of AMI, the time of day is of minor relevance; age and sex, however, are more important because these will influence the upper reference concentrations of both these markers. In addition, caution should be taken when using the Mb over FABP ratio to discriminate cardiac from skeletal muscle injury, especially for patients >50 years of age.

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References


Maurice M.A.L. Pelsers1*
Jean-Paul Chapelle2
Marjo Knapen3
Cees Vermeer6
Arno M.M. Muijtjens4
Wim T. Hermens5
Jan F.C. Glatz1

Departments of
1 Physiology, 2 Biochemistry, 3 Medical Informatics, and 4 Cardiovascular Research Institute Maastricht (CARIM) Maastricht University P.O. Box 616 6200 MD Maastricht, the Netherlands

Influence of Gender in Growth Hormone Status in Adults: Role of Urinary Growth Hormone

To the Editor:

A recent paper by Engstrom et al. (1) presented marked gender differences in plasma growth hormone (GH) values in young adults (21–26 years of age), evaluated in the consulting room and after overnight fasting. The authors observed higher values in the women than in the men. They proposed that something in the morning triggers a GH burst in almost all of the women but in very few of the men.

Veldhuis in the 24th International Symposium in Antwerp (GH and Growth Factors in Endocrinology and Metabolism, October 1997; information printed by Sterling Press, UK, for Pharmacia & Upjohn) affirmed that gender itself has a major impact on the secretion of GH in adults. Unfortunately, until now the basis of sexual dimorphism in GH secretory patterns/status in humans has not fully understood. However, several works suggest that estrogens play an important role in GH secretion in women compared with men. Lang et al. (2) observed a difference in response to growth hormone-releasing hormone (GRH) in premenopausal, but not postmenopausal, women compared with men. Therefore, estrogens seem to increase the GH-stimulated GH secretion.

Main et al. (3) revealed a significant impact of gender on urinary GH values. They included children in the study and collected the first morning voiding for 3 days per subject.

The urinary GH values, collected from 70 healthy adults (22–61 years) drug free, in the ambulatory state, and after overnight fasting are reported here. This population was divided twice (by gender and age) into four groups to investigate a possible influence of gender in GH status; these groups were as follows: group A, men less than 40 years of age (range, 22–39 years), n = 18; group B, women less than 40 years of age (range, 19–40 years), n = 25; group C, men more than 40 years of age (range, 43–61 years), n = 17; and group D, women more than 40 years of age (range, 41–59 years), n = 10 (five of the women were postmenopausal).

This study was approved by the Bioethics Committee of the Medical School of the University of Padova.

To evaluate GH status, other markers such as plasma GH and growth hormone-binding protein (GHB) were analyzed. The latter is a circulating protein, generated from the extracellular domain of the GH receptor through a proteolytic cleavage.

Statistical analysis was performed using ANOVA-LSD.

The plasma GH concentration and urine GH excretion (reported as ng/L and as ng/g of creatinine) in 70 adults are summarized in Table 1. Values are expressed as mean ± SD. Urinary GH values (expressed both as ng/L and ng/g of creatinine) were higher in women than in men in the younger groups. In groups C and D, there was no difference between male and female urinary GH values (0.98 ± 1.50 vs 1.02 ± 1.52 ng/L and 1.55 ± 2.83 vs 1.90 ± 3.19 ng/g of creatinine, respectively). Further-
more, plasma GH (μg/L) was higher in the women than in the men in both age groups (4.24 ± 5.09 vs 0.32 ± 0.77 for groups B and A, respectively, and 5.13 ± 4.72 vs 0.30 ± 0.38 for groups D and C, respectively).

Urinary and plasma GH were measured with IRMAs (hGH, monoclonal antibodies against normal GH, and GH IRMA kit from Immunotech for plasma GH). GHBP was measured with IRMAs (hGH monoclonal antibodies against normal GH).

Urinary GH values were measured with IRMA for 3 morning urine samples in 517 healthy children and adults. J Clin Endocrinol Metab 1994;79:865–71.

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References


Enrico Cappellin
Rosalba Gatti
Elio F. De Palo*

Dipartimento di Scienze Medico Diagnostiche e Terapie Speciali
Sezione di Biochimica Clinica
Università degli Studi via Ospedale, 105
35100 Padova, Italy

*Author for correspondence. Fax 39-049-657391; e-mail depalo@ux1.unipd.it

Correction

In the article by S.J. Winters, D.E. Kelley, and B. Goodpaster, entitled “The Analog Free Testosterone Assay: Are the Results in Men Clinically Useful”, 1998;44:2178–82, the y-axis range for free testosterone in Figs. 1 and 3 (bottom panel in Fig. 1 and top panel in Fig. 3) is incorrect. The range should read “0–300 pmol/L”, not “0–3 pmol/L” as published. The author regrets the error.