

Presenting characteristics, auxological, and etiologic evaluation of 364 patients with growth hormone deficiency

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BACKGROUND and OBJECTIVES

Growth hormone deficiency (GHD), can either be isolated (IGHD) or part of multiple pituitary hormone deficiency (MPHD), is a pituitary hormone disorder that manifests with short stature. Aim of present study was to evaluate the presenting characteristics, auxological and etiologic characteristics of GHD in a large cohort from a single tertiary paediatric endocrine centre from Diyarbakir, Turkey.

PATIENTS and METHODS

Hospital files of patients followed with GHD deficiency at Diyarbakir Children's State Hospital, between the year 2010 and 2014, were reviewed. GHD diagnosis was considered in course of short stature (<3pc), low growth velocity, delayed bone age and inappropriate GH levels in response to at least two GH stimulation tests (Clonidin, L-Dopa, Glucagon or Insulin-hypoglycemia test). A somatomedin generation test was performed for the diagnosis of bioinactive GH. Once GHD diagnosis was considered, patients were evaluated for other pituitary hormone deficiencies and a MPHD diagnosis was considered in case of at least two pituitary hormone deficiency. A pituitary magnetic resonance imaging test was performed for all patients with the diagnosis of GHD and MPHD.

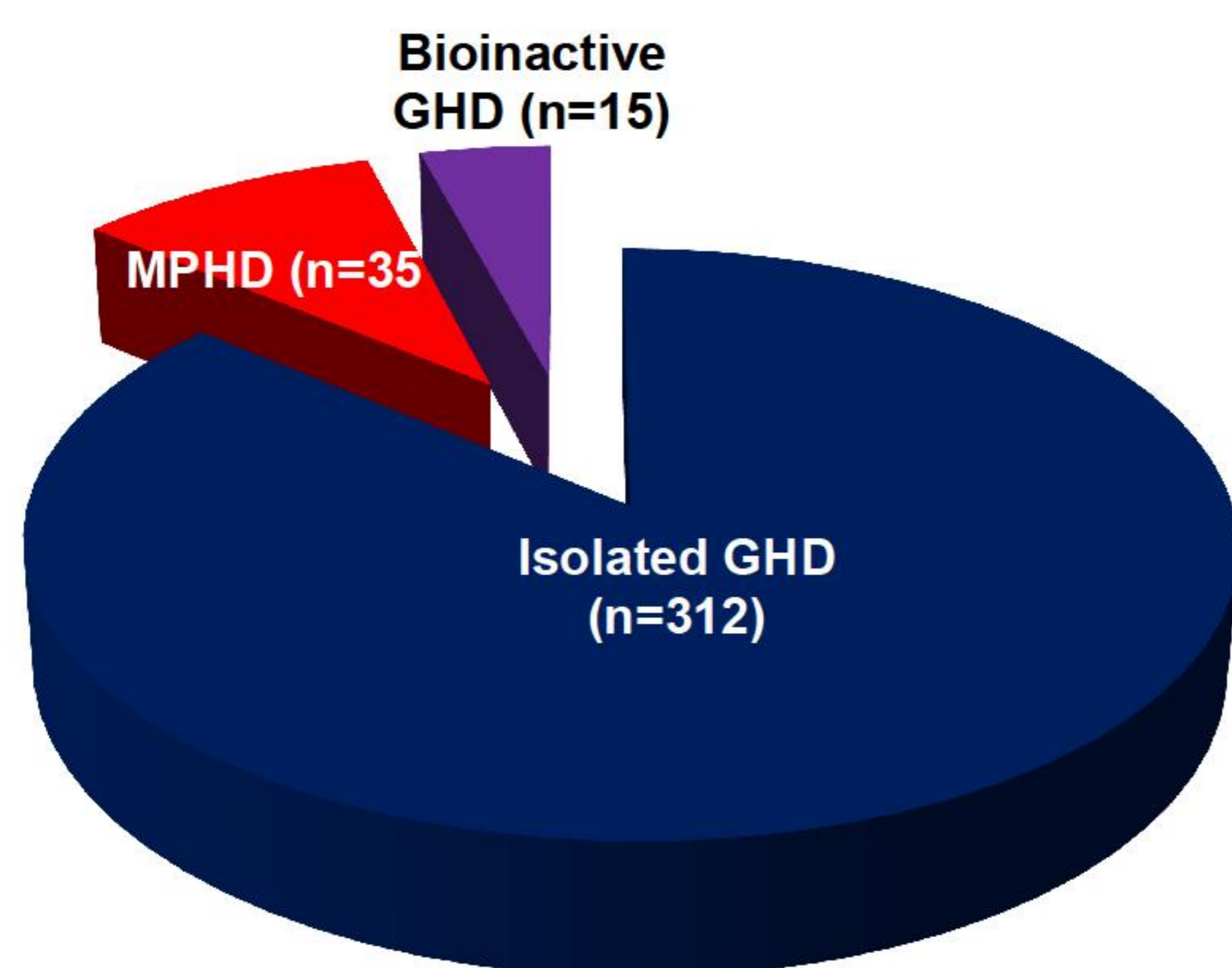


Figure 1. Distribution of isolated GHD, MPHD and bioinactive GH in our cohort

RESULTS

The number of patients recruited was 364 (n=221; 60.7% male). The mean age of the diagnosis was 10.4 3.3 (range:0.5-17.3). Patients with IGHD (n=312; 85.7%) constituted the largest group followed by patients with MPHD (n=35; 9.6%), and bioinactive growth hormone (n=15; 4.1%). While female patients were presented earlier (mean age: 9.8 2.9) than males (mean age:10.8 3.4) (p=0.002), the mean height-SDS at presentation was not statistically different (mean height-SDS was -2.8 1.1 and -2.7 1.1 respectively, p=0.310). There was no a statistically significant difference between the age of presentation of patients with IGHD and MPHD(p=0.924). However, compared to the patients with IGHD, patients with MPHD was shorter at the time of the diagnosis (Mean height SDS was -3.5 1.6 and -2.5 1.0 respectively, p<0.001). In 28 out of 35 patients MPHD was idiopathic, whereas in 7 patients craniopharyngioma was the underlying pathology.

While in 336 out of 364 patients(92.3%) GHD was sporadic, 28 patients(7.7%) had familial GHD. Although presented younger, patients with familial GHD had lower height-SDS compared to the sporadic group (Mean age of the diagnosis was 8.6 3.9 vs 10.4 3.2; p=0.027 and mean height-SDS was -3.5 1.7 vs -2.7 1.0; p<0.001, respectively).

CONCLUSION

In this male predominant large cohort of GHD patients, MPHD patients account for about 10% of patients. Except for earlier presentation of females, no phenotypical diversity was observed between the male and female patients. Patients with familial GHD was presented earlier and had a more severe clinical phenotype. .

