“GH-IGF1 axis in HIV Lipodystrophy Syndrome.”

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OBJECTIVE
Lipodystrophic HIV patients frequently display impaired pituitary GH response. Aim: to investigate the GH response to GHRH+Arg in women with HIV-related lipodystrophy.

AIMS
To evaluate the GH response to GHRH+Arg in HIV-infected women with HIV-lipodystrophy syndrome in comparison with healthy controls (less data is available in literature for females than for males); to explore different values of GH peak, lacking established cut off values in women with HIV; to identify possible predictive factors for impaired GH response to GHRH+Arg among body composition and several metabolic and hormonal variables in both healthy women and HIV-infected patients.

DESIGN AND PATIENTS
49 HIV-infected female with lipodystrophy syndrome were compared with 10 healthy women matched for age and BMI.

MEASUREMENTS
GH, IGF-1, IGFBP-3, GH after GHRH+Arg, and metabolic variables. Body composition was evaluated by anthropometry and DXA; an abdominal CT scan was performed only in the HIV patients.

RESULTS
Using cut-offs of 4.2 and 5 µg/L, 6.12% of the HIV-infected patients failed to reach GH peaks above these values, the percentage increasing to 22.44% with a threshold of 7.5 µg/L, while none of the healthy women showed an impaired GH peak of less than 7.5 µg/L. IGF-1 was significantly lower in the HIV-infected
patients with a GH peak < 7.5 µg/L. Among the anthropometrical, hormonal and metabolic variables tested, only the total lean body mass measured by DXA and the BMI were predictive factors for the impaired GH peak response and for the area under the curve (AUC) of the whole GH response after the GHRH+Arg test; while the other variables tested did not enter in the multivariate analysis, being not predictive factors for both GH peak and AUC.

**CONCLUSIONS**

The study suggests that relative GH deficiency is common among HIV-infected females compared with healthy matched controls. The lack of a correlation between GH response to GHRH+Arg and parameters of fat distribution, and the low serum IGF-1 in HIV-infected females with impaired GH peak suggests that impaired GH secretion may be not necessarily related only to fat redistribution parameters in these patients. Anyhow, these results do not allow us to establish with certainty whether HIV lipodystrophic females with impaired GH response to GHRH+Arg are truly or functionally GH deficient.