TT combined with luteinizing

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hormone (LH) levels was used to classify hypogonadism. No difference was found comparing the two methodologies used for TT measurement (p=0.914). 56 patients (17.8%) showed SHBG above the normal range (>71.4 nmol/L). Considering calculated FT, the incidence of hypogonadism raised to 6.9% using either immunoassay or LC-MS/MS, with no difference between methodologies (p=0.895). Including compensated form of hypogonadism, the prevalence raised to 13% for TT and to 15% for FT. FT showed an inverse relation with age (-0.340,p<0.0001,R^2=0.116), years of infection (-0.339,p<0.0001,R^2=0.120) and years of HAART (-0.346,p<0.0001,R^2=0.117), but not with BMI of patients.
CONCLUSIONS: To the best of our knowledge, this is the first properly-designed prospective study aiming to investigate the gonadal status of HIV-infected men with both LC-MS/MS and chemiluminescent assay, together with gonadotropins. In HIV-infected patients a) the two methodologies have equivalent reliability in TT measurement; b) SHBG for calculated FT is essential for the detection of T deficiency, revealing the real prevalence of hypogonadism in this context; c) duration of HIV-infection and HAART seem to be potent predictive factors for serum FT levels, suggesting a concomitant negative effect of virus *per se* and antiretroviral drugs on gonadal function.
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Issue Section: Male Gonadal Function

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