Reviewer's report

Title: Pre-clinical cardiac involvement in adulthood growth hormone deficiency: role for left ventricular remodeling. A single-center case-control study

Version: 1 Date: 6 September 2005

Reviewer: Paolo Marzullo

Reviewer's report:

General
In their study, de Gregorio and colleagues describe the prevalence of eccentric hypertrophy in an adult population of GHD studied by models of cardiac remodeling. These results partly differ from previous debated demonstrations of decreased cardiac wall thickness in GHD, but interestingly address an unknown cardiac aspect of GHD. Several points remain to be elucidated.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

English should be reviewed throughout the whole manuscript.

Abstract:
The conclusion remarks, on the statistical significance of the Authors' findings, are unclear and should be reviewed.

Background:
Few introductory hints on the (debated) cardiac alterations of GHD should be mentioned, i.e. wall hypotrophy, diastolic dysfunction, scant systolic performance under exercise.
Previous data on normotensive GHD differ from those seen in obesity and hypertension, where LV hypertrophy is expectedly more common. This statement and the study rationale (lines 11-14) should be reviewed.

Methods:
The Authors should define just once (page 4, line 11 or ahead) how patients grouping was carried out.
Do patients with pituitary tumors differ from those with adenomas?
The Authors should state if any patient was previously operated for GH-secreting tumor, irradiated, treated with antihypertensive compounds, or substituted for adrenal, gonadal or vasopressin deficiency.
Was GH measured only randomly in controls?

Results:
The upper figure 1 (LVM vs. IGF-I) should be omitted and would include one with LVMi vs. GH peak, even if the r is nonsignificant. Figure 1 should differentiate patients with partial or complete GHD, for example with close and open circles.
Was age or disease duration related to RWT, LVMi or E/A? Was RWT related to systolic or diastolic indices or blood pressure?
How many patients with abnormal LV were hypertensive?

Discussion:
The Authors should also attempt to provide an explanation for their findings on eccentric
hypertrophy in the GHD setting and comment on the greater prevalence of hypertension in their GHDs compared to controls.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Names/location of drugs or assays producers should be mentioned.
Measure units for GH and IGF-I should be reviewed.
Table 2: measure units of pericardial adiposity, DT, A velocity should be defined. LVEF should be expressed as percentage as indicated (i.e. 63%, etc.)
Patients distribution in subgroups in table of Fig. 2 should be detailed in the legend.

Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after minor essential revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: No

Declaration of competing interests:
I declare that I have no competing interests