

# Study on linear growth of children with idiopathic short children (ISS) with Low Insulin like growth factor 1 (IGFI) at diagnosis: Growth hormone (GH) treatment versus no treatment.

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## Introduction

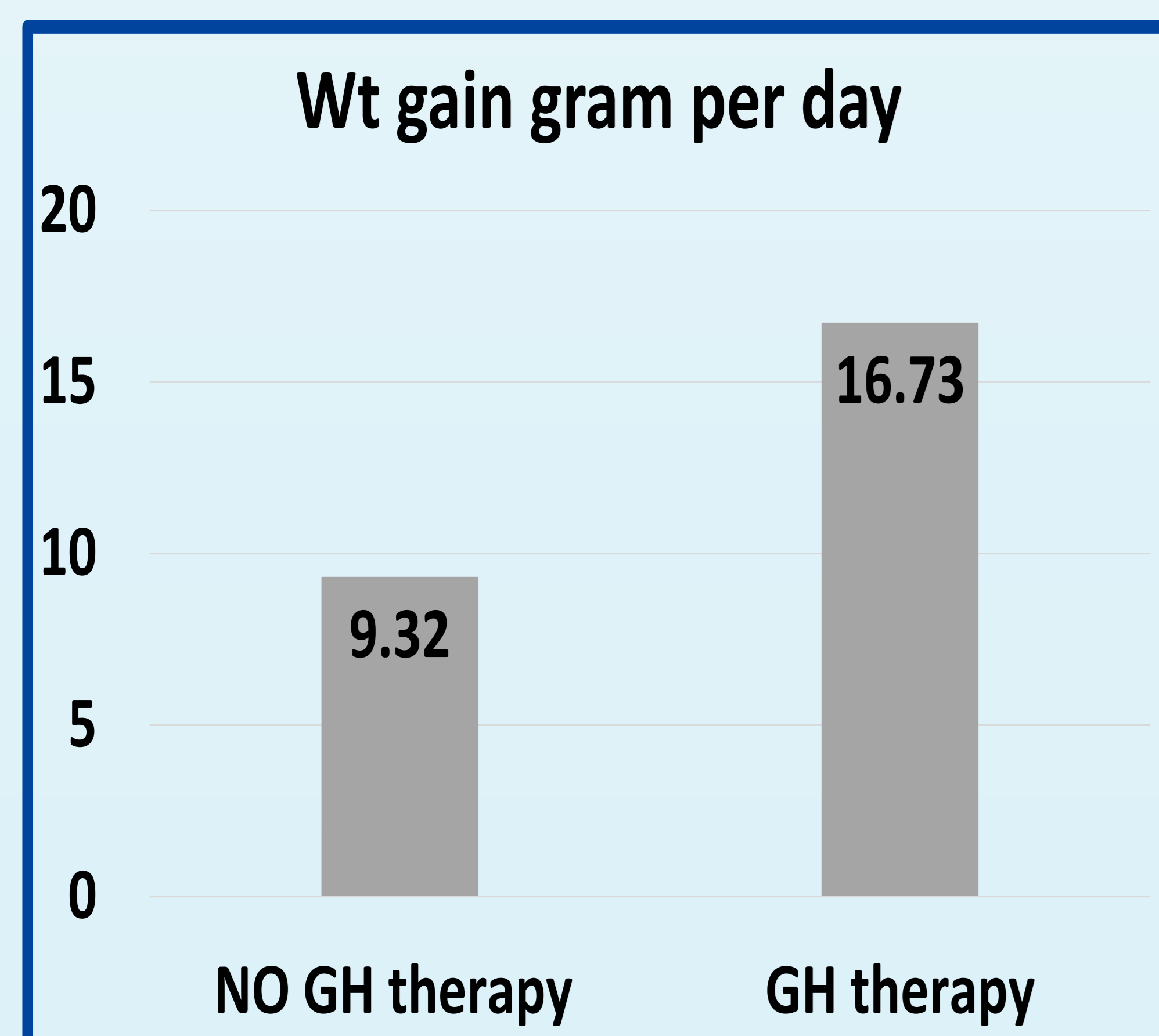
Idiopathic short stature (ISS) is a condition in which the individual's height is more than 2 SD below the corresponding mean height for a given age, sex, and population, in whom no identifiable disorder is present.

Some children have relatively low IGF-I levels at presentation, which theoretically can affect their response to GH therapy.

**The question is:** Does GH treatment of these children improve their linear growth compared to no treatment?

## Aim

To study the effect of GH therapy on linear growth and weight gain in children with ISS who have low IGF-I.



## Methods

This retrospective study included children with isolated SS in Pediatric Endocrinology Unit from Jan to Dec 2017.

### Inclusion criteria were :

- I. SS with current height SDS < -2
- II. Age > 2 years.
- III. Prepubertal status.

### Exclusion criteria :

- I. Identified cause of SS.
- II. Past therapy with GH.

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

## Results

### At presentation:

The age, HtSDS, BMI, BMISDS, IGFISDS, peak GH response to clonidine provocation, and bone age didn't differ between the two study groups (ISS and low IGF1).

After a year of treatment with GH (0.035 mg/kg/day), the HtSDS, weight gain per day, and BMI improved significantly in the GH treated group (P < 0.05).

The IGF1SDS, BMISDS, HtSDS, and difference between HtSDS and mid-parental HtSDS were significantly higher in the treated versus not treated group.

## Conclusion

Growth hormone therapy improved linear growth and weight gain in children with ISS who had low IGF1 at presentation compared to the non-treated control group.

