

## Cardiovascular complications in pituitary gigantism (results of an international study)

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### **Background:**

Cardiovascular disease is an important cause of morbidity/mortality in chronic GH hypersecretion.

### **Aim:**

To evaluate cardiovascular system in a large series of patients with pituitary gigantism. Standard case report forms were used with height assessments related to local country norms. Results: 151pts (123 male) with GH-excess and abnormal growth velocity for age or final height >2SD over local norms had complete data on cardiac assessments at baseline or on median 7,5 yr [3;17] of follow-up. Median ages at first symptoms and at diagnosis of pituitary adenoma (PA) were 14yr [11;16] and 21yr [16;27], respectively; latency was 6yrs [2.9;12]. Overall, cardiovascular disorders were reported in 38,3% during the period of follow-up. Clinical evaluation of cardiovascular system appeared normal in 65 pts who had no instrumental examination, 83 pts were evaluated by echocardiography either as routine examination or in aligned patients with cardiovascular symptomology, another 3 pts were reported as with heart disease without further details. Cardiovascular disorders prevalences in the group of 83 pts assessed by echocardiography: left ventricular hypertrophy- 56%; concentric biventricular hypertrophy- 9%; tachycardia- 7%; bradycardia- 3.6%; diastolic dysfunction- 23.6%; systolic dysfunction- 16.4%; heart failure- 7.3%; dilatative cardiomyopathy- 18.2%; arrhythmia- 18.2%; valvular disease- 27.3%; stroke- 1.8%; coronary heart disease- 3.6%; aortic dilatation- 3.6%. Cardiovascular disorders were related to older age at diagnosis of pituitary adenoma (p=0.04), longer latency period (p=0.02), delayed treatment (p=0.04) and disease control (p=0.001), but not to hormonal (GH/IGF-1) levels. In those patients with hormonal control achieved before age of 20 yr, cardiovascular disease occurred less frequently (p=0.03). Impact of gender and gonadal status was not significant, whereas cardiovascular disorders were associated with more frequent impaired glucose metabolism (48% vs. 19%).

### **Conclusions:**

This first large, specific study of pituitary gigantism shows a high prevalence of cardiovascular disorders, mainly influenced by uncontrolled pituitary disease duration. Given

their young age, particularly careful attention should be given to this complication and its adequate early management.