Primary IGFD deficiency (IGFD) is defined by low levels of IGF1 without a concomitant impairment in GH secretion in the absence of secondary cause.

Aim of the study:
This study aimed to evaluate the prevalence of non-GH deficient IGFD in prepubertal children with isolated short stature (SS) and to describe their response to GH therapy.

Methodology
This retrospective study included all children with idiopathic short stature (ISS) seen in our Pediatric Endocrinology Unit from January 2017 to December 2017.

Inclusion criteria were:
i) ISS with current height SDS < -2.
ii) age > 2 years.
iii) prepubertal status.

Exclusion criteria were:
i) identified cause of SS.
ii) current or past therapy with GH.

Among 38 children with isolated SS, 10 (26%) had low IGF1 levels, consistent with a diagnosis of primary IGFD. All were born appropriate for gestational age.

Compared with non-IGFD ISS children, IGFD children were shorter (p = 0.02) and their parents were shorter (p = 0.05) than ISS with normal IGF1. Bone age and BMISDS did not differ between the two groups.

** IGFD-deficient children were defined as children without GH deficiency and with IGF1 levels below or equal to -1.5 SDS for age and sex.

Primary IGFD

- 26%
- Normal IGF-1

Primary IGFD

- 40%
- Normal BMI
- 60%
- Low BMI

Prevalence of primary IGFD was 26% in children with ISS. Concerning the pathophysiology, our study emphasizes that IGFD in some children may be secondary to undernutrition.

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